

TECHNICAL APPENDICES TO THE
LOCAL TRANSPORTATION STUDY

OCEAN KAMP PROJECT

Oceanside, California
July 14, 2021

LLG Ref. 3-19-3145

**Linscott, Law &
Greenspan, Engineers**

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APPENDIX A

INTERSECTION & SEGMENT COUNT SHEETS CALTRANS TRAFFIC DATA SIGNAL TIMING SHEETS

Intersection Turning Movement - Peak Hour Vehicle Count



Location: #01
Intersection: I-5 Southbound Ramps & SR-76
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-01
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	I-5 Southbound Off Ramp Southbound			SR-76 Westbound			I-5 Southbound Off Ramp Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	35	257	159	0	0	0	64	0	75	63	653
7:15	0	0	54	257	165	0	0	0	50	0	67	51	644
7:30	0	0	43	265	120	0	0	0	80	0	82	51	641
7:45	0	0	25	257	130	0	0	0	92	0	70	61	635
8:00	0	0	21	237	107	0	0	0	82	0	84	58	589
8:15	0	0	56	318	104	0	0	0	84	0	69	58	689
8:30	0	0	25	265	146	0	0	0	72	0	68	65	641
8:45	0	0	24	235	123	0	0	0	79	0	68	60	589
Total	0	0	283	2091	1054	0	0	0	603	0	583	467	5081
Approach%	-	-	100.0	66.5	33.5	-	-	-	100.0	-	55.5	44.5	
Total%	-	-	5.6	41.2	20.7	-	-	-	11.9	-	11.5	9.2	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	157	1,036	574	-	-	-	286	-	294	226	2,573
Approach%	-	-	100.0	64.3	35.7	-	-	-	100.0	-	56.5	43.5	
Total%	-	-	6.1	40.3	22.3	-	-	-	11.1	-	11.4	8.8	
PHF			0.73			0.95			0.78			0.94	0.98

PM	I-5 Southbound Off Ramp Southbound			SR-76 Westbound			I-5 Southbound Off Ramp Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	28	148	148	0	0	0	86	0	144	73	627
16:15	0	0	26	143	161	0	0	0	105	0	157	84	676
16:30	0	0	34	161	192	0	0	0	144	0	153	73	757
16:45	0	0	34	136	179	0	0	0	118	0	189	75	731
17:00	0	0	48	166	206	0	0	0	134	0	157	86	797
17:15	0	0	33	163	160	0	0	0	117	0	157	81	711
17:30	0	0	55	161	171	0	0	0	176	0	142	60	765
17:45	0	0	39	132	192	0	0	0	212	0	167	72	814
Total	0	0	297	1210	1409	0	0	0	1092	0	1266	604	5878
Approach%	-	-	100.0	46.2	53.8	-	-	-	100.0	-	67.7	32.3	
Total%	-	-	5.1	20.6	24.0	-	-	-	18.6	-	21.5	10.3	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	-	175	622	729	-	-	-	639	-	623	299	3,087
Approach%	-	-	100.0	46.0	54.0	-	-	-	100.0	-	67.6	32.4	
Total%	-	-	5.7	20.1	23.6	-	-	-	20.7	-	20.2	9.7	
PHF			0.80			0.91			0.75			0.95	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #01
Intersection: I-5 Southbound Ramps & SR-76
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-01
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	I-5 Southbound Off Ramp Southbound				SR-76 Westbound				I-5 Southbound Off Ramp Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				1				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

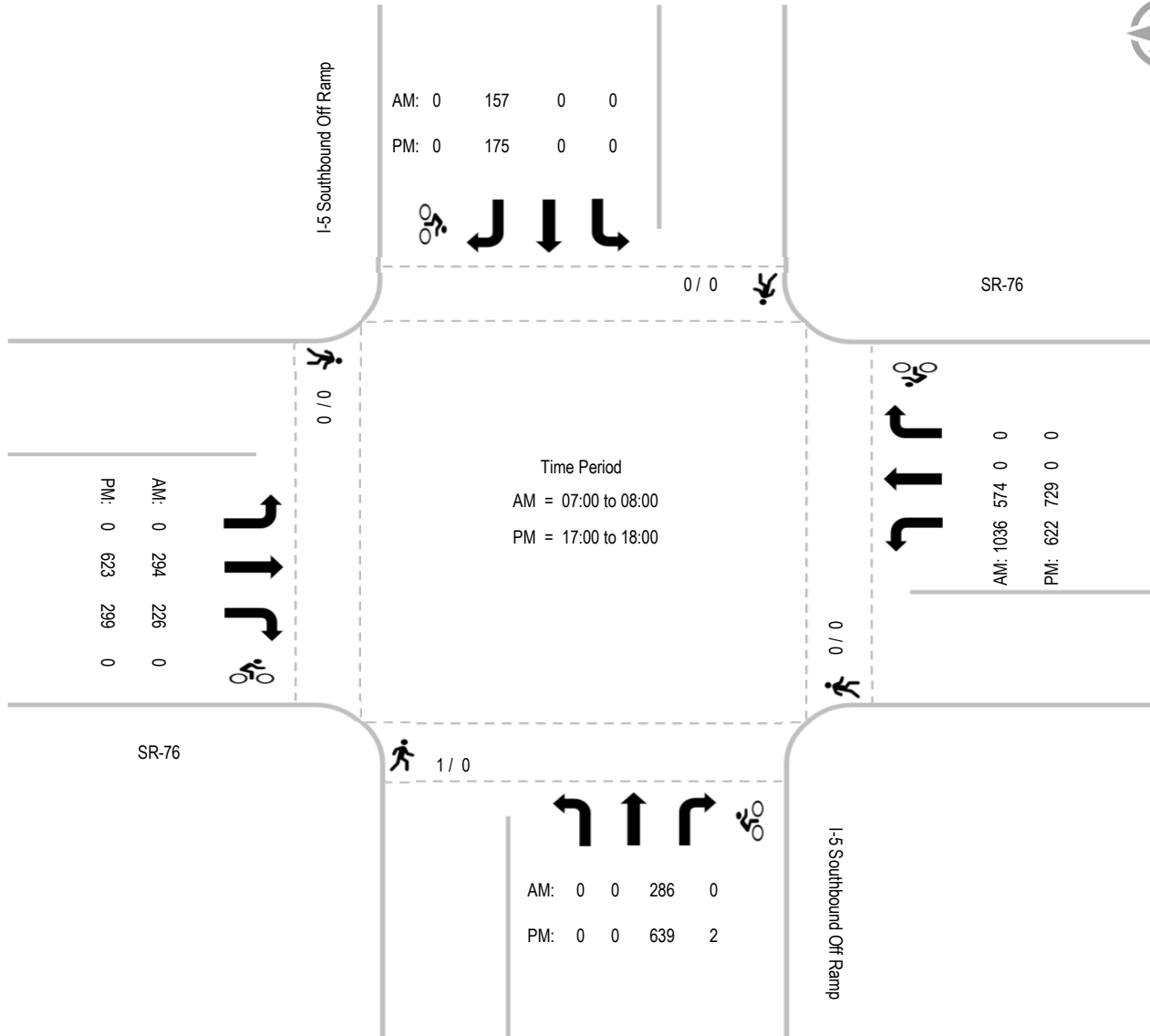
PM	I-5 Southbound Off Ramp Southbound				SR-76 Westbound				I-5 Southbound Off Ramp Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		2	0	0		0	0	0		2

Intersection Turning Movement - Peak Hour Summary



Location: #01
 Intersection: I-5 Southbound Ramps & SR-76
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-01
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #02
Intersection: I-5 Northbound Ramps & SR-76
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-02
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	- Southbound			SR-76 Westbound			I-5 NB On & Off Ramp Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	291	358	0	23	0	135	0	108	27	942
7:15	0	0	0	248	331	0	37	0	161	0	97	25	899
7:30	0	0	0	259	328	0	14	0	138	0	119	32	890
7:45	0	0	0	248	337	0	25	0	138	0	145	23	916
8:00	0	0	0	188	298	0	25	0	153	0	118	27	809
8:15	0	0	0	186	348	0	18	0	140	0	116	20	828
8:30	0	0	0	174	355	0	31	0	142	0	150	15	867
8:45	0	0	0	157	306	0	28	0	117	0	123	17	748
Total	0	0	0	1751	2661	0	201	0	1124	0	976	186	6899
Approach%	-	-	-	39.7	60.3	-	15.2	-	84.8	-	84.0	16.0	
Total%	-	-	-	25.4	38.6	-	2.9	-	16.3	-	14.1	2.7	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	1,046	1,354	-	99	-	572	-	469	107	3,647
Approach%	-	-	-	43.6	56.4	-	14.8	-	85.2	-	81.4	18.6	
Total%	-	-	-	28.7	37.1	-	2.7	-	15.7	-	12.9	2.9	
PHF	#DIV/0!					0.92			0.85			0.86	0.97

PM	- Southbound			SR-76 Westbound			I-5 NB On & Off Ramp Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	87	234	0	34	0	257	0	200	27	839
16:15	0	0	0	11	233	0	45	0	208	0	204	25	726
16:30	0	0	0	119	266	0	53	0	248	0	283	30	999
16:45	0	0	0	101	231	0	50	0	221	0	291	23	917
17:00	0	0	0	86	252	0	72	0	243	0	258	23	934
17:15	0	0	0	83	234	0	56	0	253	0	229	29	884
17:30	0	0	0	112	224	0	53	0	257	0	301	23	970
17:45	0	0	0	94	219	0	66	0	256	0	321	24	980
Total	0	0	0	693	1893	0	429	0	1943	0	2087	204	7249
Approach%	-	-	-	26.8	73.2	-	18.1	-	81.9	-	91.1	8.9	
Total%	-	-	-	9.6	26.1	-	5.9	-	26.8	-	28.8	2.8	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	-	-	375	929	-	247	-	1,009	-	1,109	99	3,768
Approach%	-	-	-	28.8	71.2	-	19.7	-	80.3	-	91.8	8.2	
Total%	-	-	-	10.0	24.7	-	6.6	-	26.8	-	29.4	2.6	
PHF	#DIV/0!					0.96			0.98			0.88	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #02
Intersection: I-5 Northbound Ramps & SR-76
Date of Count: Tuesday, August 27, 2019

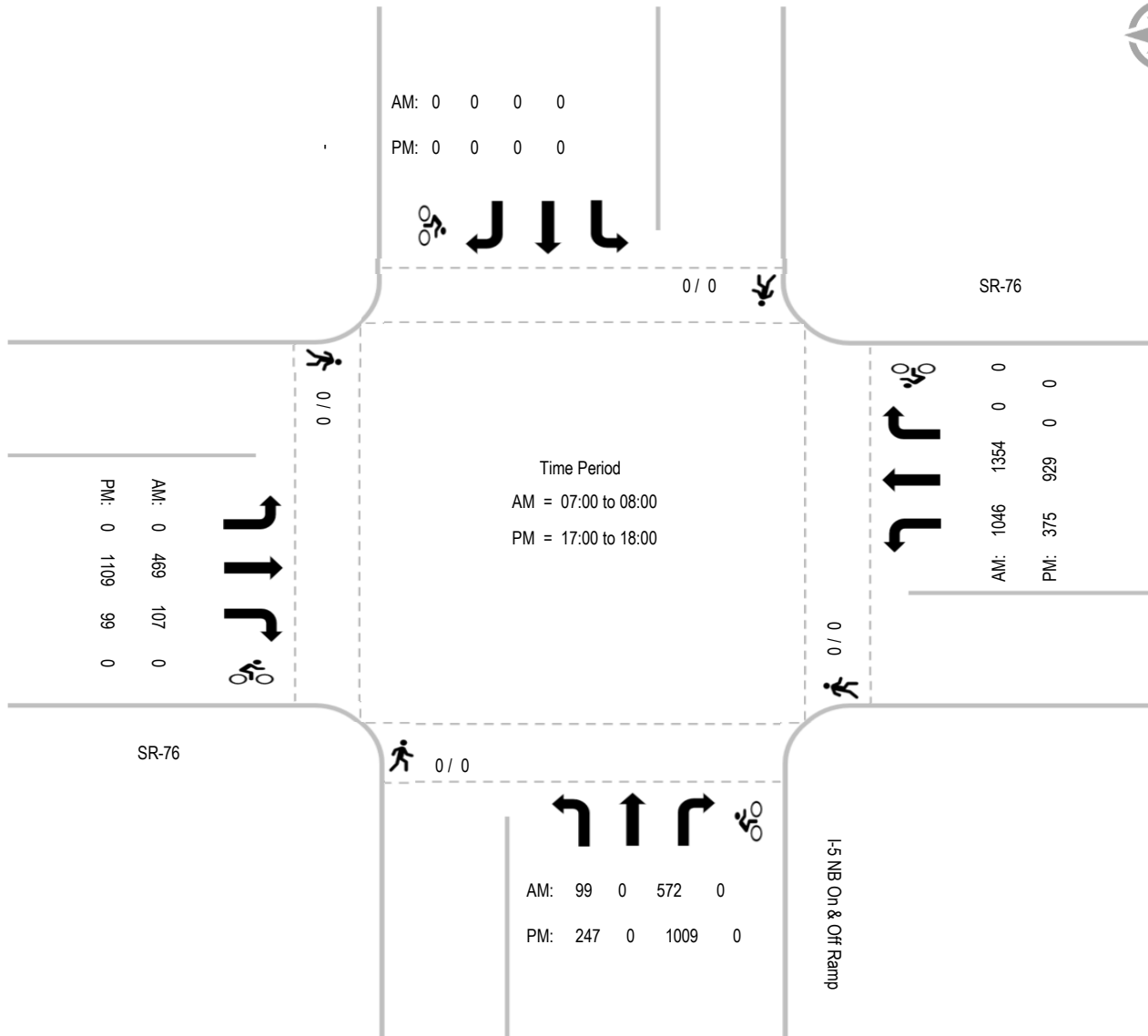
File Name: ITM-19-101-02
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	- Southbound				SR-76 Westbound				I-5 NB On & Off Ramp Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	- Southbound				SR-76 Westbound				I-5 NB On & Off Ramp Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #02	File Name: ITM-19-101-02
	Intersection: I-5 Northbound Ramps & SR-76	Project: LLG Ref. 3-19-3145
	Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #03	File Name: ITM-19-101-03
Intersection: Loretta Street & SR-76	Project: LLG Ref. 3-19-3145
Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet

AM	- Southbound			SR-76 Westbound			Loretta Street Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	2	615	0	12	0	6	0	231	2	868
7:15	0	0	0	3	579	0	13	0	6	0	260	3	864
7:30	0	0	0	6	605	0	8	0	5	0	263	7	894
7:45	0	0	0	3	550	0	12	0	5	0	274	5	849
8:00	0	0	0	1	490	0	11	0	6	0	258	2	768
8:15	0	0	0	1	524	0	6	0	6	0	260	5	802
8:30	0	0	0	3	533	0	12	0	2	0	272	8	830
8:45	0	0	0	4	497	0	7	0	4	0	254	6	772
Total	0	0	0	23	4393	0	81	0	40	0	2072	38	6647
Approach%	-	-	-	0.5	99.5	-	66.9	-	33.1	-	98.2	1.8	
Total%	-	-	-	0.3	66.1	-	1.2	-	0.6	-	31.2	0.6	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	14	2,349	-	45	-	22	-	1,028	17	3,475
Approach%	-	-	-	0.6	99.4	-	67.2	-	32.8	-	98.4	1.6	
Total%	-	-	-	0.4	67.6	-	1.3	-	0.6	-	29.6	0.5	
PHF	#DIV/0!					0.96			0.88			0.94	0.97

PM	- Southbound			SR-76 Westbound			Loretta Street Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	5	310	0	2	0	2	0	418	0	737
16:15	0	0	0	4	352	0	2	0	5	0	440	0	803
16:30	0	0	0	2	360	0	6	0	4	0	510	0	882
16:45	0	0	0	6	316	0	7	0	2	0	508	0	839
17:00	0	0	0	4	325	0	3	0	2	0	484	0	818
17:15	0	0	0	10	311	0	5	0	5	0	466	0	797
17:30	0	0	0	5	326	0	8	0	6	0	517	0	862
17:45	0	0	0	4	311	0	9	0	10	0	551	0	885
Total	0	0	0	40	2611	0	42	0	36	0	3894	0	6623
Approach%	-	-	-	1.5	98.5	-	53.8	-	46.2	-	100.0	-	
Total%	-	-	-	0.6	39.4	-	0.6	-	0.5	-	58.8	-	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	-	-	23	1,273	-	25	-	23	-	2,018	-	3,362
Approach%	-	-	-	1.8	98.2	-	52.1	-	47.9	-	100.0	-	
Total%	-	-	-	0.7	37.9	-	0.7	-	0.7	-	60.0	-	
PHF	#DIV/0!					0.98			0.63			0.92	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #03
 Intersection: Loretta Street & SR-76
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-03
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	- Southbound				SR-76 Westbound				Loretta Street Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				1				0				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

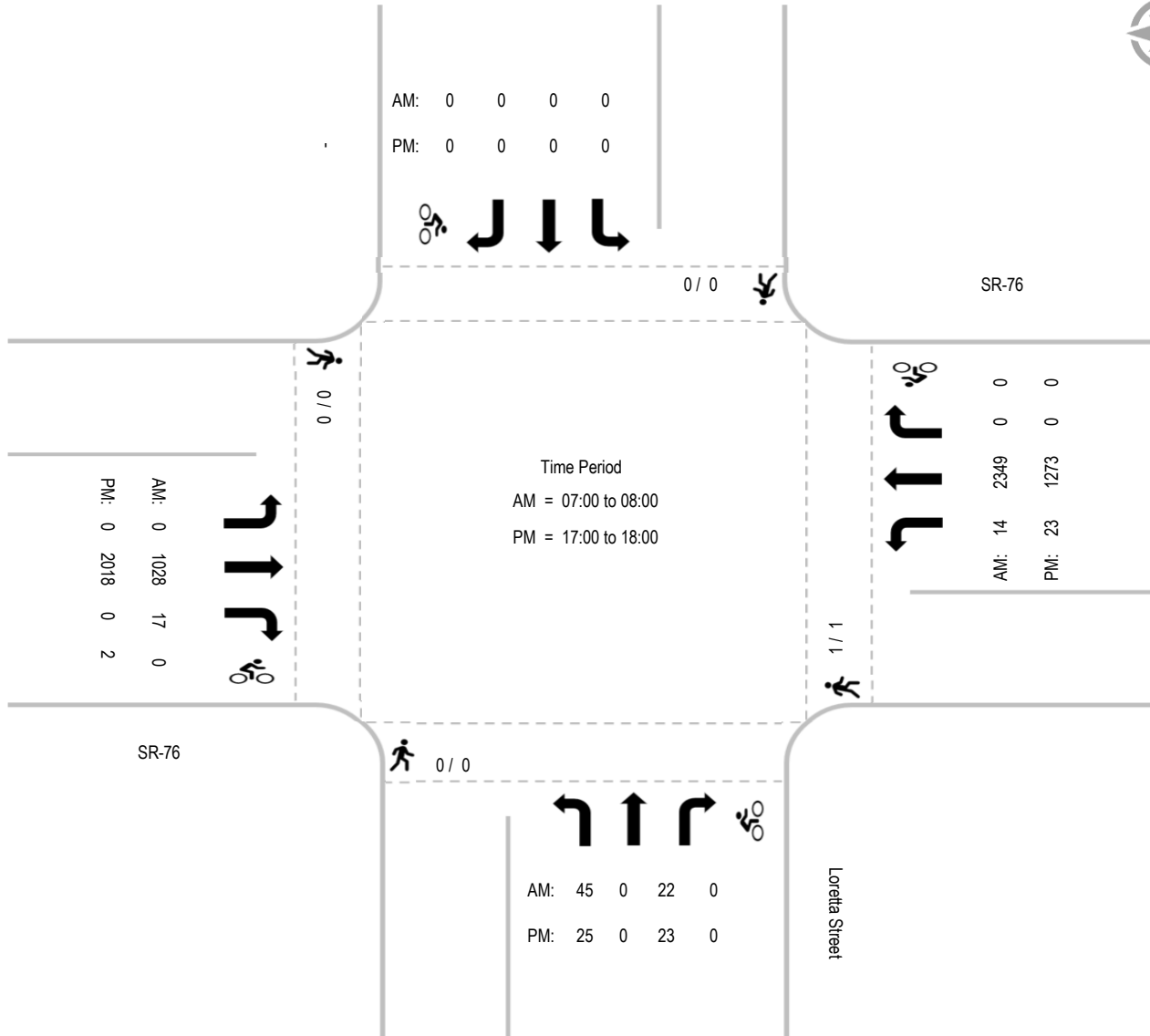
PM	- Southbound				SR-76 Westbound				Loretta Street Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				1				0				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	2	0		2

Intersection Turning Movement - Peak Hour Summary



Location: #03
 Intersection: Loretta Street & SR-76
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-03
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #04
 Intersection: Canyon Drive & SR-76
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-04
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	- Southbound			SR-76 Westbound			Canyon Drive Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	28	594	0	2	0	29	0	260	5	918
7:15	0	0	0	20	522	0	6	0	39	0	231	3	821
7:30	0	0	0	29	547	0	4	0	15	0	274	1	870
7:45	0	0	0	32	483	0	2	0	34	0	271	2	824
8:00	0	0	0	22	488	0	2	0	27	0	297	4	840
8:15	0	0	0	26	474	0	0	0	24	0	255	4	783
8:30	0	0	0	16	557	0	3	0	24	0	311	1	912
8:45	0	0	0	12	329	0	4	0	22	0	239	1	607
Total	0	0	0	185	3994	0	23	0	214	0	2138	21	6575
Approach%	-	-	-	4.4	95.6	-	9.7	-	90.3	-	99.0	1.0	
Total%	-	-	-	2.8	60.7	-	0.3	-	3.3	-	32.5	0.3	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	109	2,146	-	14	-	117	-	1,036	11	3,433
Approach%	-	-	-	4.8	95.2	-	10.7	-	89.3	-	98.9	1.1	
Total%	-	-	-	3.2	62.5	-	0.4	-	3.4	-	30.2	0.3	
PHF	#DIV/0!					0.91			0.73			0.95	0.93

PM	- Southbound			SR-76 Westbound			Canyon Drive Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	33	310	0	2	0	28	0	411	16	800
16:15	0	0	0	50	315	0	2	0	18	0	460	4	849
16:30	0	0	0	21	304	0	3	0	19	0	424	6	777
16:45	0	0	0	40	238	0	1	0	20	0	463	7	769
17:00	0	0	0	36	375	0	2	0	31	0	499	9	952
17:15	0	0	0	34	299	0	2	0	24	0	421	15	795
17:30	0	0	0	38	287	0	1	0	20	0	500	16	862
17:45	0	0	0	41	334	0	3	0	10	0	512	16	916
Total	0	0	0	293	2462	0	16	0	170	0	3690	89	6720
Approach%	-	-	-	10.6	89.4	-	8.6	-	91.4	-	97.6	2.4	
Total%	-	-	-	4.4	36.6	-	0.2	-	2.5	-	54.9	1.3	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	-	-	149	1,295	-	8	-	85	-	1,932	56	3,525
Approach%	-	-	-	10.3	89.7	-	8.6	-	91.4	-	97.2	2.8	
Total%	-	-	-	4.2	36.7	-	0.2	-	2.4	-	54.8	1.6	
PHF	#DIV/0!					0.88			0.70			0.94	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #04
 Intersection: Canyon Drive & SR-76
 Date of Count: Tuesday, August 27, 2019

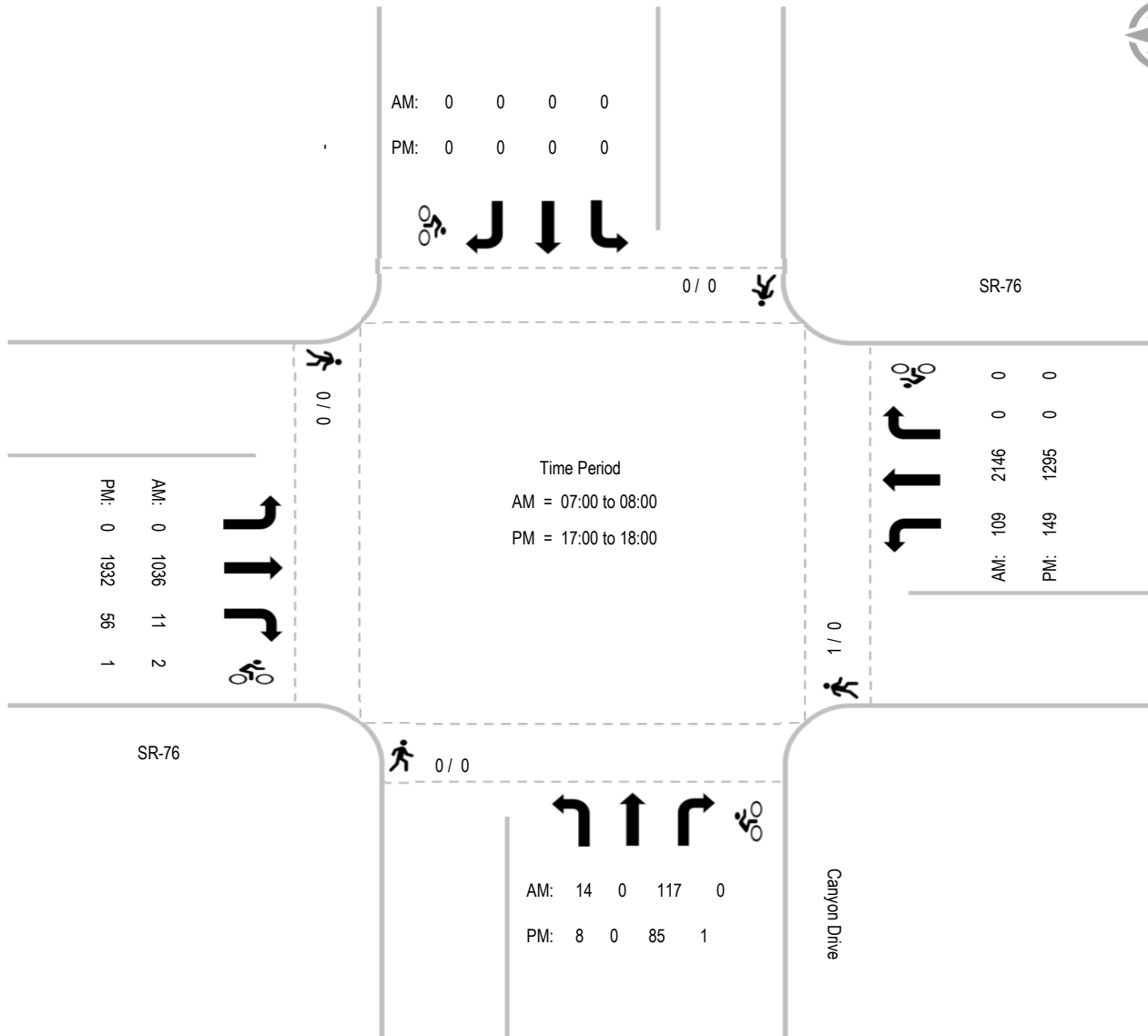
File Name: ITM-19-101-04
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	- Southbound				SR-76 Westbound				Canyon Drive Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				1				0				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	2	0		2

PM	- Southbound				SR-76 Westbound				Canyon Drive Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	1		0	1	0		2

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #04	File Name: ITM-19-101-04
	Intersection: Canyon Drive & SR-76	Project: LLG Ref. 3-19-3145
	Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #05 R
 Intersection: Benet Road & SR-76
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-05R
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Benet Road Southbound			SR-76 Westbound			Benet Road Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	9	63	11	488	1	33	4	23	15	215	15	877
7:15	1	3	52	10	556	1	11	5	10	24	275	30	978
7:30	4	3	68	8	482	2	16	8	9	20	250	24	894
7:45	1	2	46	14	470	1	13	5	11	20	218	42	843
8:00	3	4	59	8	393	5	18	2	3	23	242	34	794
8:15	0	2	31	11	300	0	14	3	4	14	133	18	530
8:30	2	3	52	85	479	2	19	4	5	21	225	37	934
8:45	1	5	44	17	450	3	7	6	11	26	261	26	857
Total	12	31	415	164	3618	15	131	37	76	163	1819	226	6707
Approach%	2.6	6.8	90.6	4.3	95.3	0.4	53.7	15.2	31.1	7.4	82.4	10.2	
Total%	0.2	0.5	6.2	2.4	53.9	0.2	2.0	0.6	1.1	2.4	27.1	3.4	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	6	17	229	43	1,996	5	73	22	53	79	958	111	3,592
Approach%	2.4	6.7	90.9	2.1	97.7	0.2	49.3	14.9	35.8	6.9	83.4	9.7	
Total%	0.2	0.5	6.4	1.2	55.6	0.1	2.0	0.6	1.5	2.2	26.7	3.1	
PHF			0.84			0.90			0.62			0.87	0.92

PM	Benet Road Southbound			SR-76 Westbound			Benet Road Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	4	3	22	10	282	7	32	3	16	51	337	26	793
16:15	15	4	32	12	323	0	29	2	29	42	361	29	878
16:30	5	2	21	17	344	2	44	3	25	46	496	23	1028
16:45	2	5	25	6	215	1	28	6	31	46	415	23	803
17:00	4	6	34	3	267	3	35	5	22	64	415	26	884
17:15	2	6	29	9	261	1	35	3	18	44	401	19	828
17:30	3	1	17	6	309	1	25	3	17	60	438	24	904
17:45	4	1	32	11	290	0	16	5	16	49	470	31	925
Total	39	28	212	74	2291	15	244	30	174	402	3333	201	7043
Approach%	14.0	10.0	76.0	3.1	96.3	0.6	54.5	6.7	38.8	10.2	84.7	5.1	
Total%	0.6	0.4	3.0	1.1	32.5	0.2	3.5	0.4	2.5	5.7	47.3	2.9	

PM Intersection Peak Hour: 16:15 to 17:15

Volume	26	17	112	38	1,149	6	136	16	107	198	1,687	101	3,593
Approach%	16.8	11.0	72.3	3.2	96.3	0.5	52.5	6.2	41.3	10.0	84.9	5.1	
Total%	0.7	0.5	3.1	1.1	32.0	0.2	3.8	0.4	3.0	5.5	47.0	2.8	
PHF			0.76			0.82			0.90			0.88	0.87

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #05 R
 Intersection: Benet Road & SR-76
 Date of Count: Tuesday, August 27, 2019

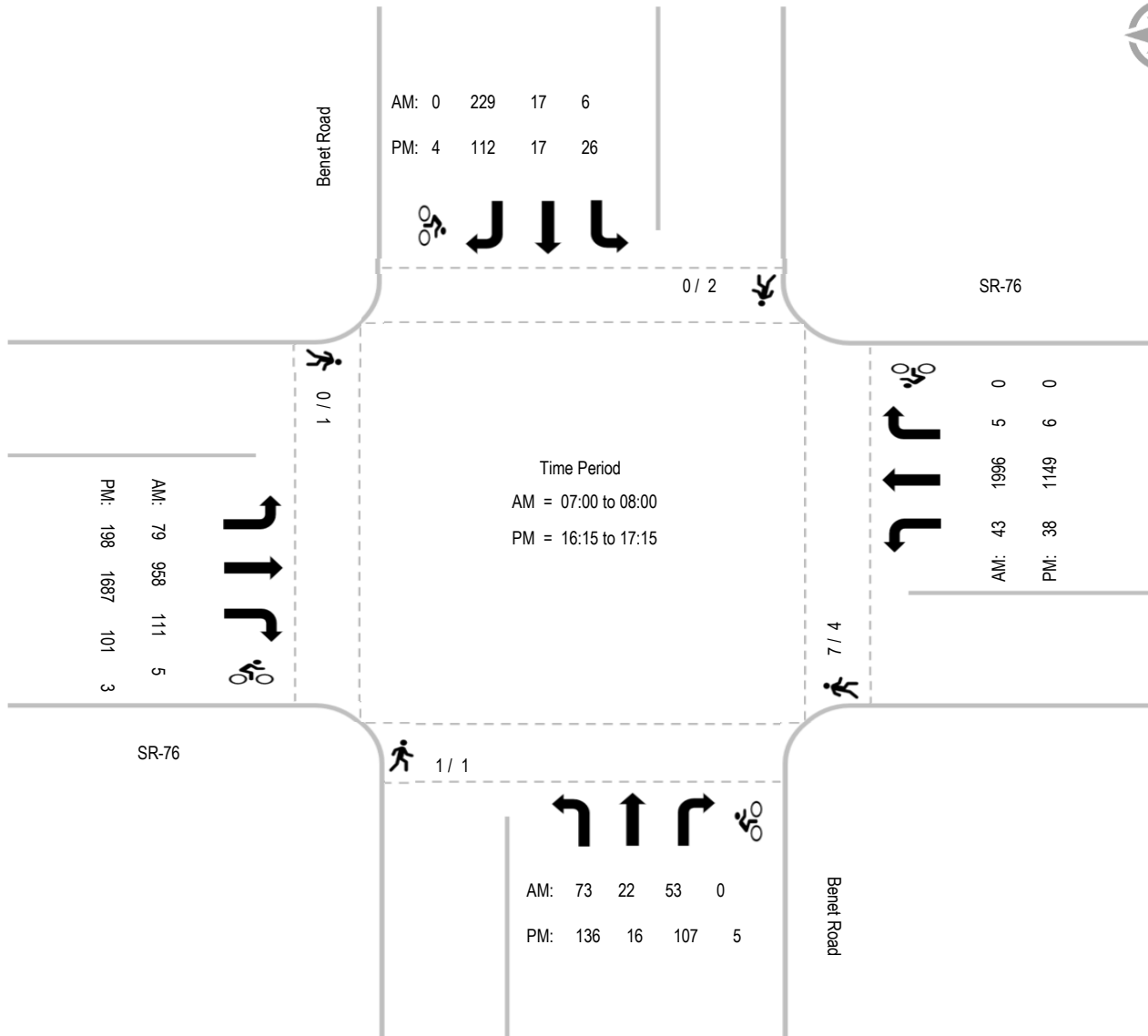
File Name: ITM-19-101-05R
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Benet Road Southbound				SR-76 Westbound				Benet Road Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
7:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
8:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1
8:30	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	2
8:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
Ped Total	0				7				1				0				8	
Bike Total		0	0	0		0	0	0		0	0	0		2	1	2		5

PM	Benet Road Southbound				SR-76 Westbound				Benet Road Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:15	2	0	1	0	2	0	0	0	0	0	0	0	1	0	1	0	5	2
16:30	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3
16:45	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	1
17:00	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2
17:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17:30	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	2				4				1				1				8	
Bike Total		0	4	0		0	0	0		0	5	0		0	2	1		12

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #05 R	File Name: ITM-19-101-05R
	Intersection: Benet Road & SR-76	Project: LLG Ref. 3-19-3145
	Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #06
Intersection: Rancho Del Oro Drive & SR-76
Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-06
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound			SR-76 Westbound			Rancho Del Oro Drive Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	11	121	17	161	416	17	37	139	120	5	208	89	1341
7:15	12	57	14	68	367	27	92	101	136	18	230	44	1166
7:30	14	60	14	45	354	13	86	78	65	10	193	29	961
7:45	12	46	19	72	329	24	41	30	25	16	183	48	845
8:00	24	58	15	98	352	21	40	39	41	26	145	31	890
8:15	23	43	20	77	365	8	35	28	34	9	207	53	902
8:30	11	37	13	92	383	17	31	28	43	2	183	42	882
8:45	7	36	9	82	321	20	41	29	33	1	162	63	804
Total	114	458	121	695	2887	147	403	472	497	87	1511	399	7791
Approach%	16.5	66.1	17.5	18.6	77.4	3.9	29.4	34.4	36.2	4.4	75.7	20.0	
Total%	1.5	5.9	1.6	8.9	37.1	1.9	5.2	6.1	6.4	1.1	19.4	5.1	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	49	284	64	346	1,466	81	256	348	346	49	814	210	4,313
Approach%	12.3	71.5	16.1	18.3	77.4	4.3	26.9	36.6	36.4	4.6	75.9	19.6	
Total%	1.1	6.6	1.5	8.0	34.0	1.9	5.9	8.1	8.0	1.1	18.9	4.9	
PHF			0.67			0.80			0.72			0.89	0.80

PM	Rancho Del Oro Drive Southbound			SR-76 Westbound			Rancho Del Oro Drive Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	14	44	14	43	238	17	47	40	42	13	385	74	971
16:15	16	47	14	53	269	15	49	64	66	12	394	58	1057
16:30	15	48	12	57	250	18	59	66	89	18	412	62	1106
16:45	19	63	12	69	256	16	62	66	62	19	343	71	1058
17:00	22	46	25	57	215	12	46	58	71	20	426	66	1064
17:15	26	54	15	66	245	15	40	55	40	15	354	82	1007
17:30	28	46	15	55	261	12	76	57	45	16	377	69	1057
17:45	21	58	8	56	251	18	34	47	63	17	401	78	1052
Total	161	406	115	456	1985	123	413	453	478	130	3092	560	8372
Approach%	23.6	59.5	16.9	17.8	77.4	4.8	30.7	33.7	35.6	3.4	81.8	14.8	
Total%	1.9	4.8	1.4	5.4	23.7	1.5	4.9	5.4	5.7	1.6	36.9	6.7	

PM Intersection Peak Hour: 16:15 to 17:15

Volume	72	204	63	236	990	61	216	254	288	69	1,575	257	4,285
Approach%	21.2	60.2	18.6	18.3	76.9	4.7	28.5	33.5	38.0	3.6	82.9	13.5	
Total%	1.7	4.8	1.5	5.5	23.1	1.4	5.0	5.9	6.7	1.6	36.8	6.0	
PHF			0.90			0.94			0.89			0.93	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #06
Intersection: Rancho Del Oro Drive & SR-76
Date of Count: Wednesday, August 28, 2019

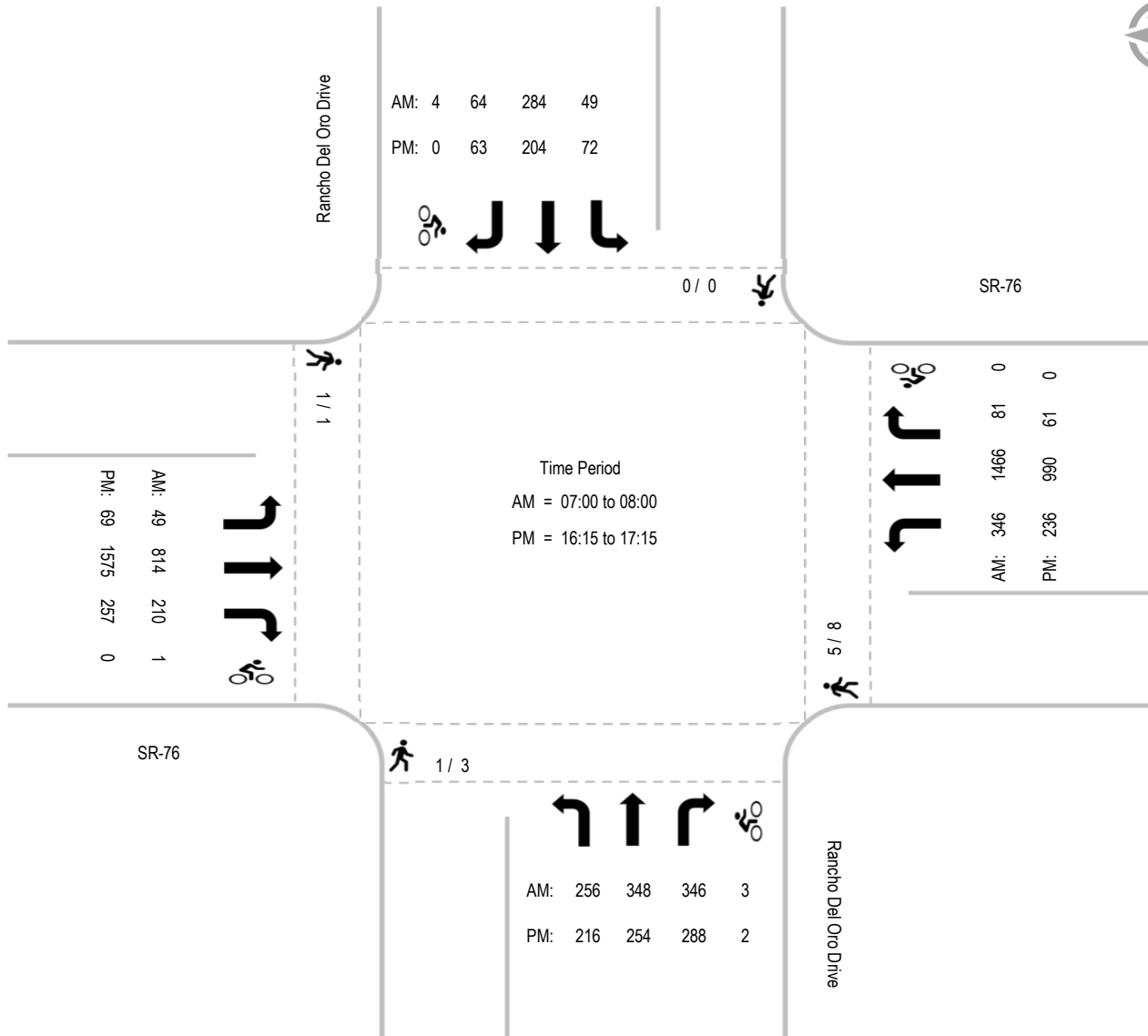
File Name: ITM-19-101-06
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound				SR-76 Westbound				Rancho Del Oro Drive Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	1	0	2	0	0	0	1	0	0	0	0	0	0	0	3	1
7:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1
7:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30	0	0	2	0	1	0	0	0	0	0	0	0	1	0	0	0	2	2
8:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ped Total	0				5				1				1				7	
Bike Total		0	4	0		0	0	0		0	3	0		0	1	0		8

PM	Rancho Del Oro Drive Southbound				SR-76 Westbound				Rancho Del Oro Drive Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	2
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
16:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
17:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
17:15	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	4	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
Ped Total	0				8				3				1				12	
Bike Total		0	0	0		0	0	0		0	2	0		0	0	0		2

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #06	File Name: ITM-19-101-06
	Intersection: Rancho Del Oro Drive & SR-76	Project: LLG Ref. 3-19-3145
	Date of Count: Wednesday, August 28, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #07
Intersection: Canyon Drive & Mission Avenue
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-07
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Canyon Drive Southbound			Mission Avenue Westbound			Canyon Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	54	42	13	15	258	37	85	22	18	18	115	32	709
7:15	47	26	6	42	262	62	85	26	15	23	175	45	814
7:30	16	40	17	19	271	33	57	21	13	11	87	34	619
7:45	26	41	9	25	227	14	51	27	13	13	103	33	582
8:00	31	42	6	16	189	18	44	24	28	15	76	20	509
8:15	31	34	8	32	203	18	57	14	22	13	119	38	589
8:30	27	28	7	35	190	23	44	22	15	10	100	28	529
8:45	41	21	11	51	215	15	45	20	24	12	100	34	589
Total	273	274	77	235	1815	220	468	176	148	115	875	264	4940
Approach%	43.8	43.9	12.3	10.4	80.0	9.7	59.1	22.2	18.7	9.2	69.8	21.1	
Total%	5.5	5.5	1.6	4.8	36.7	4.5	9.5	3.6	3.0	2.3	17.7	5.3	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	143	149	45	101	1,018	146	278	96	59	65	480	144	2,724
Approach%	42.4	44.2	13.4	8.0	80.5	11.5	64.2	22.2	13.6	9.4	69.7	20.9	
Total%	5.2	5.5	1.7	3.7	37.4	5.4	10.2	3.5	2.2	2.4	17.6	5.3	
PHF			0.77			0.86			0.86			0.71	0.84

PM	Canyon Drive Southbound			Mission Avenue Westbound			Canyon Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	35	40	9	36	117	18	56	33	16	19	217	39	635
16:15	41	40	7	26	126	18	50	27	14	21	214	60	644
16:30	45	57	14	21	124	19	52	32	15	17	196	60	652
16:45	35	47	8	31	161	15	53	39	18	24	230	52	713
17:00	65	61	13	26	129	17	71	32	16	17	217	69	733
17:15	48	39	11	24	155	16	66	35	17	20	255	52	738
17:30	41	47	14	34	146	16	63	31	19	23	189	52	675
17:45	37	34	21	24	120	15	66	34	18	18	240	47	674
Total	347	365	97	222	1078	134	477	263	133	159	1758	431	5464
Approach%	42.9	45.1	12.0	15.5	75.2	9.3	54.6	30.1	15.2	6.8	74.9	18.4	
Total%	6.4	6.7	1.8	4.1	19.7	2.5	8.7	4.8	2.4	2.9	32.2	7.9	

PM Intersection Peak Hour: 16:45 to 17:45

Volume	189	194	46	115	591	64	253	137	70	84	891	225	2,859
Approach%	44.1	45.2	10.7	14.9	76.8	8.3	55.0	29.8	15.2	7.0	74.3	18.8	
Total%	6.6	6.8	1.6	4.0	20.7	2.2	8.8	4.8	2.4	2.9	31.2	7.9	
PHF			0.77			0.93			0.97			0.92	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #07
 Intersection: Canyon Drive & Mission Avenue
 Date of Count: Tuesday, August 27, 2019

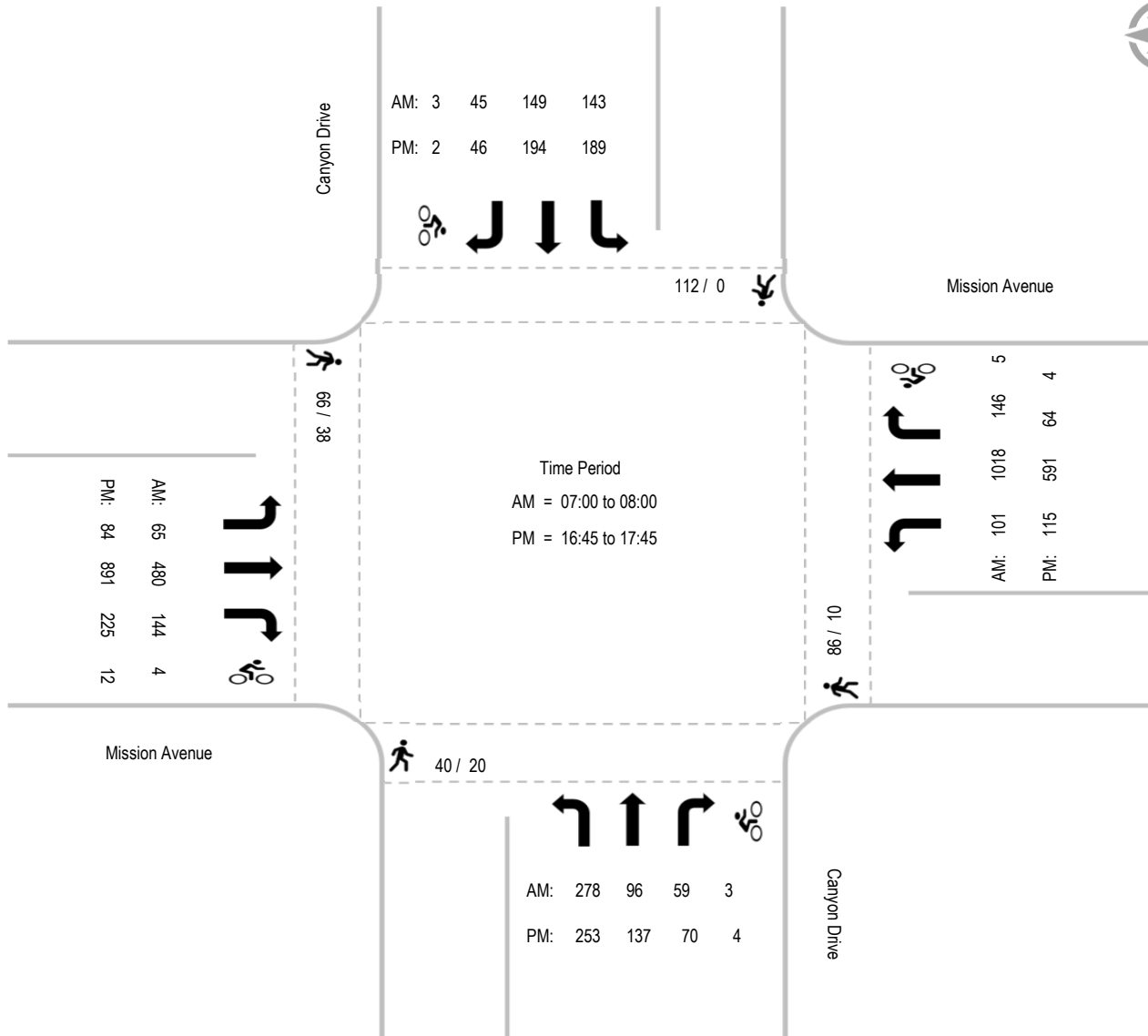
File Name: ITM-19-101-07
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Canyon Drive Southbound				Mission Avenue Westbound				Canyon Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	5	0	1	0	7	1	0	0	0	0	0	0	7	0	1	0	19	3
7:15	4	0	0	0	2	0	1	0	1	0	0	0	5	0	0	0	12	1
7:30	2	0	0	0	2	0	0	0	1	0	0	0	5	0	1	0	10	1
7:45	4	0	0	0	7	0	0	0	9	0	1	0	4	0	1	0	24	2
8:00	0	0	0	0	3	0	0	0	3	0	0	0	11	0	0	0	17	0
8:15	7	0	0	0	24	0	0	0	4	0	0	0	11	0	0	0	46	0
8:30	21	0	2	0	31	0	2	0	19	0	1	0	14	0	1	0	85	6
8:45	69	0	0	0	10	0	1	0	3	0	1	0	9	0	0	0	91	2
Ped Total	112				86				40				66				304	
Bike Total		0	3	0		1	4	0		0	3	0		0	4	0		15

PM	Canyon Drive Southbound				Mission Avenue Westbound				Canyon Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	1	0	2	0	0	0	2	0	0	0	4	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	5	0	2	0	5	2
16:30	0	0	1	0	0	0	1	0	4	0	1	0	7	0	0	0	11	3
16:45	0	0	0	0	2	0	0	0	7	0	0	0	5	0	0	0	14	0
17:00	0	0	0	0	3	0	0	0	2	0	0	0	1	0	0	0	6	0
17:15	0	0	0	0	0	0	1	0	1	0	1	0	5	0	6	0	6	8
17:30	0	0	1	0	4	0	1	0	0	0	1	0	3	0	2	0	7	5
17:45	0	0	0	0	1	0	0	0	4	0	1	0	10	0	2	0	15	3
Ped Total	0				10				20				38				68	
Bike Total		0	2	0		0	4	0		0	4	0		0	12	0		22

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #07	File Name: ITM-19-101-07
	Intersection: Canyon Drive & Mission Avenue	Project: LLG Ref. 3-19-3145
	Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #08
Intersection: Mesa Drive / Amick Street & Mission Avenue
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-08
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Amick Street Southbound			Mission Avenue Westbound			Mesa Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	5	311	0	49	0	7	0	95	30	497
7:15	0	0	0	10	213	1	47	0	5	2	135	37	450
7:30	0	0	1	11	221	1	51	0	6	1	74	29	395
7:45	1	0	0	19	224	1	41	0	6	0	87	26	405
8:00	0	0	3	10	183	0	35	0	6	1	78	27	343
8:15	0	0	0	12	184	1	34	0	8	1	93	27	360
8:30	0	0	2	10	196	0	34	0	7	1	88	19	357
8:45	1	0	0	9	164	1	29	0	13	0	102	24	343
Total	2	0	6	86	1696	5	320	0	58	6	752	219	3150
Approach%	25.0	-	75.0	4.8	94.9	0.3	84.7	-	15.3	0.6	77.0	22.4	
Total%	0.1	-	0.2	2.7	53.8	0.2	10.2	-	1.8	0.2	23.9	7.0	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	1	-	1	45	969	3	188	-	24	3	391	122	1,747
Approach%	50.0	-	50.0	4.4	95.3	0.3	88.7	-	11.3	0.6	75.8	23.6	
Total%	0.1	-	0.1	2.6	55.5	0.2	10.8	-	1.4	0.2	22.4	7.0	
PHF			0.50			0.80			0.93			0.74	0.88

PM	Amick Street Southbound			Mission Avenue Westbound			Mesa Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	6	128	0	34	1	11	1	235	38	454
16:15	0	0	1	9	100	0	34	0	12	0	180	37	373
16:30	0	0	1	9	136	0	28	1	7	0	205	40	427
16:45	0	1	0	9	130	0	48	0	16	0	205	42	451
17:00	0	0	0	7	135	0	37	0	14	0	226	57	476
17:15	0	0	0	4	134	0	28	0	16	0	241	58	481
17:30	0	0	0	5	140	0	32	1	12	0	223	40	453
17:45	1	0	0	6	122	0	32	0	5	0	235	42	443
Total	1	1	2	55	1025	0	273	3	93	1	1750	354	3558
Approach%	25.0	25.0	50.0	5.1	94.9	-	74.0	0.8	25.2	0.0	83.1	16.8	
Total%	0.0	0.0	0.1	1.5	28.8	-	7.7	0.1	2.6	0.0	49.2	9.9	

PM Intersection Peak Hour: 16:45 to 17:45

Volume	-	1	-	25	539	-	145	1	58	-	895	197	1,861
Approach%	-	100.0	-	4.4	95.6	-	71.1	0.5	28.4	-	82.0	18.0	
Total%	-	0.1	-	1.3	29.0	-	7.8	0.1	3.1	-	48.1	10.6	
PHF			0.25			0.97			0.80			0.91	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #08
 Intersection: Mesa Drive / Amick Street & Mission Avenue
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-08
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Amick Street Southbound				Mission Avenue Westbound				Mesa Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30	3	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	4	2
8:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Ped Total	7				1				1				1				10	
Bike Total		0	0	1		0	0	0		0	0	0		0	1	3		5

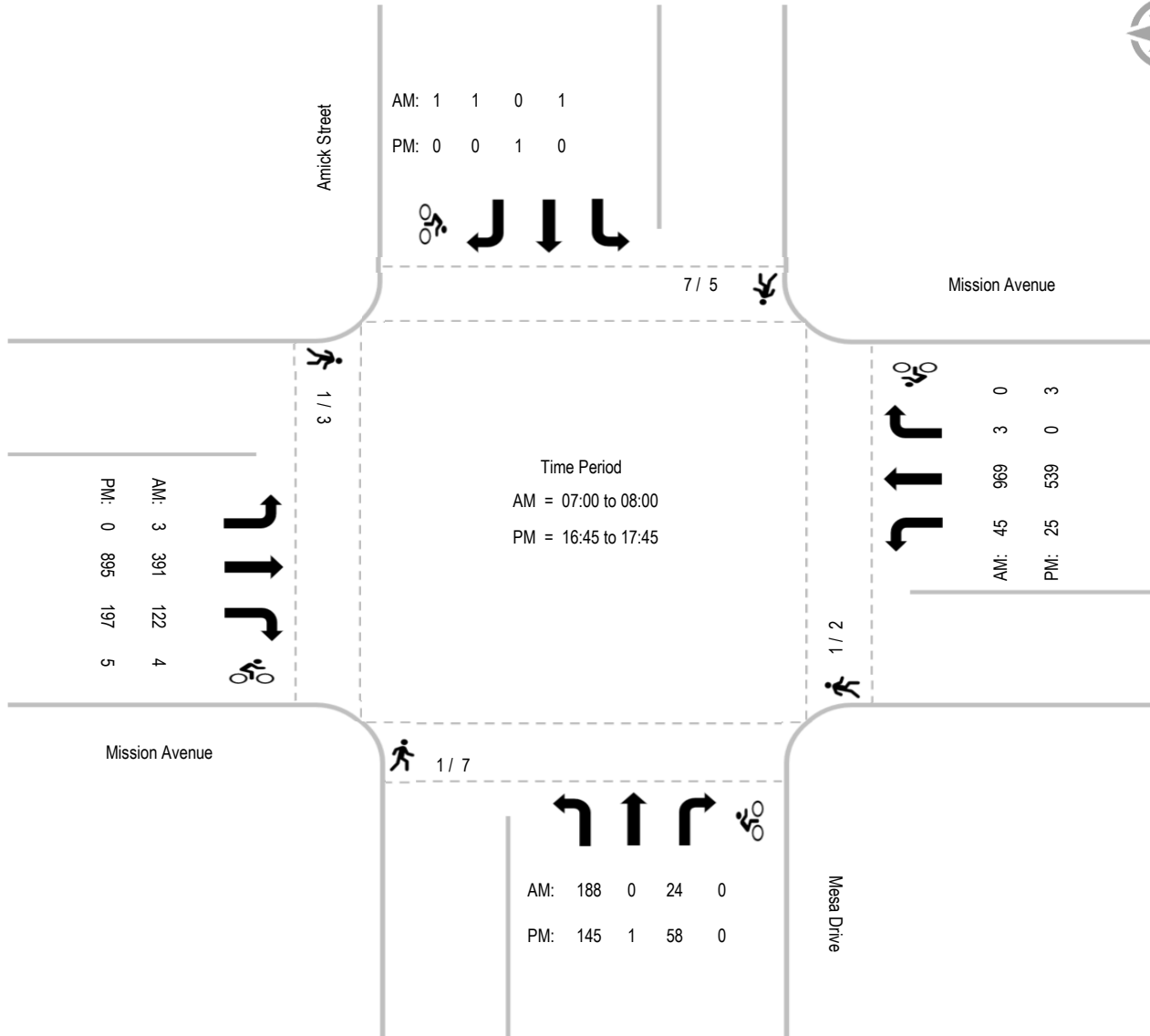
PM	Amick Street Southbound				Mission Avenue Westbound				Mesa Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	1	1	0	4	0	0	0	0	0	1	0	4	3
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
17:15	1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	5	0
17:30	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	1	1	4
17:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1
Ped Total	5				2				7				3				17	
Bike Total		0	0	0		1	2	0		0	0	0		0	4	1		8

Intersection Turning Movement - Peak Hour Summary



Location: #08
 Intersection: Mesa Drive / Amick Street & Mission Avenue
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-08
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #09 R
Intersection: Ocean Puente & Mission Avenue
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-09R
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Ocean Puente Southbound			Mission Avenue Westbound			- Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	300	0	0	0	0	0	120	0	420
7:15	0	0	2	0	281	1	0	0	0	2	146	0	432
7:30	0	0	0	0	322	0	0	0	0	0	113	0	435
7:45	0	0	2	0	298	1	0	0	0	4	113	0	418
8:00	0	0	1	0	279	0	0	0	0	1	114	0	395
8:15	0	0	2	0	298	0	0	0	0	1	132	0	433
8:30	0	0	1	0	271	0	0	0	0	1	131	0	404
8:45	0	0	0	0	205	0	0	0	0	0	132	0	337
Total	0	0	8	0	2254	2	0	0	0	9	1001	0	3274
Approach%	-	-	100.0	-	99.9	0.1	-	-	-	0.9	99.1	-	
Total%	-	-	0.2	-	68.8	0.1	-	-	-	0.3	30.6	-	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	4	-	1,201	2	-	-	-	6	492	-	1,705
Approach%	-	-	100.0	-	99.8	0.2	-	-	-	1.2	98.8	-	
Total%	-	-	0.2	-	70.4	0.1	-	-	-	0.4	28.9	-	
PHF			0.50			0.93			#DIV/0!			0.84	0.98

PM	Ocean Puente Southbound			Mission Avenue Westbound			- Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	1	0	189	0	0	0	0	1	313	0	504
16:15	0	0	0	0	156	0	0	0	0	1	291	0	448
16:30	1	0	0	0	196	0	0	0	0	0	283	0	480
16:45	0	0	0	0	174	0	0	0	0	0	259	0	433
17:00	0	0	0	0	167	0	0	0	0	0	333	0	500
17:15	0	0	0	0	185	0	0	0	0	0	312	0	497
17:30	0	0	0	0	207	0	0	0	0	0	329	0	536
17:45	0	0	0	0	190	0	0	0	0	0	315	0	505
Total	1	0	1	0	1464	0	0	0	0	2	2435	0	3903
Approach%	50.0	-	50.0	-	100.0	-	-	-	-	0.1	99.9	-	
Total%	0.0	-	0.0	-	37.5	-	-	-	-	0.1	62.4	-	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	-	-	-	749	-	-	-	-	-	1,289	-	2,038
Approach%	-	-	-	-	100.0	-	-	-	-	-	100.0	-	
Total%	-	-	-	-	36.8	-	-	-	-	-	63.2	-	
PHF			#DIV/0!			0.90			#DIV/0!			0.97	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #09 R
Intersection: Ocean Puente & Mission Avenue
Date of Count: Tuesday, August 27, 2019

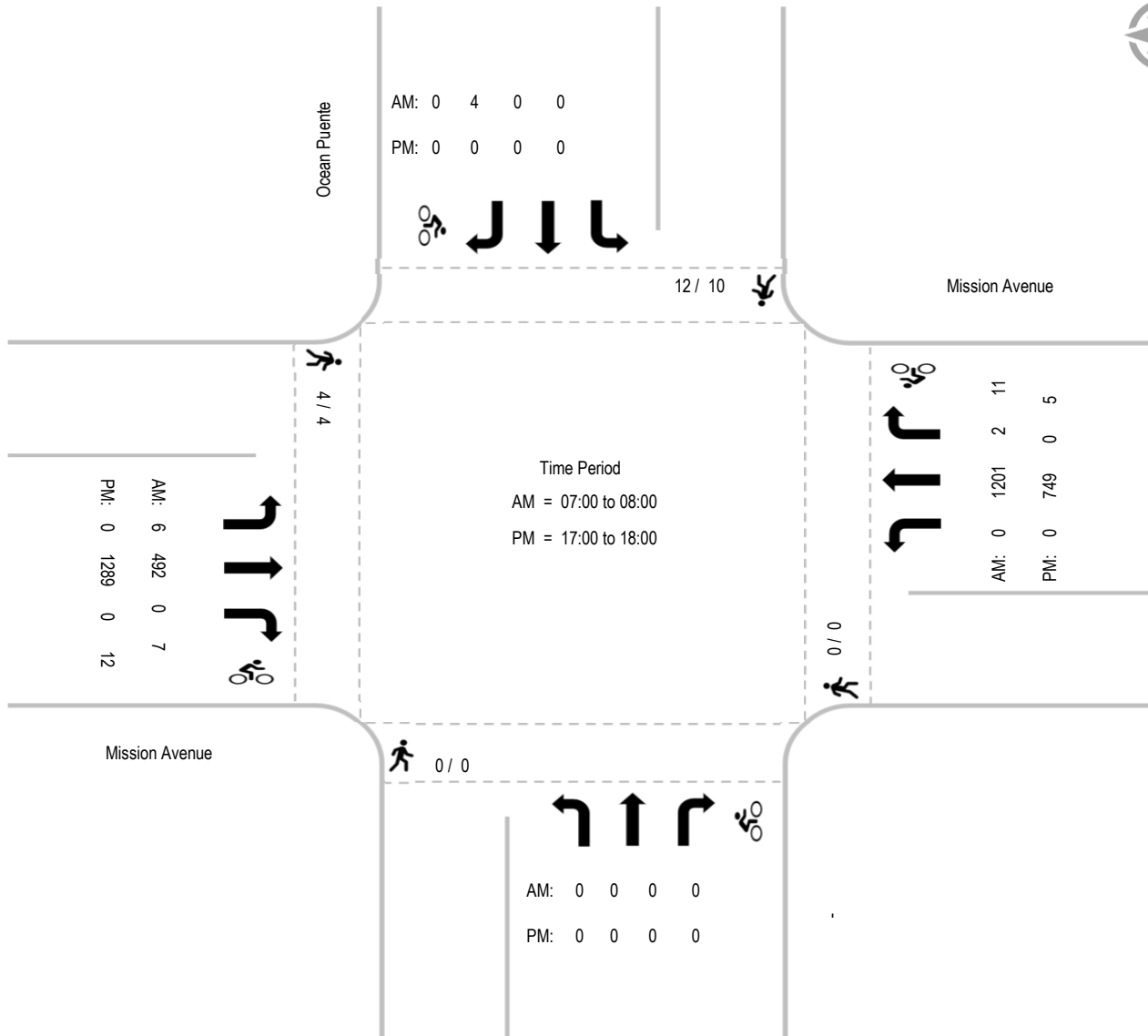
File Name: ITM-19-101-09R
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Ocean Puente Southbound				Mission Avenue Westbound				- Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
7:15	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	2
7:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
7:45	0	0	0	0	0	0	5	0	0	0	0	0	0	0	4	0	0	9
8:00	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0
8:15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:30	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	6	0
8:45	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Ped Total	12				0				0				4				16	
Bike Total		0	0	0		0	11	0		0	0	0		1	6	0		18

PM	Ocean Puente Southbound				Mission Avenue Westbound				- Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:15	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16:45	1	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	2	5
17:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17:30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
17:45	5	0	0	0	0	0	2	0	0	0	0	0	3	0	1	0	8	3
Ped Total	10				0				0				4				14	
Bike Total		0	0	0		0	5	0		0	0	0		0	12	0		17

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #09 R	File Name: ITM-19-101-09R
	Intersection: Ocean Puente & Mission Avenue	Project: LLG Ref. 3-19-3145
	Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #10	File Name: ITM-19-101-10
Intersection: Rancho Del Oro Drive & Mission Avenue	Project: LLG Ref. 3-19-3145
Date of Count: Wednesday, August 28, 2019	Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound			Mission Avenue Westbound			Rancho Del Oro Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	2	1	57	162	3	82	7	23	6	151	89	583
7:15	0	1	1	32	154	8	100	10	48	14	110	50	528
7:30	1	0	2	38	140	2	69	8	21	2	102	43	428
7:45	1	1	4	37	123	5	44	9	23	18	98	52	415
8:00	10	16	30	48	174	7	33	14	34	15	97	39	517
8:15	4	9	14	48	128	1	31	3	21	3	77	31	370
8:30	1	3	2	20	119	3	35	2	15	1	84	33	318
8:45	1	5	5	22	121	1	36	8	10	4	67	27	307
Total	18	37	59	302	1121	30	430	61	195	63	786	364	3466
Approach%	15.8	32.5	51.8	20.8	77.2	2.1	62.7	8.9	28.4	5.2	64.8	30.0	
Total%	0.5	1.1	1.7	8.7	32.3	0.9	12.4	1.8	5.6	1.8	22.7	10.5	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	2	4	8	164	579	18	295	34	115	40	461	234	1,954
Approach%	14.3	28.6	57.1	21.6	76.1	2.4	66.4	7.7	25.9	5.4	62.7	31.8	
Total%	0.1	0.2	0.4	8.4	29.6	0.9	15.1	1.7	5.9	2.0	23.6	12.0	
PHF			0.58			0.86			0.70			0.75	0.84

PM	Rancho Del Oro Drive Southbound			Mission Avenue Westbound			Rancho Del Oro Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	2	5	7	22	239	2	47	1	26	8	155	48	562
16:15	2	4	4	29	115	1	68	4	21	5	165	46	464
16:30	3	6	15	20	143	2	61	10	31	7	148	44	490
16:45	0	1	1	24	118	0	60	1	26	2	192	60	485
17:00	6	12	3	24	124	1	60	4	30	2	173	99	538
17:15	1	5	3	38	112	0	63	0	24	3	198	127	574
17:30	3	1	0	40	119	0	69	4	22	1	193	72	524
17:45	0	3	1	26	102	0	63	2	40	3	169	64	473
Total	17	37	34	223	1072	6	491	26	220	31	1393	560	4110
Approach%	19.3	42.0	38.6	17.1	82.4	0.5	66.6	3.5	29.9	1.6	70.2	28.2	
Total%	0.4	0.9	0.8	5.4	26.1	0.1	11.9	0.6	5.4	0.8	33.9	13.6	

PM Intersection Peak Hour: 16:45 to 17:45

Volume	10	19	7	126	473	1	252	9	102	8	756	358	2,121
Approach%	27.8	52.8	19.4	21.0	78.8	0.2	69.4	2.5	28.1	0.7	67.4	31.9	
Total%	0.5	0.9	0.3	5.9	22.3	0.0	11.9	0.4	4.8	0.4	35.6	16.9	
PHF			0.43			0.94			0.96			0.86	0.92

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #10
 Intersection: Rancho Del Oro Drive & Mission Avenue
 Date of Count: Wednesday, August 28, 2019

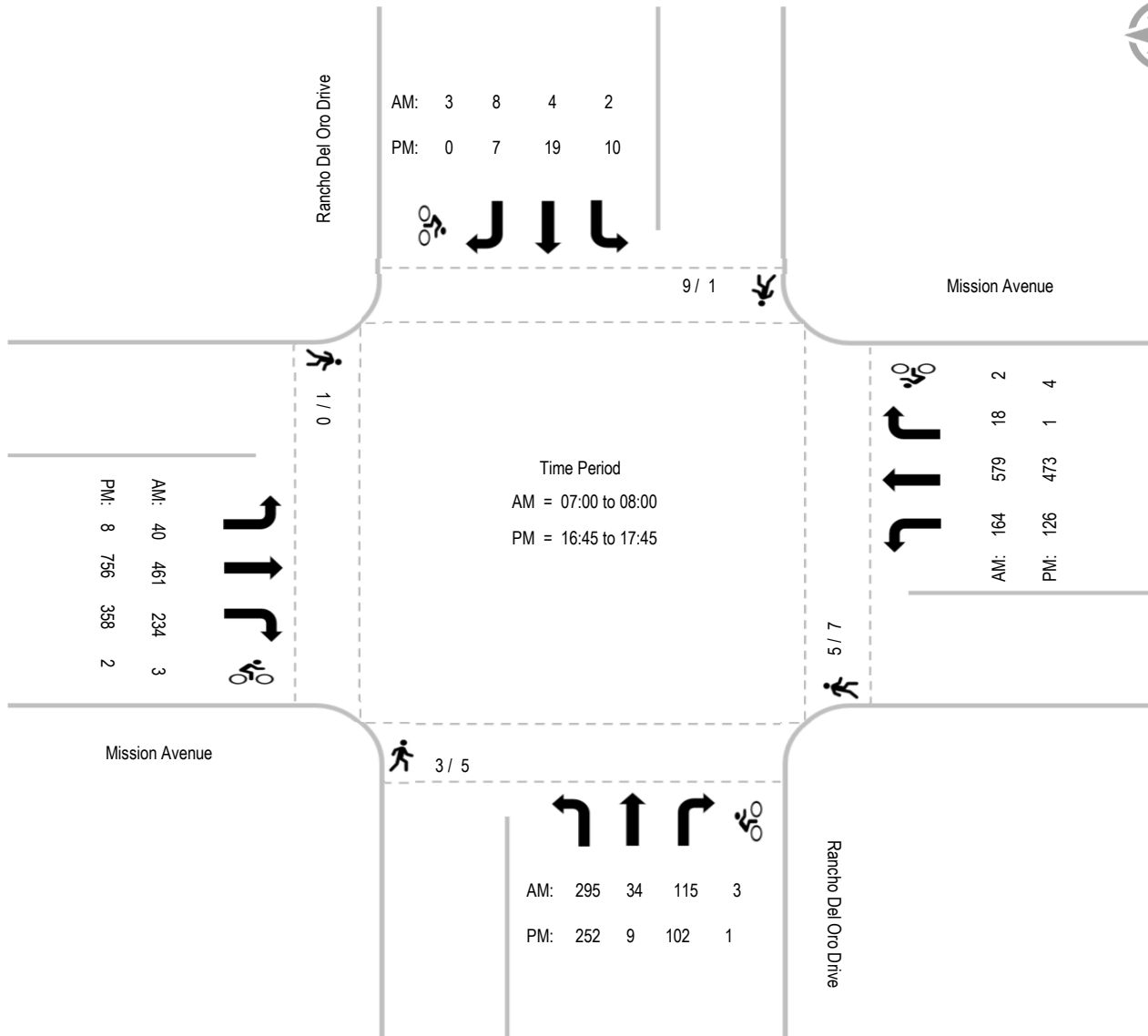
File Name: ITM-19-101-10
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound				Mission Avenue Westbound				Rancho Del Oro Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
7:45	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	2	2
8:00	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0
8:15	3	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	5	1
8:30	5	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	7	1
8:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Ped Total	9				5				3				1				18	
Bike Total		1	2	0		0	2	0		1	2	0		0	3	0		11

PM	Rancho Del Oro Drive Southbound				Mission Avenue Westbound				Rancho Del Oro Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0
16:15	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	7	0
16:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
16:45	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:00	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
17:30	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	2	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Ped Total	1				7				5				0				13	
Bike Total		0	0	0		0	4	0		0	1	0		0	1	1		7

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #10	File Name: ITM-19-101-10
	Intersection: Rancho Del Oro Drive & Mission Avenue	Project: LLG Ref. 3-19-3145
	Date of Count: Wednesday, August 28, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #11
 Intersection: North El Camino Real & Los Arbolitos Boulevard
 Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-11
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	North El Camino Real Southbound			- Westbound			North El Camino Real Northbound			Los Arbolitos Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	332	6	0	0	0	14	61	0	20	0	62	495
7:15	0	372	12	0	0	0	28	105	0	20	0	78	615
7:30	0	306	12	0	0	0	14	65	0	27	0	48	472
7:45	0	316	15	0	0	0	13	80	0	22	0	38	484
8:00	0	285	12	0	0	0	17	73	0	15	0	38	440
8:15	0	247	10	0	0	0	21	85	0	17	0	37	417
8:30	0	224	6	0	0	0	10	70	0	26	0	48	384
8:45	0	255	8	0	0	0	13	76	0	18	0	41	411
Total	0	2337	81	0	0	0	130	615	0	165	0	390	3718
Approach%	-	96.7	3.3	-	-	-	17.4	82.6	-	29.7	-	70.3	
Total%	-	62.9	2.2	-	-	-	3.5	16.5	-	4.4	-	10.5	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	1,326	45	-	-	-	69	311	-	89	-	226	2,066
Approach%	-	96.7	3.3	-	-	-	18.2	81.8	-	28.3	-	71.7	
Total%	-	64.2	2.2	-	-	-	3.3	15.1	-	4.3	-	10.9	
PHF			0.89			#DIV/0!			0.71			0.80	0.84

PM	North El Camino Real Southbound			- Westbound			North El Camino Real Northbound			Los Arbolitos Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	143	14	0	0	0	46	230	0	50	0	30	513
16:15	0	149	19	0	0	0	52	222	0	52	0	43	537
16:30	0	151	31	0	0	0	41	241	0	54	0	49	567
16:45	0	162	27	0	0	0	71	237	0	46	0	32	575
17:00	0	151	15	0	0	0	43	146	0	53	0	52	460
17:15	0	199	14	0	0	0	41	170	0	50	0	46	520
17:30	0	174	12	0	0	0	55	239	0	58	0	38	576
17:45	0	184	14	0	0	0	51	273	0	44	0	29	595
Total	0	1313	146	0	0	0	400	1758	0	407	0	319	4343
Approach%	-	90.0	10.0	-	-	-	18.5	81.5	-	56.1	-	43.9	
Total%	-	30.2	3.4	-	-	-	9.2	40.5	-	9.4	-	7.3	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	-	605	91	-	-	-	210	930	-	202	-	154	2,192
Approach%	-	86.9	13.1	-	-	-	18.4	81.6	-	56.7	-	43.3	
Total%	-	27.6	4.2	-	-	-	9.6	42.4	-	9.2	-	7.0	
PHF			0.92			#DIV/0!			0.93			0.86	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #11
 Intersection: North El Camino Real & Los Arbolitos Boulevard
 Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-11
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	North El Camino Real Southbound				- Westbound				North El Camino Real Northbound				Los Arbolitos Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	1	0	0	0	3	1	0	0	4	1
7:15	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	5	0
7:30	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	1	4	2
8:30	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4	0
8:45	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	3	1
Ped Total	0				0				8				15				23	
Bike Total		0	2	0		0	0	0		1	0	0		1	0	1		5

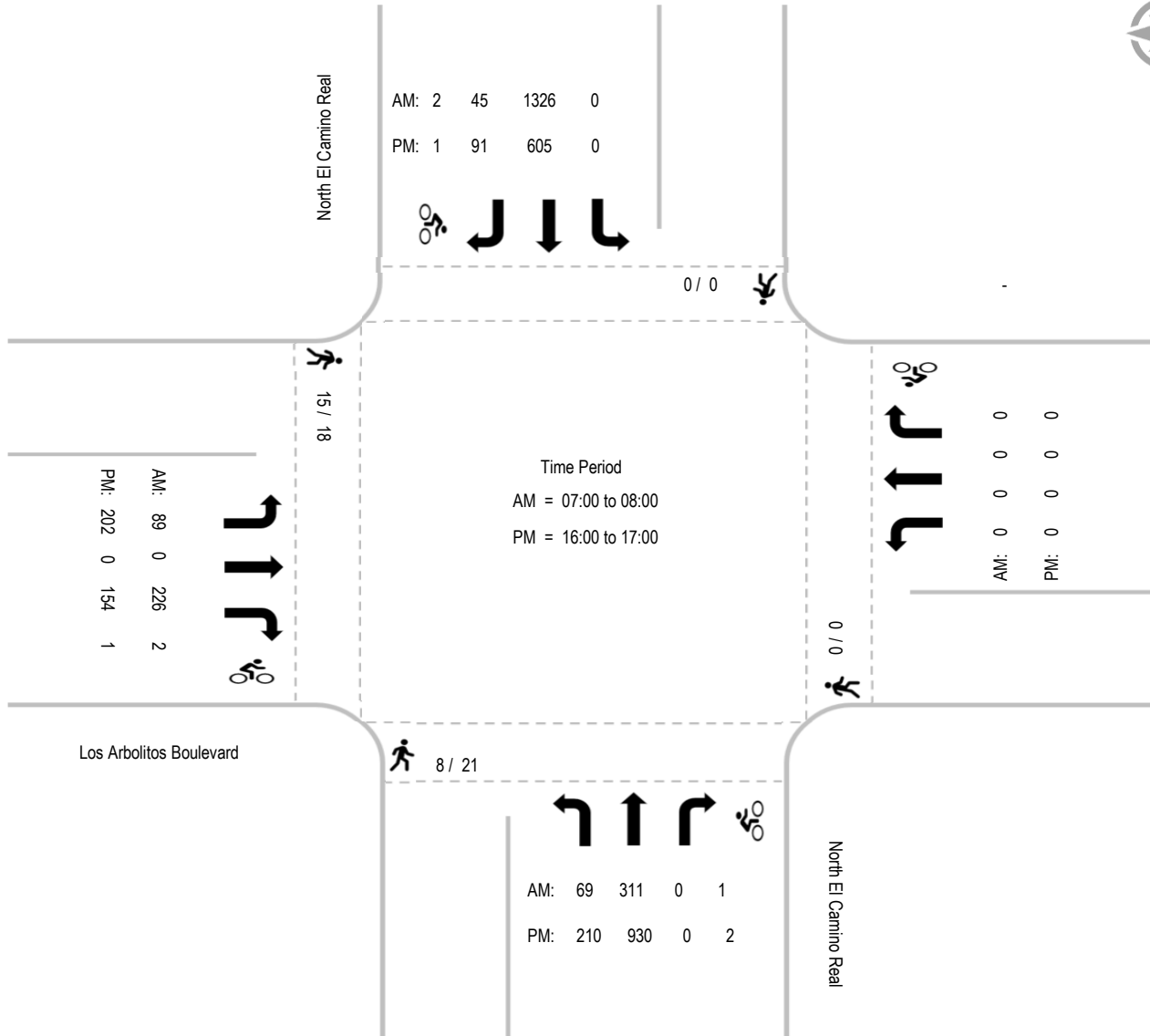
PM	North El Camino Real Southbound				- Westbound				North El Camino Real Northbound				Los Arbolitos Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	1	0	0	0	0	2	0	0	0	4	0	0	0	6	1
16:15	0	0	0	0	0	0	0	0	1	0	1	0	4	0	0	0	5	1
16:30	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	0	6	0
16:45	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	0	7	0
17:00	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	5	0
17:15	0	0	0	0	0	0	0	0	2	1	0	0	2	1	0	0	4	2
17:30	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	0
17:45	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	4	0
Ped Total	0				0				21				18				39	
Bike Total		0	0	1		0	0	0		1	1	0		1	0	0		4

Intersection Turning Movement - Peak Hour Summary



Location: #11
 Intersection: North El Camino Real & Los Arbolitos Boulevard
 Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-11
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #12R
Intersection: Pala Road & Los Arbolitos Boulevard
Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-12R
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Los Arbolitos Boulevard Southbound			Pala Road Westbound			Los Arbolitos Boulevard Northbound			Pala Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	12	0	30	0	1	0	1	7	0	0	0	51
7:15	1	3	1	22	0	0	0	5	9	0	0	0	41
7:30	0	6	0	15	0	2	0	4	9	0	0	0	36
7:45	1	4	0	22	0	0	0	1	9	0	0	0	37
8:00	1	8	0	11	1	1	0	1	11	0	0	0	34
8:15	0	7	0	11	0	0	1	4	12	0	0	0	35
8:30	5	1	0	27	0	3	0	1	49	0	0	0	86
8:45	0	2	0	41	0	2	0	2	18	0	0	0	65
Total	8	43	1	179	1	9	1	19	124	0	0	0	385
Approach%	15.4	82.7	1.9	94.7	0.5	4.8	0.7	13.2	86.1	-	-	-	
Total%	2.1	11.2	0.3	46.5	0.3	2.3	0.3	4.9	32.2	-	-	-	

AM Intersection Peak Hour: 08:00 to 09:00

Volume	6	18	-	90	1	6	1	8	90	-	-	-	220
Approach%	25.0	75.0	-	92.8	1.0	6.2	1.0	8.1	90.9	-	-	-	
Total%	2.7	8.2	-	40.9	0.5	2.7	0.5	3.6	40.9	-	-	-	
PHF			0.67			0.56			0.50			#DIV/0!	0.64

PM	Los Arbolitos Boulevard Southbound			Pala Road Westbound			Los Arbolitos Boulevard Northbound			Pala Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	2	5	0	10	0	2	0	9	16	0	0	0	44
16:15	2	4	0	11	0	2	0	7	9	0	0	0	35
16:30	0	1	0	10	0	0	0	5	12	0	0	0	28
16:45	0	3	0	12	0	1	1	5	10	0	0	0	32
17:00	0	5	0	12	1	2	0	11	7	0	0	0	38
17:15	0	3	0	9	0	1	0	3	16	0	1	0	33
17:30	0	4	1	13	0	1	1	7	16	0	0	0	43
17:45	2	2	0	10	0	0	1	6	17	1	0	0	39
Total	6	27	1	87	1	9	3	53	103	1	1	0	292
Approach%	17.6	79.4	2.9	89.7	1.0	9.3	1.9	33.3	64.8	50.0	50.0	-	
Total%	2.1	9.2	0.3	29.8	0.3	3.1	1.0	18.2	35.3	0.3	0.3	-	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	2	14	1	44	1	4	2	27	56	1	1	-	153
Approach%	11.8	82.4	5.9	89.8	2.0	8.2	2.4	31.8	65.9	50.0	50.0	-	
Total%	1.3	9.2	0.7	28.8	0.7	2.6	1.3	17.6	36.6	0.7	0.7	-	
PHF			0.85			0.82			0.89			0.50	0.89

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #12R
 Intersection: Pala Road & Los Arbolitos Boulevard
 Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-12R
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

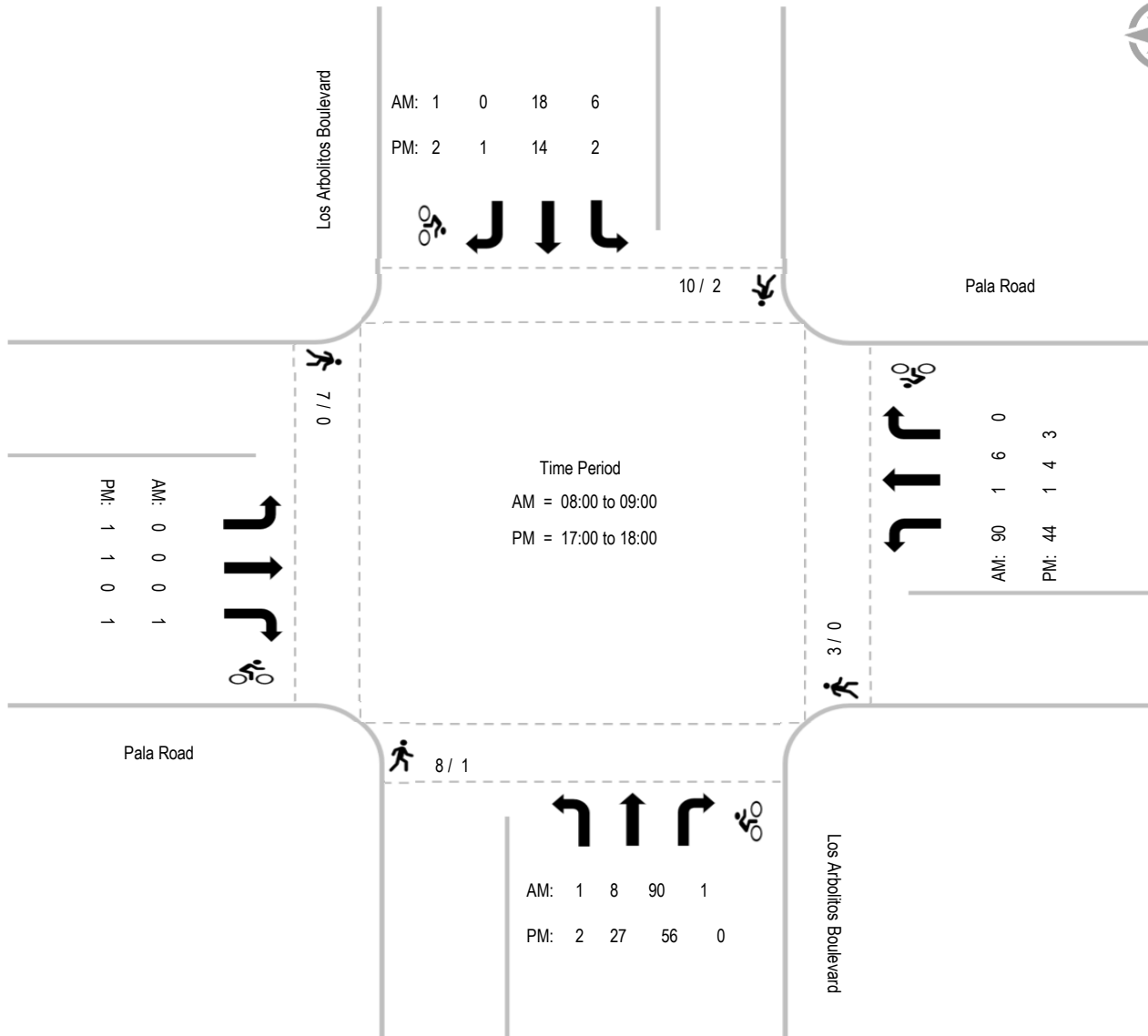
AM	Los Arbolitos Boulevard Southbound				Pala Road Westbound				Los Arbolitos Boulevard Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:30	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:00	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	4	0
8:15	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	6	0
8:30	5	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	9	0
8:45	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	6	0
Ped Total	10				3				8				7				28	
Bike Total		0	0	1		0	0	0		0	1	0		1	0	0		3

PM	Los Arbolitos Boulevard Southbound				Pala Road Westbound				Los Arbolitos Boulevard Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	2
17:45	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	1
Ped Total	2				0				1				0				3	
Bike Total		0	2	0		0	3	0		0	0	0		0	1	0		6

Intersection Turning Movement - Peak Hour Summary



Location:	#12R	File Name:	ITM-19-101-12R
Intersection:	Pala Road & Los Arbolitos Boulevard	Project:	LLG Ref. 3-19-3145
Date of Count:	Wednesday, August 28, 2019		Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #13
Intersection: Foussat Road & Foussat Road
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-13
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Foussat Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	82	0	0	0	1	0	0	26	0	1	110
7:15	0	0	59	0	0	0	0	0	0	27	0	0	86
7:30	0	0	69	0	0	0	0	0	0	24	0	1	94
7:45	0	0	55	0	0	0	1	0	0	20	0	0	76
8:00	0	0	52	0	0	0	0	0	0	32	0	0	84
8:15	0	0	39	0	0	0	4	0	0	30	0	0	73
8:30	0	0	66	0	0	0	9	0	0	26	0	1	102
8:45	0	0	42	0	0	0	7	0	0	25	0	1	75
Total	0	0	464	0	0	0	22	0	0	210	0	4	700
Approach%	-	-	100.0	-	-	-	100.0	-	-	98.1	-	1.9	
Total%	-	-	66.3	-	-	-	3.1	-	-	30.0	-	0.6	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	265	-	-	-	2	-	-	97	-	2	366
Approach%	-	-	100.0	-	-	-	100.0	-	-	98.0	-	2.0	
Total%	-	-	72.4	-	-	-	0.5	-	-	26.5	-	0.5	
PHF			0.81			#DIV/0!			0.50			0.92	0.83

PM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Foussat Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	26	0	0	0	3	0	0	54	0	0	83
16:15	0	0	42	0	0	0	0	0	0	58	0	0	100
16:30	0	0	38	0	0	0	0	0	0	58	0	0	96
16:45	0	0	28	0	0	0	0	0	0	59	0	0	87
17:00	0	0	36	0	0	0	0	0	0	54	0	0	90
17:15	0	0	41	0	0	0	0	0	0	53	0	0	94
17:30	0	0	47	0	0	0	0	0	0	63	0	0	110
17:45	0	0	35	0	0	0	0	0	0	60	0	0	95
Total	0	0	293	0	0	0	3	0	0	459	0	0	755
Approach%	-	-	100.0	-	-	-	100.0	-	-	100.0	-	-	
Total%	-	-	38.8	-	-	-	0.4	-	-	60.8	-	-	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	-	159	-	-	-	-	-	-	230	-	-	389
Approach%	-	-	100.0	-	-	-	-	-	-	100.0	-	-	
Total%	-	-	40.9	-	-	-	-	-	-	59.1	-	-	
PHF			0.85			#DIV/0!			#DIV/0!			0.91	0.88

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #13
 Intersection: Foussat Road & Foussat Road
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-13
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Foussat Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				1				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

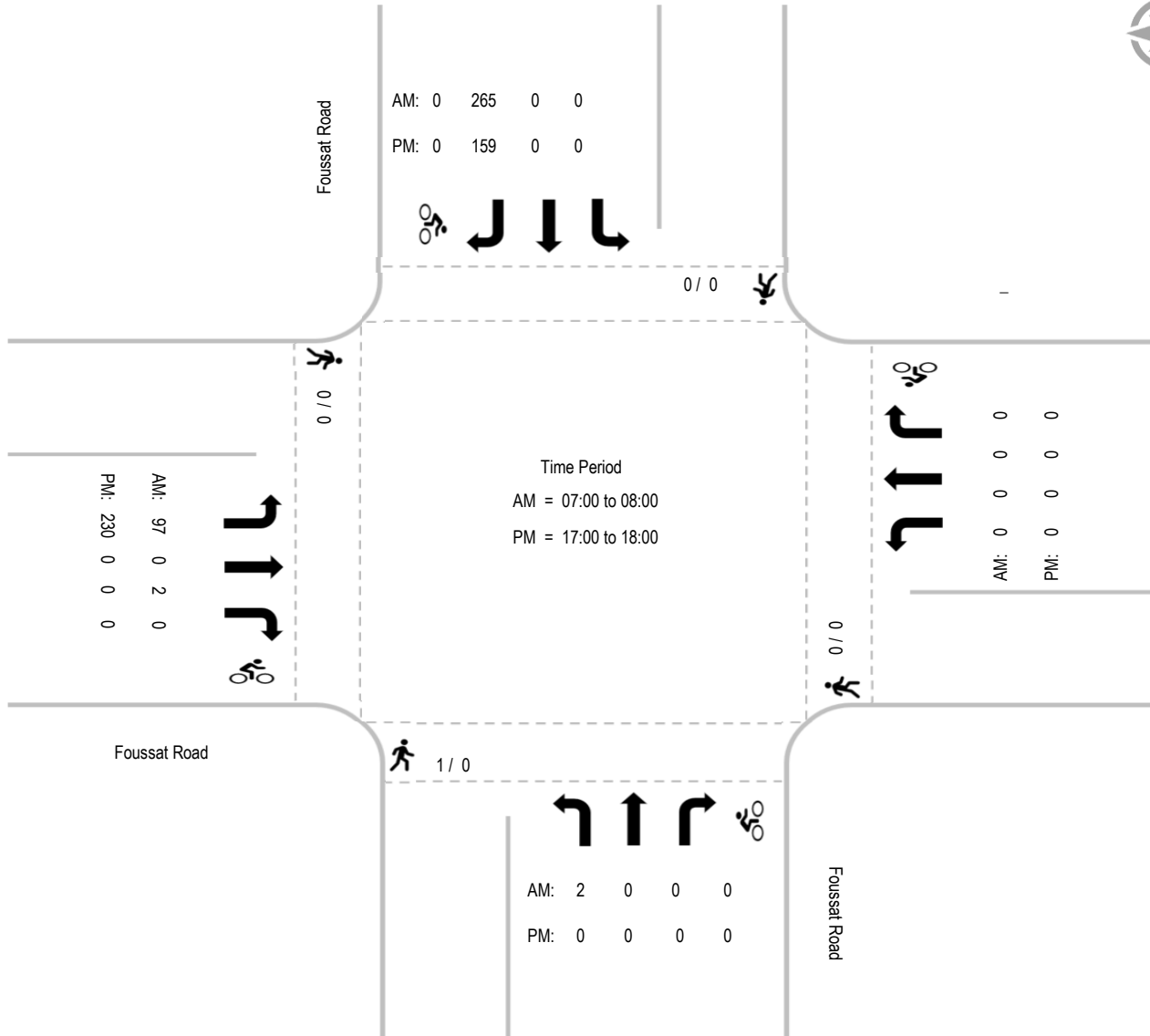
PM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Foussat Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary



Location: #13
 Intersection: Foussat Road & Foussat Road
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-13
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #14
Intersection: Alex Road & Foussat Road
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-14
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Alex Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	84	1	0	0	0	9	23	0	1	0	4	122
7:15	0	61	0	0	0	0	13	24	0	1	0	5	104
7:30	0	65	0	0	0	0	3	28	0	0	0	3	99
7:45	0	56	1	0	0	0	9	16	0	0	0	1	83
8:00	0	43	1	0	0	0	6	20	0	1	0	1	72
8:15	0	44	1	0	0	0	6	30	0	0	0	2	83
8:30	0	42	2	0	0	0	6	23	0	1	0	6	80
8:45	0	47	0	0	0	0	7	29	0	0	0	2	85
Total	0	442	6	0	0	0	59	193	0	4	0	24	728
Approach%	-	98.7	1.3	-	-	-	23.4	76.6	-	14.3	-	85.7	
Total%	-	60.7	0.8	-	-	-	8.1	26.5	-	0.5	-	3.3	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	266	2	-	-	-	34	91	-	2	-	13	408
Approach%	-	99.3	0.7	-	-	-	27.2	72.8	-	13.3	-	86.7	
Total%	-	65.2	0.5	-	-	-	8.3	22.3	-	0.5	-	3.2	
PHF			0.79			#DIV/0!			0.84			0.63	0.84

PM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Alex Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	31	0	0	0	0	3	47	0	0	0	21	102
16:15	0	37	1	0	0	0	2	54	0	1	0	8	103
16:30	0	35	0	0	0	0	3	51	0	0	0	20	109
16:45	0	30	1	0	0	0	6	56	0	0	0	6	99
17:00	0	32	0	0	0	0	3	62	0	0	0	17	114
17:15	0	40	1	0	0	0	4	50	0	0	0	13	108
17:30	0	37	0	0	0	0	6	64	0	0	0	10	117
17:45	0	37	0	0	0	0	8	51	0	1	0	8	105
Total	0	279	3	0	0	0	35	435	0	2	0	103	857
Approach%	-	98.9	1.1	-	-	-	7.4	92.6	-	1.9	-	98.1	
Total%	-	32.6	0.4	-	-	-	4.1	50.8	-	0.2	-	12.0	

PM Intersection Peak Hour: 17:00 to 18:00

Volume	-	146	1	-	-	-	21	227	-	1	-	48	444
Approach%	-	99.3	0.7	-	-	-	8.5	91.5	-	2.0	-	98.0	
Total%	-	32.9	0.2	-	-	-	4.7	51.1	-	0.2	-	10.8	
PHF			0.90			#DIV/0!			0.89			0.72	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #14
Intersection: Alex Road & Foussat Road
Date of Count: Tuesday, August 27, 2019

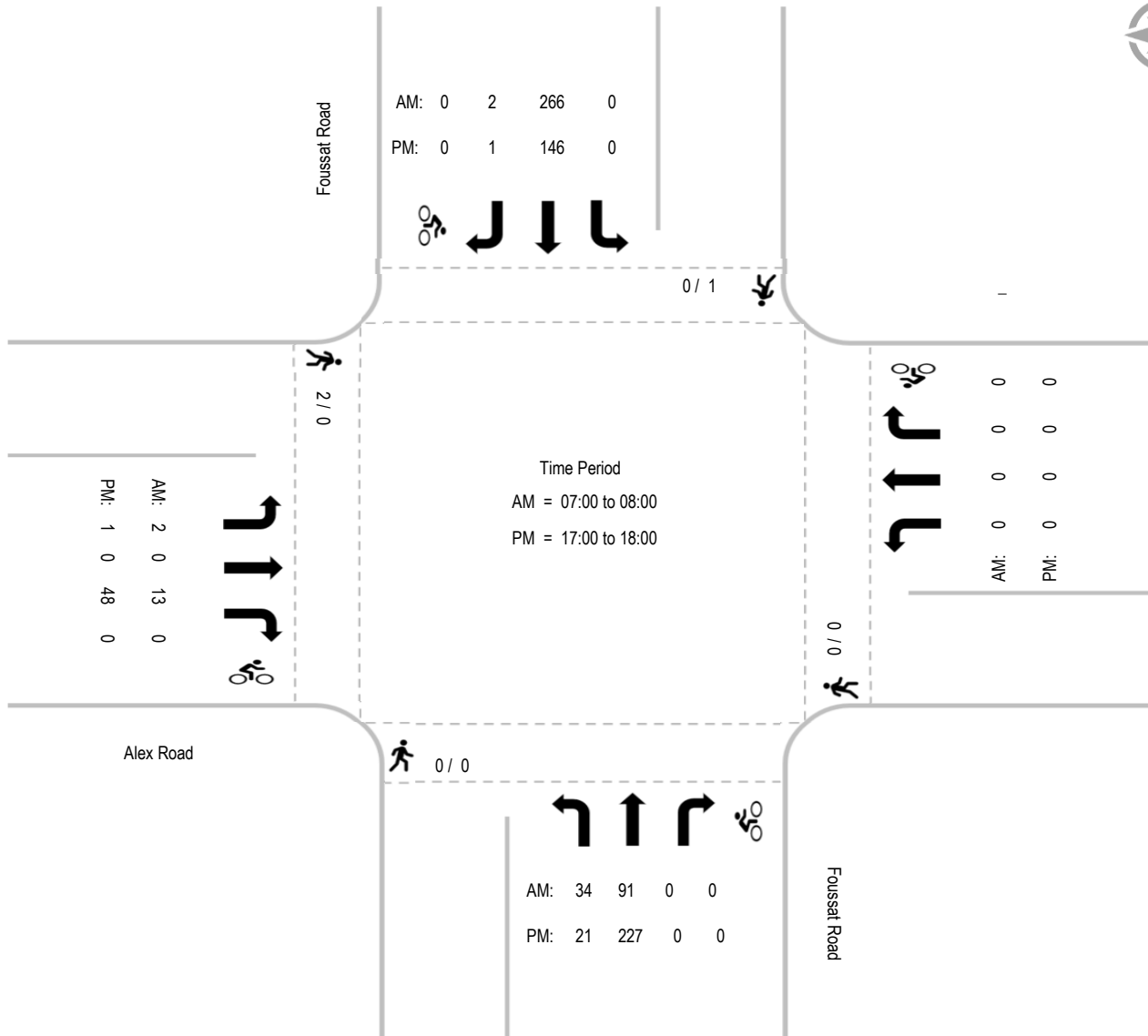
File Name: ITM-19-101-14
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Alex Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				2				2	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Alex Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	1				0				0				0				1	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #14	File Name: ITM-19-101-14
	Intersection: Alex Road & Foussat Road	Project: LLG Ref. 3-19-3145
	Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #15
Intersection: Via Rancho Road & Rancho Del Oro Drive
Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-15
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound			Via Rancho Road Westbound			Rancho Del Oro Drive Northbound			* Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	105	225	0	83	0	86	47	158	42	0	0	0	746
7:15	112	223	0	76	0	123	73	161	61	0	0	0	829
7:30	22	198	0	35	0	41	37	106	13	0	0	0	452
7:45	14	178	0	13	0	19	1	66	10	0	0	0	301
8:00	15	163	0	18	0	20	2	76	6	0	0	0	300
8:15	4	202	0	15	0	12	10	80	7	0	0	0	330
8:30	2	180	0	15	0	16	7	85	14	0	0	0	319
8:45	6	181	0	11	0	14	1	79	2	0	0	0	294
Total	280	1550	0	266	0	331	178	811	155	0	0	0	3571
Approach%	15.3	84.7	-	44.6	-	55.4	15.6	70.9	13.5	-	-	-	
Total%	7.8	43.4	-	7.4	-	9.3	5.0	22.7	4.3	-	-	-	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	253	824	-	207	-	269	158	491	126	-	-	-	2,328
Approach%	23.5	76.5	-	43.5	-	56.5	20.4	63.4	16.3	-	-	-	
Total%	10.9	35.4	-	8.9	-	11.6	6.8	21.1	5.4	-	-	-	
PHF			0.80			0.60			0.66			#DIV/0!	0.70

PM	Rancho Del Oro Drive Southbound			Via Rancho Road Westbound			Rancho Del Oro Drive Northbound			* Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	18	108	0	11	0	15	2	179	21	0	0	0	354
16:15	20	123	0	7	0	9	5	191	18	0	0	0	373
16:30	12	127	0	11	0	16	1	228	16	0	0	0	411
16:45	30	152	0	11	0	15	3	190	23	0	0	0	424
17:00	21	134	0	8	0	16	5	187	31	0	0	0	402
17:15	14	171	0	12	0	19	2	169	16	0	0	0	403
17:30	13	123	0	10	0	21	2	163	26	0	0	0	358
17:45	17	134	0	7	0	12	3	166	24	0	0	0	363
Total	145	1072	0	77	0	123	23	1473	175	0	0	0	3088
Approach%	11.9	88.1	-	38.5	-	61.5	1.4	88.2	10.5	-	-	-	
Total%	4.7	34.7	-	2.5	-	4.0	0.7	47.7	5.7	-	-	-	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	77	584	-	42	-	66	11	774	86	-	-	-	1,640
Approach%	11.6	88.4	-	38.9	-	61.1	1.3	88.9	9.9	-	-	-	
Total%	4.7	35.6	-	2.6	-	4.0	0.7	47.2	5.2	-	-	-	
PHF			0.89			0.87			0.89			#DIV/0!	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #15
 Intersection: Via Rancho Road & Rancho Del Oro Drive
 Date of Count: Wednesday, August 28, 2019

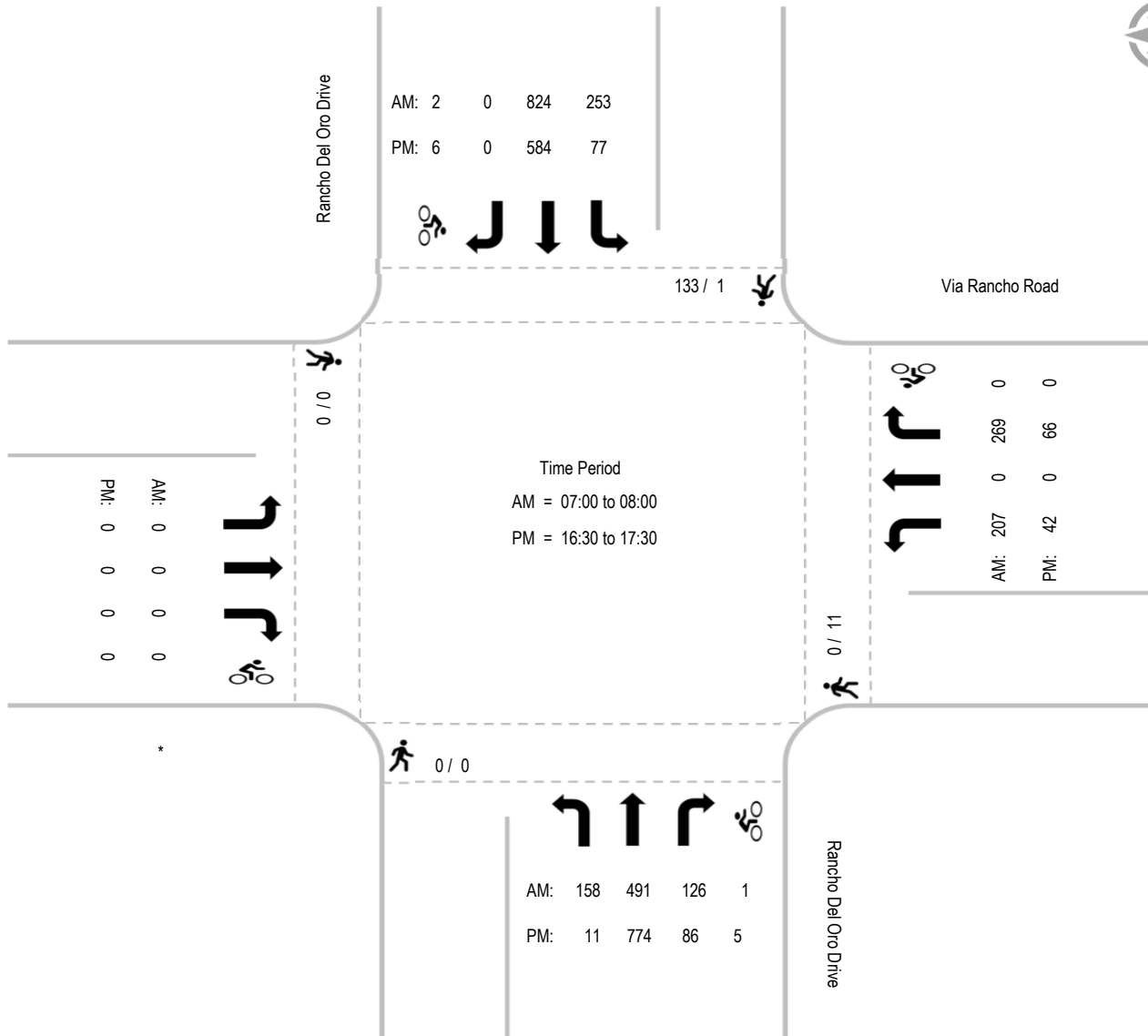
File Name: ITM-19-101-15
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound				Via Rancho Road Westbound				Rancho Del Oro Drive Northbound				* Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	54	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	54	1
7:15	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	0
7:30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8:15	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	133				0				0				0				133	
Bike Total		0	2	0		0	0	0		0	1	0		0	0	0		3

PM	Rancho Del Oro Drive Southbound				Via Rancho Road Westbound				Rancho Del Oro Drive Northbound				* Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
16:30	0	0	0	0	7	0	0	0	0	0	3	0	0	0	0	0	7	3
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
17:15	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
17:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
Ped Total	1				11				0				0				12	
Bike Total		0	6	0		0	0	0		0	5	0		0	0	0		11

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #15	File Name: ITM-19-101-15
	Intersection: Via Rancho Road & Rancho Del Oro Drive	Project: LLG Ref. 3-19-3145
	Date of Count: Wednesday, August 28, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #16
Intersection: Rancho Del Oro Drive & Mesa Drive
Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-16
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound			Mesa Drive Westbound			Rancho Del Oro Drive Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	17	156	61	100	66	19	72	126	77	51	117	104	966
7:15	13	114	29	96	43	28	37	168	78	85	143	105	939
7:30	16	40	9	23	34	41	20	195	59	58	101	16	612
7:45	11	42	15	23	61	33	4	139	53	41	125	9	556
8:00	16	52	12	25	42	22	7	122	44	35	124	13	514
8:15	15	57	6	21	20	20	3	139	43	39	114	12	489
8:30	16	57	8	27	25	19	2	147	52	36	84	12	485
8:45	9	52	10	17	33	16	7	138	59	29	82	10	462
Total	113	570	150	332	324	198	152	1174	465	374	890	281	5023
Approach%	13.6	68.4	18.0	38.9	37.9	23.2	8.5	65.5	26.0	24.2	57.6	18.2	
Total%	2.2	11.3	3.0	6.6	6.5	3.9	3.0	23.4	9.3	7.4	17.7	5.6	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	57	352	114	242	204	121	133	628	267	235	486	234	3,073
Approach%	10.9	67.3	21.8	42.7	36.0	21.3	12.9	61.1	26.0	24.6	50.9	24.5	
Total%	1.9	11.5	3.7	7.9	6.6	3.9	4.3	20.4	8.7	7.6	15.8	7.6	
PHF			0.56			0.77			0.91			0.72	0.82

PM	Rancho Del Oro Drive Southbound			Mesa Drive Westbound			Rancho Del Oro Drive Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	34	125	31	50	119	8	18	84	22	16	52	11	570
16:15	22	134	37	76	121	12	7	81	33	15	60	9	607
16:30	26	158	43	64	119	17	12	68	35	23	64	9	638
16:45	16	129	36	76	141	13	24	81	44	16	84	18	678
17:00	24	164	36	54	168	10	13	84	40	25	71	12	701
17:15	18	143	46	48	168	23	23	97	42	16	99	17	740
17:30	24	128	49	43	139	12	11	75	39	23	65	9	617
17:45	12	105	30	69	137	11	10	99	39	18	56	8	594
Total	176	1086	308	480	1112	106	118	669	294	152	551	93	5145
Approach%	11.2	69.2	19.6	28.3	65.5	6.2	10.9	61.9	27.2	19.1	69.2	11.7	
Total%	3.4	21.1	6.0	9.3	21.6	2.1	2.3	13.0	5.7	3.0	10.7	1.8	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	84	594	161	242	596	63	72	330	161	80	318	56	2,757
Approach%	10.0	70.8	19.2	26.9	66.1	7.0	12.8	58.6	28.6	17.6	70.0	12.3	
Total%	3.0	21.5	5.8	8.8	21.6	2.3	2.6	12.0	5.8	2.9	11.5	2.0	
PHF			0.92			0.94			0.87			0.86	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #16
 Intersection: Rancho Del Oro Drive & Mesa Drive
 Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-16
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound				Mesa Drive Westbound				Rancho Del Oro Drive Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	11	0	0	0	10	0	0	0	9	0	0	0	17	0	0	0	47	0
7:15	4	0	1	0	3	0	0	0	0	0	1	0	8	0	0	0	15	2
7:30	2	0	0	0	0	0	0	0	3	0	0	0	5	0	0	0	10	0
7:45	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1
8:00	1	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	6	0
8:15	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	1
8:30	1	0	0	0	0	0	0	0	2	0	2	0	1	0	0	0	4	2
8:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ped Total	20				13				17				35				85	
Bike Total		0	1	2		0	1	0		0	3	0		0	0	0		7

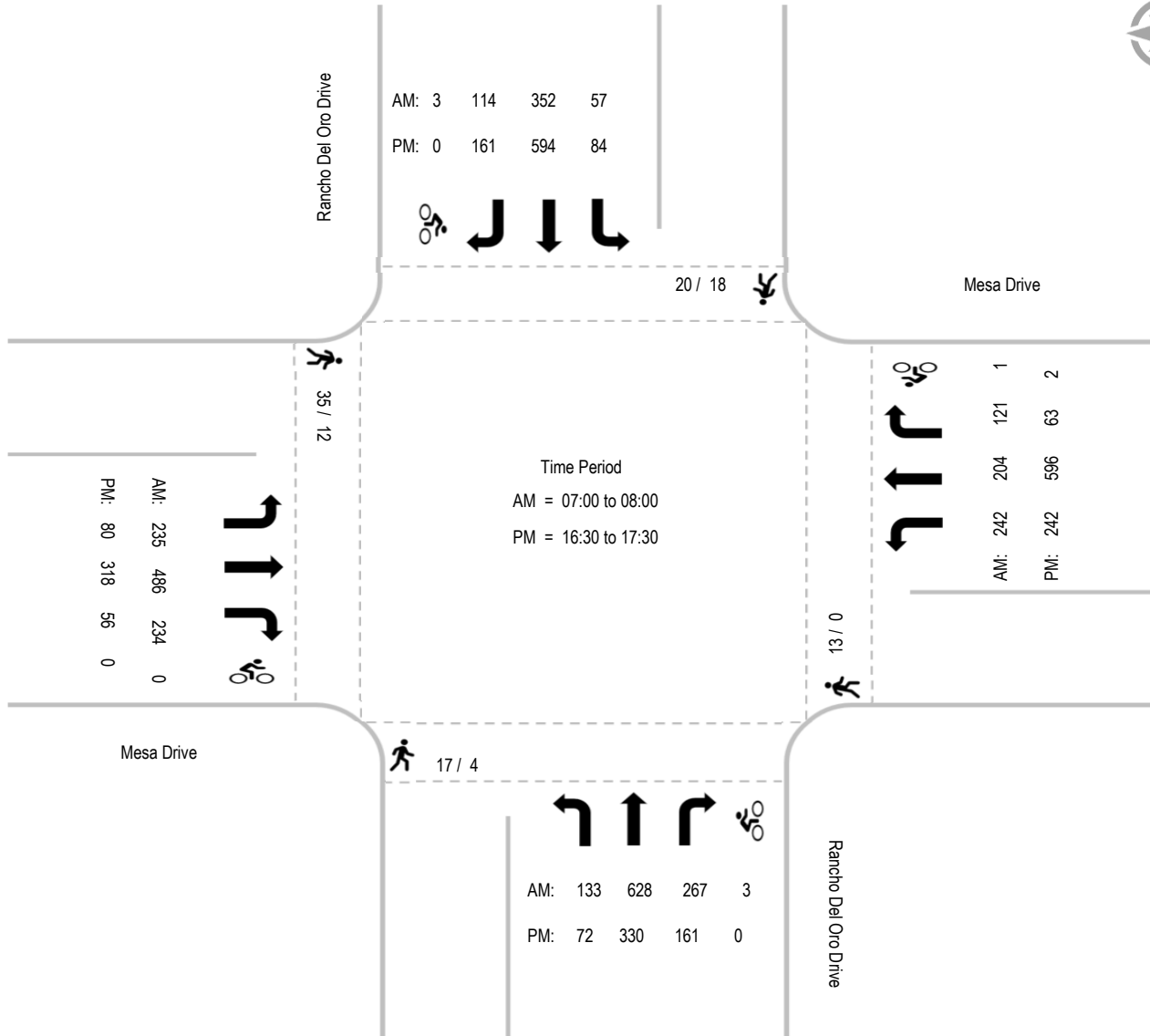
PM	Rancho Del Oro Drive Southbound				Mesa Drive Westbound				Rancho Del Oro Drive Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
16:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:30	6	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	15	0
16:45	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
17:00	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
17:15	6	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	9	0
17:30	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
17:45	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
Ped Total	18				0				4				12				34	
Bike Total		0	0	0		2	0	0		0	0	0		0	0	0		2

Intersection Turning Movement - Peak Hour Summary



Location: #16
 Intersection: Rancho Del Oro Drive & Mesa Drive
 Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-16
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #17
Intersection: El Camino Real & Mesa Drive
Date of Count: Wednesday, August 28, 2019

File Name: ITM-19-101-17
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	El Camino Real Southbound			Mesa Drive Westbound			El Camino Real Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	55	243	9	163	55	21	16	89	87	4	73	43	858
7:15	41	379	6	157	58	48	22	95	55	4	43	36	944
7:30	28	302	13	130	52	9	19	90	38	5	37	31	754
7:45	17	298	7	137	41	9	24	108	58	10	42	31	782
8:00	14	223	10	148	43	11	32	91	47	6	13	25	663
8:15	12	257	6	152	45	10	27	124	24	3	30	17	707
8:30	6	237	4	108	31	14	23	94	52	15	29	19	632
8:45	9	282	4	120	26	5	23	122	31	6	19	21	668
Total	182	2221	59	1115	351	127	186	813	392	53	286	223	6008
Approach%	7.4	90.2	2.4	70.0	22.0	8.0	13.4	58.4	28.2	9.4	50.9	39.7	
Total%	3.0	37.0	1.0	18.6	5.8	2.1	3.1	13.5	6.5	0.9	4.8	3.7	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	141	1,222	35	587	206	87	81	382	238	23	195	141	3,338
Approach%	10.1	87.4	2.5	66.7	23.4	9.9	11.6	54.5	34.0	6.4	54.3	39.3	
Total%	4.2	36.6	1.0	17.6	6.2	2.6	2.4	11.4	7.1	0.7	5.8	4.2	
PHF			0.82			0.84			0.91			0.75	0.88

PM	El Camino Real Southbound			Mesa Drive Westbound			El Camino Real Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	16	175	10	57	32	18	46	260	154	6	50	36	860
16:15	23	162	10	88	36	9	42	322	161	11	37	16	917
16:30	11	170	6	79	40	18	30	283	167	7	43	21	875
16:45	19	165	6	107	26	15	41	307	175	8	44	26	939
17:00	22	181	4	91	28	24	40	303	167	7	60	20	947
17:15	20	198	7	95	36	23	54	324	166	11	76	23	1033
17:30	11	197	12	81	31	15	36	323	161	7	34	32	940
17:45	12	164	10	80	21	8	37	324	180	10	34	26	906
Total	134	1412	65	678	250	130	326	2446	1331	67	378	200	7417
Approach%	8.3	87.6	4.0	64.1	23.6	12.3	7.9	59.6	32.4	10.4	58.6	31.0	
Total%	1.8	19.0	0.9	9.1	3.4	1.8	4.4	33.0	17.9	0.9	5.1	2.7	

PM Intersection Peak Hour: 16:45 to 17:45

Volume	72	741	29	374	121	77	171	1,257	669	33	214	101	3,859
Approach%	8.6	88.0	3.4	65.4	21.2	13.5	8.2	59.9	31.9	9.5	61.5	29.0	
Total%	1.9	19.2	0.8	9.7	3.1	2.0	4.4	32.6	17.3	0.9	5.5	2.6	
PHF			0.94			0.93			0.96			0.79	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #17
 Intersection: El Camino Real & Mesa Drive
 Date of Count: Wednesday, August 28, 2019

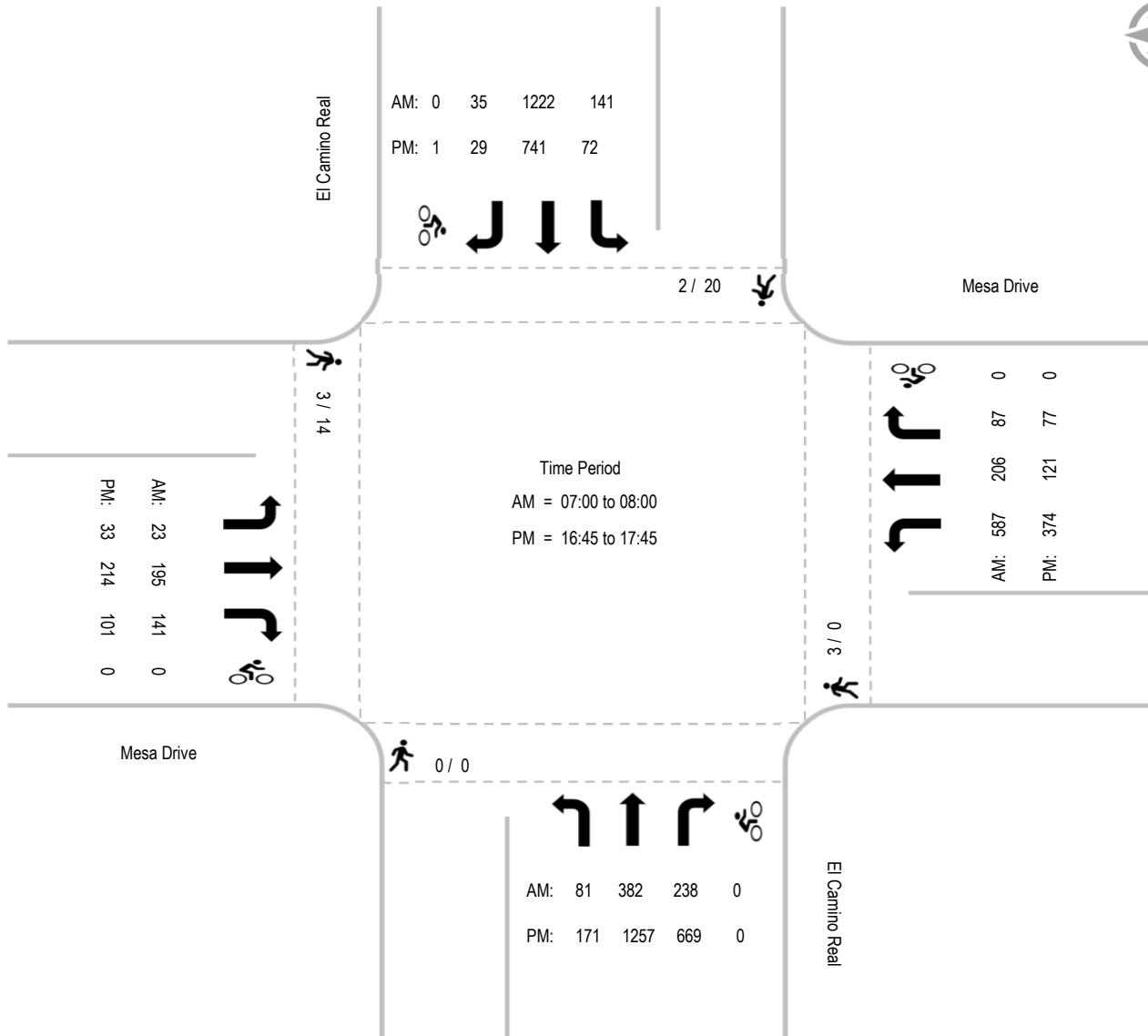
File Name: ITM-19-101-17
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	El Camino Real Southbound				Mesa Drive Westbound				El Camino Real Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0
Ped Total	2				3				0				3				8	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	El Camino Real Southbound				Mesa Drive Westbound				El Camino Real Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
16:30	3	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	5	1
16:45	3	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	11	0
17:00	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
17:15	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
17:30	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
17:45	6	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	8	0
Ped Total	20				0				0				14				34	
Bike Total		0	1	0		0	0	0		0	0	0		0	0	0		1

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #17	File Name: ITM-19-101-17
	Intersection: El Camino Real & Mesa Drive	Project: LLG Ref. 3-19-3145
	Date of Count: Wednesday, August 28, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #18
Intersection: Mesa Drive & Foussat Road
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-18
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Foussat Road Southbound			Mesa Drive Westbound			Foussat Road Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	29	52	7	11	54	16	3	24	0	4	43	5	248
7:15	23	58	10	10	43	24	3	19	1	10	39	9	249
7:30	13	71	10	14	53	21	5	24	2	6	28	7	254
7:45	15	57	8	9	42	20	3	18	0	8	28	5	213
8:00	11	38	4	6	43	32	4	15	1	3	32	0	189
8:15	13	32	8	12	35	22	0	28	7	10	19	4	190
8:30	8	46	9	5	23	27	2	23	2	16	22	6	189
8:45	12	28	4	2	24	14	3	23	1	7	18	5	141
Total	124	382	60	69	317	176	23	174	14	64	229	41	1673
Approach%	21.9	67.5	10.6	12.3	56.4	31.3	10.9	82.5	6.6	19.2	68.6	12.3	
Total%	7.4	22.8	3.6	4.1	18.9	10.5	1.4	10.4	0.8	3.8	13.7	2.5	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	80	238	35	44	192	81	14	85	3	28	138	26	964
Approach%	22.7	67.4	9.9	13.9	60.6	25.6	13.7	83.3	2.9	14.6	71.9	13.5	
Total%	8.3	24.7	3.6	4.6	19.9	8.4	1.5	8.8	0.3	2.9	14.3	2.7	
PHF			0.94			0.90			0.82			0.83	0.95

PM	Foussat Road Southbound			Mesa Drive Westbound			Foussat Road Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	12	34	9	1	33	23	3	43	3	10	44	6	221
16:15	15	28	8	4	26	26	3	49	3	17	42	2	223
16:30	11	25	5	2	30	20	1	28	3	12	38	5	180
16:45	12	29	11	1	49	22	9	43	4	18	54	4	256
17:00	17	26	11	4	24	22	4	61	6	9	48	7	239
17:15	23	23	7	2	21	35	5	32	0	14	54	6	222
17:30	15	39	6	4	31	18	5	50	6	10	36	6	226
17:45	12	29	12	1	31	27	3	42	3	7	32	4	203
Total	117	233	69	19	245	193	33	348	28	97	348	40	1770
Approach%	27.9	55.6	16.5	4.2	53.6	42.2	8.1	85.1	6.8	20.0	71.8	8.2	
Total%	6.6	13.2	3.9	1.1	13.8	10.9	1.9	19.7	1.6	5.5	19.7	2.3	

PM Intersection Peak Hour: 16:45 to 17:45

Volume	67	117	35	11	125	97	23	186	16	51	192	23	943
Approach%	30.6	53.4	16.0	4.7	53.6	41.6	10.2	82.7	7.1	19.2	72.2	8.6	
Total%	7.1	12.4	3.7	1.2	13.3	10.3	2.4	19.7	1.7	5.4	20.4	2.4	
PHF			0.91			0.81			0.79			0.88	0.98

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #18
 Intersection: Mesa Drive & Foussat Road
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-18
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

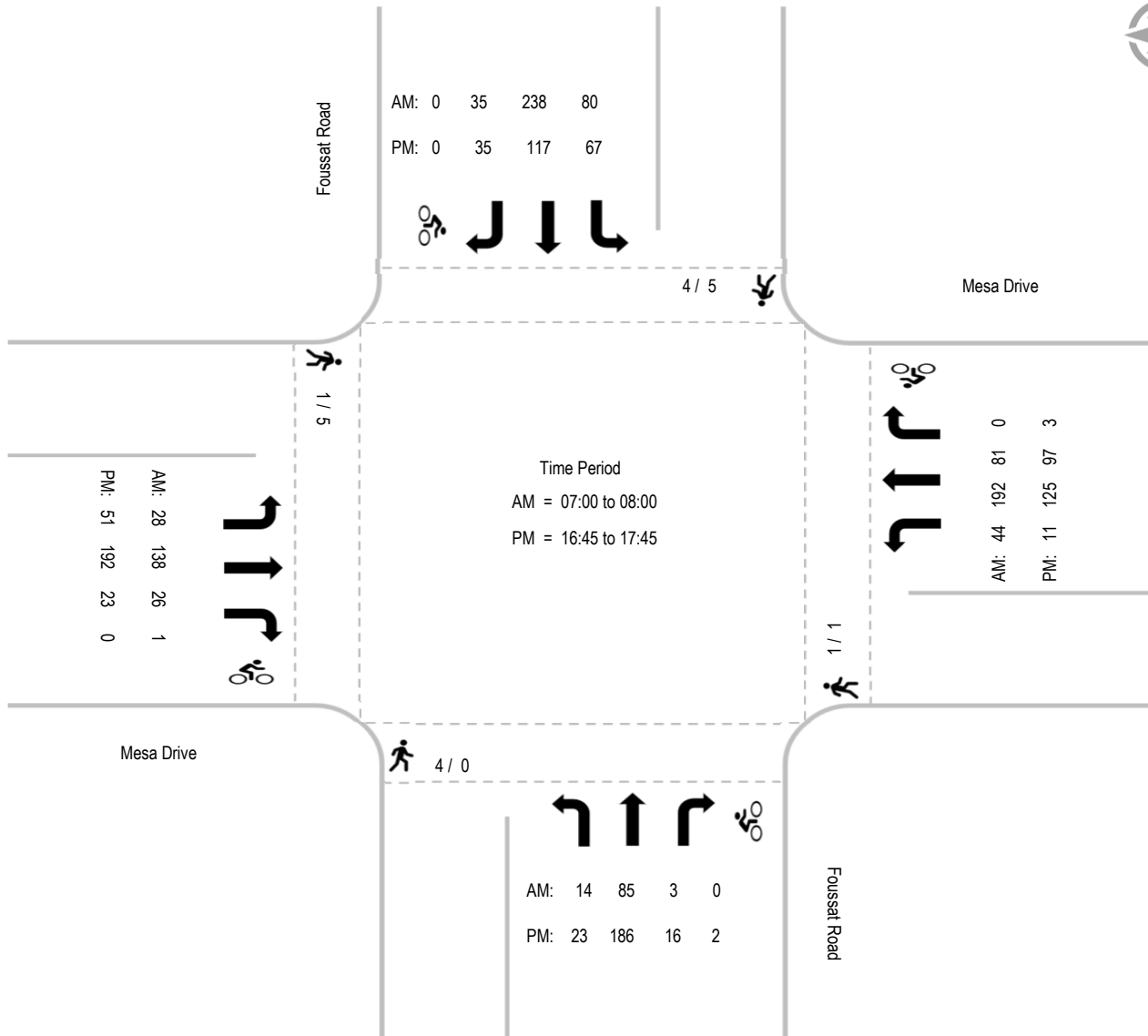
AM	Foussat Road Southbound				Mesa Drive Westbound				Foussat Road Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
7:45	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	4	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	5	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	4				1				4				1				10	
Bike Total		0	0	0		0	0	0		0	0	0		1	0	0		1

PM	Foussat Road Southbound				Mesa Drive Westbound				Foussat Road Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	1
17:00	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3	0
17:15	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0
17:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:45	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	2
Ped Total	5				1				0				5				11	
Bike Total		0	0	0		0	3	0		0	2	0		0	0	0		5

Intersection Turning Movement - Peak Hour Summary

Location: #18
Intersection: Mesa Drive & Foussat Road
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-18
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #19
Intersection: North Barnwell Street & Mesa Drive
Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-19
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	North Barnwell Street Southbound			Mesa Drive Westbound			North Barnwell Street Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	7	7	13	2	62	4	1	4	0	2	40	3	145
7:15	2	2	11	3	52	2	0	2	1	9	45	0	129
7:30	5	5	8	3	58	1	3	4	3	1	30	0	121
7:45	4	4	12	1	60	4	3	6	2	6	35	1	138
8:00	6	6	5	5	41	1	2	4	2	4	32	2	110
8:15	2	3	6	4	39	0	1	2	2	3	19	0	81
8:30	4	4	9	0	29	2	1	4	4	3	34	2	96
8:45	6	6	4	1	32	0	1	4	1	7	22	6	90
Total	36	37	68	19	373	14	12	30	15	35	257	14	910
Approach%	25.5	26.2	48.2	4.7	91.9	3.4	21.1	52.6	26.3	11.4	84.0	4.6	
Total%	4.0	4.1	7.5	2.1	41.0	1.5	1.3	3.3	1.6	3.8	28.2	1.5	

AM Intersection Peak Hour: 07:00 to 08:00

Volume	18	18	44	9	232	11	7	16	6	18	150	4	533
Approach%	22.5	22.5	55.0	3.6	92.1	4.4	24.1	55.2	20.7	10.5	87.2	2.3	
Total%	3.4	3.4	8.3	1.7	43.5	2.1	1.3	3.0	1.1	3.4	28.1	0.8	
PHF			0.74			0.93			0.66			0.80	0.92

PM	North Barnwell Street Southbound			Mesa Drive Westbound			North Barnwell Street Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	2	4	6	2	35	1	1	4	5	9	61	1	131
16:15	3	3	8	1	33	3	2	4	2	4	51	2	116
16:30	6	4	7	3	25	3	0	6	5	7	57	0	123
16:45	1	7	10	3	33	5	2	2	3	9	63	2	140
17:00	4	4	4	3	37	3	2	4	3	10	59	0	133
17:15	5	6	5	1	25	2	0	7	2	9	72	2	136
17:30	3	3	4	3	37	3	1	9	4	11	51	0	129
17:45	1	1	1	0	35	1	1	6	6	6	42	1	101
Total	25	32	45	16	260	21	9	42	30	65	456	8	1009
Approach%	24.5	31.4	44.1	5.4	87.5	7.1	11.1	51.9	37.0	12.3	86.2	1.5	
Total%	2.5	3.2	4.5	1.6	25.8	2.1	0.9	4.2	3.0	6.4	45.2	0.8	

PM Intersection Peak Hour: 16:45 to 17:45

Volume	13	20	23	10	132	13	5	22	12	39	245	4	538
Approach%	23.2	35.7	41.1	6.5	85.2	8.4	12.8	56.4	30.8	13.5	85.1	1.4	
Total%	2.4	3.7	4.3	1.9	24.5	2.4	0.9	4.1	2.2	7.2	45.5	0.7	
PHF			0.78			0.90			0.70			0.87	0.96

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #19
 Intersection: North Barnwell Street & Mesa Drive
 Date of Count: Tuesday, August 27, 2019

File Name: ITM-19-101-19
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

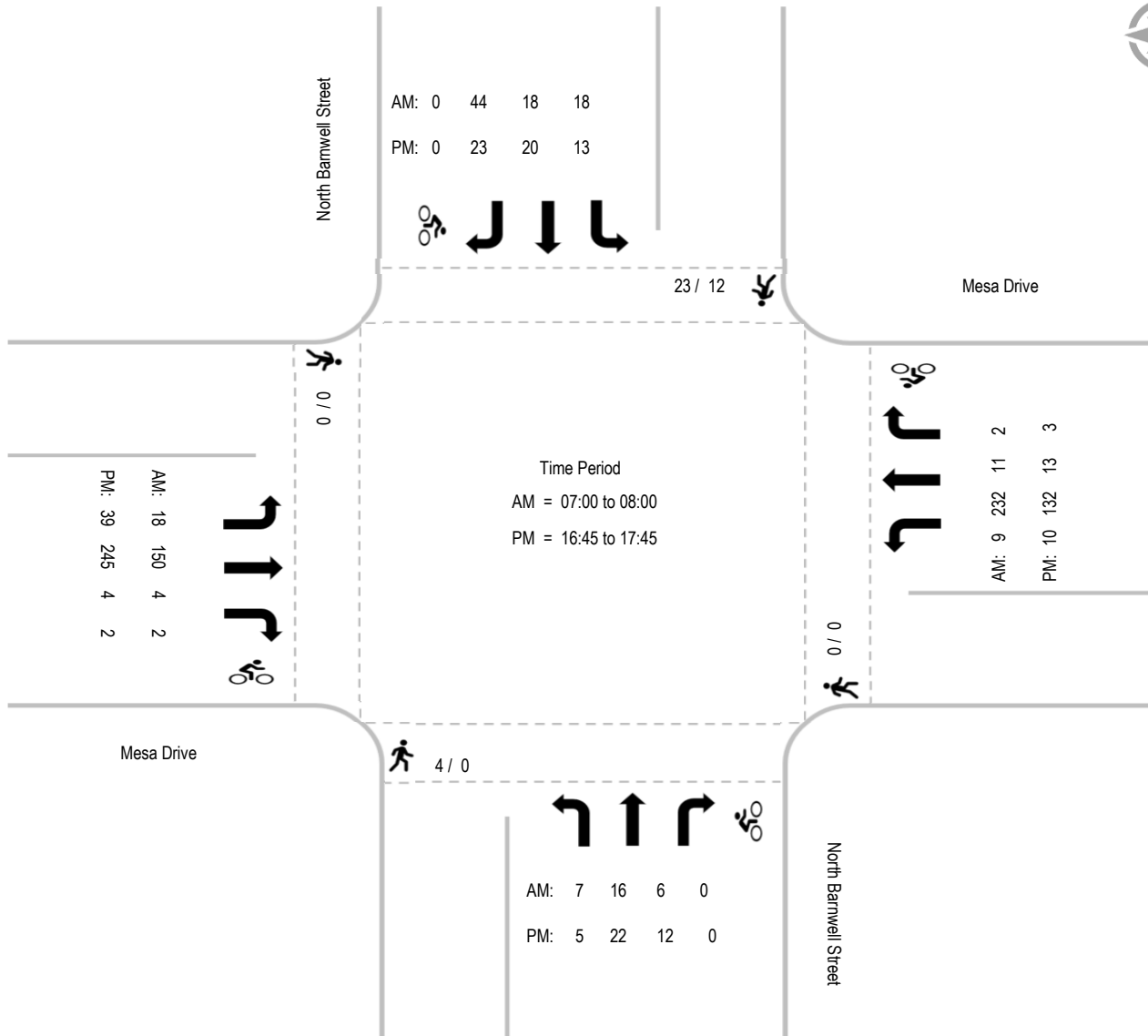
AM	North Barnwell Street Southbound				Mesa Drive Westbound				North Barnwell Street Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
7:15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30	2	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	4	1
7:45	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
8:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	1
8:15	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	2
8:30	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
8:45	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
Ped Total	23				0				4				0				27	
Bike Total		0	0	0		0	2	0		0	0	0		0	2	0		4

PM	North Barnwell Street Southbound				Mesa Drive Westbound				North Barnwell Street Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
16:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17:15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
17:30	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
17:45	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	1
Ped Total	12				0				0				0				12	
Bike Total		0	0	0		0	3	0		0	0	0		0	1	1		5

Intersection Turning Movement - Peak Hour Summary

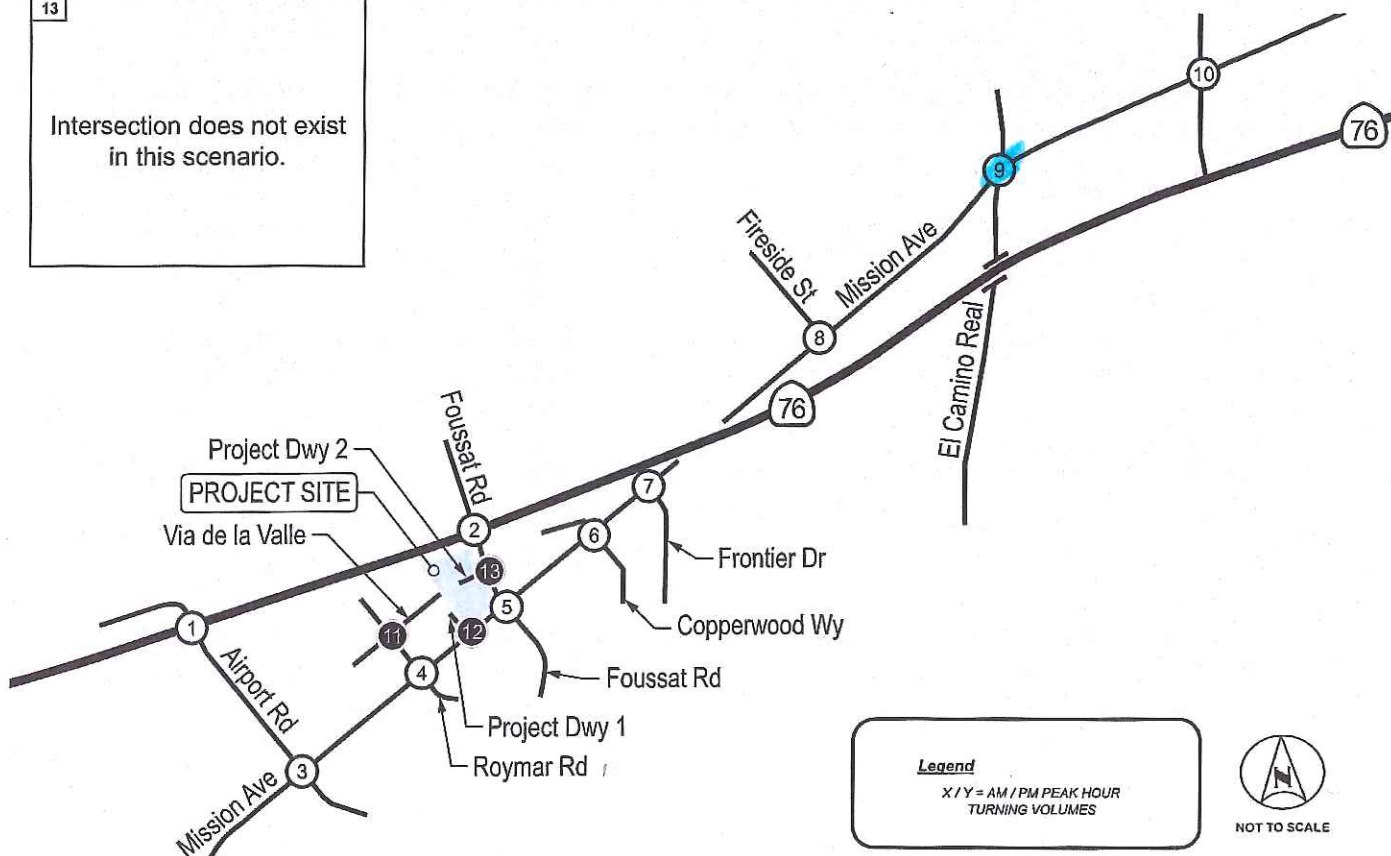


Location: #19	File Name: ITM-19-101-19
Intersection: North Barnwell Street & Mesa Drive	Project: LLG Ref. 3-19-3145
Date of Count: Tuesday, August 27, 2019	Oceanside Swap Meet



OnPoint - Oceanside

1 #6 11 / 40 31 / 69 38 / 39 Airport Rd 25 / 25 2049 / 1306 30 / 74 SR 76 24 / 23 1296 / 2068 37 / 46 Airport Rd	2 #7 38 / 64 20 / 84 52 / 58 Foussat Rd 34 / 86 2038 / 1298 52 / 109 SR 76 29 / 104 1371 / 2013 44 / 84 37 / 62 26 / 47 51 / 92	3 #12 16 / 35 17 / 11 32 / 33 Airport Rd 69 / 38 1022 / 832 7 / 15 Mission Ave 25 / 28 549 / 1229 6 / 11 13 / 15 20 / 10 19 / 17	4 #13 10 / 22 19 / 22 Roymar Rd 19 / 17 1070 / 810 46 / 43 Mission Ave 17 / 21 554 / 1235 22 / 33 22 / 37 46 / 104
5 #14 65 / 80 70 / 121 32 / 61 Foussat Rd 30 / 39 1036 / 731 22 / 30 Mission Ave 44 / 51 521 / 1267 38 / 57 37 / 40 79 / 94 35 / 29	6 #15 7 / 7 0 / 1 4 / 5 Copperwood Wy 8 / 7 1016 / 678 91 / 55 Mission Ave 7 / 4 468 / 1250 90 / 91 47 / 96 6 / 2 41 / 108	7 #16 1079 / 725 63 / 45 Mission Ave 460 / 1215 45 / 45 Frontier Dr 39 / 28 43 / 41	8 #18 54 / 113 31 / 50 Fireside St 9 / 97 1081 / 642 Mission Ave 17 / 234 510 / 1010
9 #19 406 / 288 730 / 414 86 / 165 El Camino Real 22 / 101 473 / 264 148 / 118 Mission Ave 142 / 367 264 / 579 111 / 141 142 / 215 212 / 693 89 / 243	10 #20 64 / 79 97 / 101 19 / 22 Douglas Dr 33 / 32 595 / 415 27 / 31 Mission Ave 52 / 65 369 / 955 55 / 50 50 / 58 102 / 89 21 / 23	11 16 / 35 4 / 5 Roymar Rd 5 / 3 15 / 9 Via de la Valle 26 / 27 9 / 13	12 Intersection does not exist in this scenario.
13 Intersection does not exist in this scenario.			



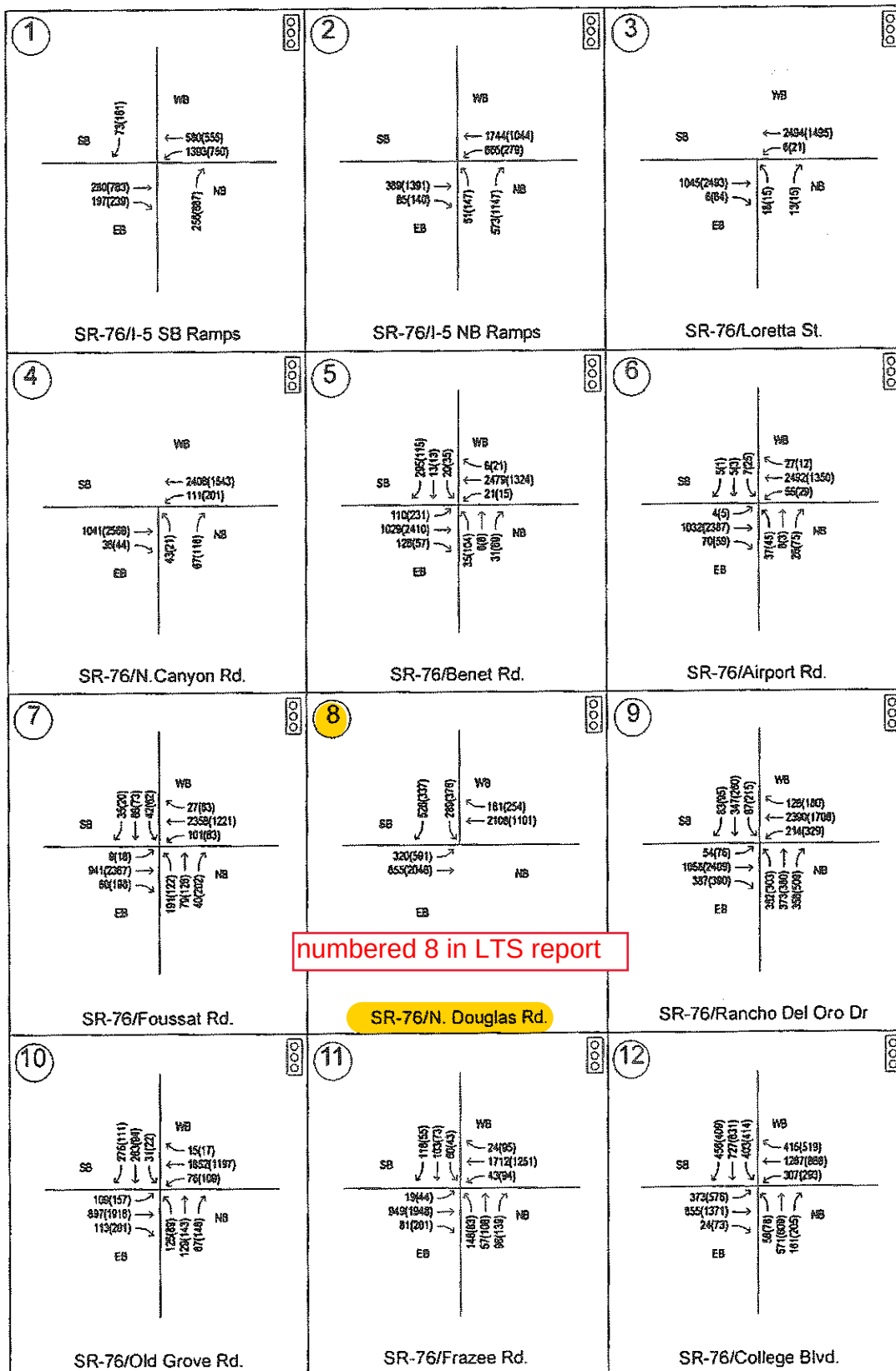


Table 5
Existing Daily Roadway Segment Conditions

Roadway	Location	Classification	Daily Capacity	Existing ADT	V/C	LOS
SR-76 ⁽¹⁾	West of I-5 SB Ramps	Expressway	64,000	24,099	0.377	A
	Between I-5 Ramps	Expressway	64,000	36,584	0.572	A
	Between NB I-5 Ramps and Loretta St.	Expressway	64,000	51,914	0.811	D
	Between Loretta St. and N. Canyon Rd.	Expressway	64,000	50,058	0.782	C
	Between N. Canyon Rd. and Benet Rd.	Expressway	64,000	56,708	0.886	D
	Between Benet Rd. and Airport Rd.	Expressway	64,000	50,752	0.793	C
	Between Airport Rd. and Foussat Rd.	Expressway	64,000	50,410	0.788	C
	Between Foussat Rd. and N. Douglas Dr.	Expressway	64,000	53,671	0.839	D
	Between N. Douglas Dr. and RDO	Expressway	64,000	47,177	0.737	C
	Between RDO and Old Grove Rd.	Expressway	64,000	50,935	0.796	C
	Between Old Grove Rd. and Frazee Rd.	Expressway	64,000	43,698	0.683	B
	Between Frazee Rd. and College Blvd.	Expressway	64,000	46,636	0.729	C
	Between College Blvd. and N. Santa Fe Ave.	Expressway	64,000	45,303	0.708	C
	East of N. Santa Fe Ave.	Expressway	64,000	53,742	0.840	D
Mission Ave.	West of I-5 Ramps	Major (4)	40,000	26,332	0.658	B
	Between I-5 Ramps and N. Canyon Dr.	Major (4)	40,000	28,516	0.713	C
	Between N. Canyon Dr. and Mesa Dr.	Major (4)	40,000	24,258	0.606	B
	Between Mesa Dr. and Airport Rd.	Major (4)	40,000	18,154	0.454	A
	Between Airport Rd. and Foussat Rd.	Major (4)	40,000	19,472	0.487	A
	Between Foussat Rd. and El Camino Real	Major (4)	40,000	23,811	0.595	A
	Between El Camino Real and N. Douglas Dr.	Major (4)	40,000	20,210	0.505	A
	Between N. Douglas Dr. and RDO	Major (4)	40,000	24,996	0.625	B
	Between RDO and Old Grove Rd.	Major (4)	40,000	10,228	0.256	A
	East of Old Grove Rd.	Major (4)	40,000	7,362	0.184	A
N. Canyon Dr.	Between SR-76 and Mission Ave.	Secondary (4)	25,000	5,364	0.215	A
	South of Mission Ave.	Secondary (4)	25,000	12,882	0.515	A
Mesa Dr.	Between Mission Ave. and El Camino Real	Secondary (4)	25,000	5,600	0.224	A
	Between El Camino Real and RDO	Secondary (4)	25,000	12,432	0.497	A
	East of RDO	Secondary (4)	25,000	11,405	0.456	A
Airport Rd.	Between SR-76 and Mission Ave.	Industrial (2)	10,000	3,099	0.310	A
Foussat Rd.	North of SR-76	Secondary (4)	30,000	5,990	0.200	A
	Between SR-76 and Mission Ave.	Secondary (5)	37,500	12,063	0.322	A
	Between Mission and Mesa Dr.	Collector (2)	10,000	5,716	0.572	A
El Camino Real	Between N. Douglas Dr. and Los Arbolitos Blvd.	Major (4)	40,000	17,905	0.448	A
	Between Los Arbolitos Blvd. and Mission Ave.	Major (4)	40,000	22,588	0.565	A
	Between Mission Ave. and Mesa Dr.	Major (4)	40,000	21,236	0.531	A
	Between Mesa Dr. and Oceanside Blvd.	Major (4)	40,000	30,989	0.775	C
	South of Oceanside Blvd.	Prime (6)	60,000	33,413	0.557	A

Table 5 (Continued)
Existing Daily Roadway Segment Conditions

Roadway	Location	Class (# Lanes)	Daily Capacity	Existing ADT	V/C	LOS
RDO	Between N. Douglas Dr. and Mission Ave.	Major (4)	40,000	14,136	0.353	A
	Between Mission Ave. and SR-76	Major (4)	40,000	7,789	0.195	A
	Between SR-76 and Mesa Dr.	Major (4)	40,000	13,384	0.335	A
	Between Mesa Dr. and Oceanside Blvd.	Major (4)	40,000	11,217	0.280	A
	South of Oceanside Blvd.	Major (4)	40,000	10,320	0.258	A
Frazee Rd.	North of SR-76	Secondary (4)	25,000	5,474	0.219	A
	Between SR-76 and Mission Ave.	Secondary (4)	25,000	9,331	0.373	A
Old Grove Rd.	North of SR-76	Major (4)	40,000	7,390	0.185	A
	South of SR-76	Major (4)	40,000	10,653	0.266	A
	Between SR-76 and Mission Ave.	Major (4)	40,000	7,878	0.197	A
College Blvd.	North of SR-76	Prime (6)	60,000	43,732	0.729	C
	South of SR-76	Major (5)	45,000	17,982	0.400	A
N. Santa Fe Ave.	South of SR-76	Major (4)	40,000	22,394	0.560	A
N. Douglas Dr.	North of N. River Rd.	Major (4)	40,000	14,136	0.353	A
	Between N. River Rd. and Pala Rd.	Major (4)	40,000	32,667	0.817	D
	Between Pala Rd. and El Camino Real	Major (4)	40,000	35,539	0.888	D
	Between El Camino Real and Mission Ave.	Major (4)	40,000	20,967	0.524	A
	Between Mission Ave. and SR-76	Major (4)	40,000	20,376	0.509	A
N. River Rd.	East of N. Douglas Dr.	Major (4)	40,000	12,728	0.318	A
Los Arbolitos Blvd.	Between Pala Rd. and El Camino Real	Collector (2)	15,000	3,537	0.236	A
Oceanside Blvd.	West of El Camino Real	Major (4)	40,000	28,921	0.723	C
	Between El Camino Real and RDO	Prime (6)	60,000	25,588	0.426	A
	East of Rancho Del Oro Dr.	Prime (6)	60,000	28,067	0.468	A
Pala Rd.	Between N. Douglas Dr. and Los Arbolitos Blvd.	Secondary (4)	25,000	2,507	0.100	A

Note: Deficient City of Oceanside roadway segment operation shown in bold.

(1) Caltrans Facility. SR-76 is a CMP System Roadway, with an established LOS F Standard from I-5 to Douglas, and an LOS E Standard from Douglas to Melrose.

Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Canyon Drive, between SR 76 and Mission Avenue**

Date: Tuesday, August 27, 2019						Total Daily Volume: 4241						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
35	22	26	29	60	106	186	261	214	248	210	238	229	258	305	279	290	327	238	229	181	139	67	64
9	5	7	3	8	26	33	64	60	53	55	48	63	52	72	79	83	81	76	67	56	43	18	18
8	5	7	6	10	18	43	79	47	63	47	58	60	59	72	65	70	79	70	54	42	48	19	17
5	7	6	8	12	26	51	51	53	56	51	73	55	61	99	66	67	82	54	47	35	17	15	19
13	5	6	12	30	36	59	67	54	76	57	59	51	86	62	69	70	85	38	61	48	31	15	10

Date: Tuesday, August 27, 2019						Total Daily Volume: 2087						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
17	14	15	16	38	69	137	147	110	124	107	110	121	131	163	121	108	118	90	112	83	76	34	26
6	4	5	2	6	15	25	32	30	29	32	26	31	22	30	41	32	33	33	33	27	25	9	8
3	4	3	3	6	12	39	55	23	22	28	29	30	30	35	26	24	30	25	24	20	30	13	6
3	4	3	4	9	17	37	24	31	28	21	32	32	33	68	31	27	30	18	20	12	5	7	7
5	2	4	7	17	25	36	36	26	45	26	23	28	46	30	23	25	25	14	35	24	16	5	5

Date: Tuesday, August 27, 2019						Total Daily Volume: 2154						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
18	8	11	13	22	37	49	114	104	124	103	128	108	127	142	158	182	209	148	117	98	63	33	38
3	1	2	1	2	11	8	32	30	24	23	22	32	30	42	38	51	48	43	34	29	18	9	10
5	1	4	3	4	6	4	24	24	41	19	29	30	29	37	39	46	49	45	30	22	18	6	11
2	3	3	4	3	9	14	27	22	28	30	41	23	28	31	35	40	52	36	27	23	12	8	12
8	3	2	5	13	11	23	31	28	31	31	36	23	40	32	46	45	60	24	26	24	15	10	5

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mission Avenue, between Canyon Drive and Mesa Drive**

Date: Tuesday, August 27, 2019					Total Daily Volume: 23248										Description: Total Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
144	76	70	72	204	531	1236	1935	1663	1074	1016	1126	1175	1182	1636	1824	1735	1895	1619	999	793	600	403	240	
43	26	19	14	30	76	231	513	376	300	273	263	313	235	351	434	463	490	453	293	258	193	139	67	
36	18	20	20	38	105	279	597	396	253	234	258	278	311	430	435	390	496	456	254	207	168	98	68	
35	17	16	17	61	147	313	425	428	271	233	277	291	310	447	503	430	463	365	244	187	131	86	52	
30	15	15	21	75	203	413	400	463	250	276	328	293	326	408	452	452	446	345	208	141	108	80	53	

Date: Tuesday, August 27, 2019					Total Daily Volume: 11734													Description: Eastbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00				
92	46	36	22	48	126	309	650	617	455	483	561	591	632	903	1067	1051	1159	1023	592	455	408	254	154				
26	17	12	7	8	20	60	182	137	111	113	133	179	118	183	260	280	303	296	185	142	135	90	44				
22	12	9	6	8	20	68	224	159	113	116	124	112	174	203	297	245	303	281	149	122	114	66	40				
26	9	9	5	10	30	72	107	152	119	118	144	159	157	287	268	262	270	236	135	114	87	50	35				
18	8	6	4	22	56	109	137	169	112	136	160	141	183	230	242	264	283	210	123	77	72	48	35				

Date: Tuesday, August 27, 2019					Total Daily Volume: 11514												Description: Westbound Volume							
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
52	30	34	50	156	405	927	1285	1046	619	533	565	584	550	733	757	684	736	596	407	338	192	149	86	
17	9	7	7	22	56	171	331	239	189	160	130	134	117	168	174	183	187	157	108	116	58	49	23	
14	6	11	14	30	85	211	373	237	140	118	134	166	137	227	138	145	193	175	105	85	54	32	28	
9	8	7	12	51	117	241	318	276	152	115	133	132	153	160	235	168	193	129	109	73	44	36	17	
12	7	9	17	53	147	304	263	294	138	140	168	152	143	178	210	188	163	135	85	64	36	32	18	

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mission Avenue, between Douglas Drive and Rancho Del Oro**

Date: Wednesday, August 28, 2019						Total Daily Volume: 20085						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
75	65	45	42	123	282	834	1607	1211	869	912	1177	1316	1339	1627	1363	1603	1607	1310	1000	723	521	254	180
21	10	19	7	24	43	88	476	392	218	216	256	338	311	438	340	411	440	404	262	225	174	84	62
21	14	8	4	21	51	123	422	291	209	209	283	332	323	420	352	388	440	308	257	182	145	63	47
20	19	6	18	29	73	250	376	269	199	233	303	334	342	391	370	421	385	283	246	158	119	61	33
13	22	12	13	49	115	373	333	259	243	254	335	312	363	378	301	383	342	315	235	158	83	46	38

Date: Wednesday, August 28, 2019						Total Daily Volume: 10078						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
44	31	23	15	54	88	396	751	476	427	435	608	604	750	766	728	855	892	740	521	371	275	132	96
11	6	7	1	12	16	31	247	154	107	103	130	152	162	215	168	218	244	240	145	115	89	39	30
14	8	4	2	8	12	38	172	110	111	100	145	152	183	196	190	215	245	165	130	83	77	37	28
11	8	4	6	13	26	127	159	115	97	114	156	160	191	172	193	205	200	162	128	93	69	29	14
8	9	8	6	21	34	200	173	97	112	118	177	140	214	183	177	217	203	173	118	80	40	27	24

Date: Wednesday, August 28, 2019						Total Daily Volume: 10007						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
31	34	22	27	69	194	438	856	735	442	477	569	712	589	861	635	748	715	570	479	352	246	122	84
10	4	12	6	12	27	57	229	238	111	113	126	186	149	223	172	193	196	164	117	110	85	45	32
7	6	4	2	13	39	85	250	181	98	109	138	180	140	224	162	173	195	143	127	99	68	26	19
9	11	2	12	16	47	123	217	154	102	119	147	174	151	219	177	216	185	121	118	65	50	32	19
5	13	4	7	28	81	173	160	162	131	136	158	172	149	195	124	166	139	142	117	78	43	19	14

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Foussat Road, between Alex Road and SR 76**

Date: Wednesday, August 28, 2019						Total Daily Volume: 6487						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
42	20	14	28	126	161	338	417	327	275	276	356	378	392	426	561	459	548	411	359	222	179	100	72
15	2	5	6	4	31	51	103	92	75	73	85	80	91	96	106	123	132	108	97	62	50	26	15
8	5	1	3	23	29	44	120	74	67	70	71	98	103	90	112	108	141	108	83	58	50	22	22
13	4	3	9	43	44	89	109	86	59	68	111	93	102	127	192	110	145	82	97	58	38	26	27
6	9	5	10	56	57	154	85	75	74	65	89	107	96	113	151	118	130	113	82	44	41	26	8

Date: Wednesday, August 28, 2019						Total Daily Volume: 3147						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
17	8	6	15	90	69	139	141	127	128	116	146	191	170	182	266	253	296	237	207	145	106	55	37
4	2	1	4	3	8	19	32	39	34	26	39	36	35	39	59	65	68	63	60	45	27	14	10
5	2	1	2	13	11	16	33	32	30	35	36	51	46	43	57	65	82	69	47	38	31	18	16
5	0	1	3	30	19	39	43	27	30	25	40	54	39	47	61	61	78	44	53	33	18	8	7
3	4	3	6	44	31	65	33	29	34	30	31	50	50	53	89	62	68	61	47	29	30	15	4

Date: Wednesday, August 28, 2019						Total Daily Volume: 3340						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
25	12	8	13	36	92	199	276	200	147	160	210	187	222	244	295	206	252	174	152	77	73	45	35
11	0	4	2	1	23	32	71	53	41	47	46	44	56	57	47	58	64	45	37	17	23	12	5
3	3	0	1	10	18	28	87	42	37	35	35	47	57	47	55	43	59	39	36	20	19	4	6
8	4	2	6	13	25	50	66	59	29	43	71	39	63	80	131	49	67	38	44	25	20	18	20
3	5	2	4	12	26	89	52	46	40	35	58	57	46	60	62	56	62	52	35	15	11	11	4

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Foussat Road, between Mission Avenue and Tonopah Street**

Date: Tuesday, August 27, 2019						Total Daily Volume: 5575						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
29	17	14	26	60	112	272	415	321	324	276	278	264	316	364	439	456	458	372	269	200	147	89	57
8	2	2	8	9	17	45	100	81	80	79	73	77	77	74	103	121	127	99	88	61	39	25	18
6	6	3	3	14	25	58	114	63	69	73	71	66	86	82	115	112	108	112	67	53	37	21	18
7	4	3	6	16	31	81	108	106	79	47	72	63	79	115	118	99	108	88	66	54	35	27	11
8	5	6	9	21	39	88	93	71	96	77	62	58	74	93	103	124	115	73	48	32	36	16	10

Date: Tuesday, August 27, 2019						Total Daily Volume: 2990						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
14	6	6	12	40	67	154	196	180	179	151	150	135	149	179	239	265	269	189	141	114	78	45	32
5	0	0	5	5	12	29	50	46	49	50	36	39	30	33	66	60	76	62	42	39	20	11	7
3	2	2	1	13	19	37	48	35	44	36	41	33	43	44	66	69	64	56	29	22	23	16	13
3	1	1	3	10	17	47	51	56	44	22	41	27	36	58	62	56	63	45	48	35	15	12	7
3	3	3	3	12	19	41	47	43	42	43	32	36	40	44	45	80	66	26	22	18	20	6	5

Date: Tuesday, August 27, 2019						Total Daily Volume: 2585						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
15	11	8	14	20	45	118	219	141	145	125	128	129	167	185	200	191	189	183	128	86	69	44	25
3	2	2	3	4	5	16	50	35	31	29	37	38	47	41	37	61	51	37	46	22	19	14	11
3	4	1	2	1	6	21	66	28	25	37	30	33	43	38	49	43	44	56	38	31	14	5	5
4	3	2	3	6	14	34	57	50	35	25	31	36	43	57	56	43	45	43	18	19	20	15	4
5	2	3	6	9	20	47	46	28	54	34	30	22	34	49	58	44	49	47	26	14	16	10	5

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Foussat Road, between Tonopah Street and Mesa Drive**

Date: Tuesday, August 27, 2019						Total Daily Volume: 6813						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
30	17	14	25	66	147	350	567	451	364	313	338	330	362	478	567	544	576	416	308	223	169	102	56
6	3	3	7	10	23	70	134	101	89	74	97	98	97	79	147	131	162	125	103	76	47	25	16
9	8	4	2	13	34	58	145	119	77	85	90	80	98	115	124	144	142	108	65	56	43	27	20
7	5	4	5	20	39	101	151	137	84	59	79	75	93	151	149	116	142	105	77	54	40	25	13
8	1	3	11	23	51	121	137	94	114	95	72	77	74	133	147	153	130	78	63	37	39	25	7

Date: Tuesday, August 27, 2019						Total Daily Volume: 3479						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
18	7	8	6	27	59	146	202	231	164	155	177	159	167	254	288	325	343	219	188	139	100	62	35
2	2	1	2	3	11	34	48	47	38	45	45	52	43	42	75	74	103	73	59	46	26	13	7
6	3	3	0	7	17	26	50	67	38	34	45	39	45	58	73	95	81	60	34	32	31	21	14
5	2	3	2	8	10	42	52	71	45	29	44	28	43	77	70	68	82	54	56	37	22	14	10
5	0	1	2	9	21	44	52	46	43	47	43	40	36	77	70	88	77	32	39	24	21	14	4

Date: Tuesday, August 27, 2019						Total Daily Volume: 3334						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
12	10	6	19	39	88	204	365	220	200	158	161	171	195	224	279	219	233	197	120	84	69	40	21
4	1	2	5	7	12	36	86	54	51	29	52	46	54	37	72	57	59	52	44	30	21	12	9
3	5	1	2	6	17	32	95	52	39	51	45	41	53	57	51	49	61	48	31	24	12	6	6
2	3	1	3	12	29	59	99	66	39	30	35	47	50	74	79	48	60	51	21	17	18	11	3
3	1	2	9	14	30	77	85	48	71	48	29	37	38	56	77	65	53	46	24	13	18	11	3

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **El Camino Real, between Los Arbolitos Boulevard and Mission Avenue**

Date: Wednesday, August 28, 2019						Total Daily Volume: 25067						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
153	110	54	95	244	728	1567	1941	1541	1084	1019	1138	1262	1328	1489	1624	1929	2136	1744	1306	1023	785	453	314
43	30	8	9	26	91	242	465	384	276	248	282	331	321	326	392	454	499	488	408	285	226	135	98
52	30	14	13	50	146	309	560	415	244	226	265	306	359	353	422	475	562	468	349	266	215	112	86
36	23	19	34	81	267	490	465	358	273	277	260	307	309	383	367	502	550	402	275	232	201	104	67
22	27	13	39	87	224	526	451	384	291	268	331	318	339	427	443	498	525	386	274	240	143	102	63

Date: Wednesday, August 28, 2019						Total Daily Volume: 11794						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
112	69	30	22	33	89	243	396	380	324	410	483	624	598	828	996	1188	1283	1076	810	689	548	336	227
32	26	5	4	3	13	45	83	89	89	104	120	185	160	170	247	283	300	303	234	190	155	101	62
39	15	7	6	8	22	44	131	97	71	82	121	129	145	204	257	291	328	282	223	180	160	76	66
25	14	11	4	12	24	59	91	85	76	118	115	141	140	209	228	299	324	251	161	159	142	82	48
16	14	7	8	10	30	95	91	109	88	106	127	169	153	245	264	315	331	240	192	160	91	77	51

Date: Wednesday, August 28, 2019						Total Daily Volume: 13273						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
41	41	24	73	211	639	1324	1545	1161	760	609	655	638	730	661	628	741	853	668	496	334	237	117	87
11	4	3	5	23	78	197	382	295	187	144	162	146	161	156	145	171	199	185	174	95	71	34	36
13	15	7	7	42	124	265	429	318	173	144	144	177	214	149	165	184	234	186	126	86	55	36	20
11	9	8	30	69	243	431	374	273	197	159	145	166	169	174	139	203	226	151	114	73	59	22	19
6	13	6	31	77	194	431	360	275	203	162	204	149	186	182	179	183	194	146	82	80	52	25	12

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **El Camino Real, between Mission Avenue and Vista Oceana**

Date: Wednesday, August 28, 2019						Total Daily Volume: 24967						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
161	99	44	94	267	684	1266	1741	1491	1214	1212	1322	1412	1493	1561	1666	1918	2032	1686	1198	966	707	461	272
53	25	10	12	34	96	189	468	334	294	320	299	348	380	387	404	488	527	469	312	275	221	143	99
39	23	10	15	59	145	279	517	435	278	280	336	367	367	330	452	455	518	410	310	265	175	124	70
38	21	13	34	80	234	417	401	363	330	296	315	337	377	433	363	495	495	392	288	229	170	116	52
31	30	11	33	94	209	381	355	359	312	316	372	360	369	411	447	480	492	415	288	197	141	78	51

Date: Wednesday, August 28, 2019						Total Daily Volume: 12207						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
104	70	25	25	73	123	312	471	510	460	533	629	685	715	878	983	1139	1217	979	681	620	454	335	186
35	21	8	3	8	17	58	134	103	119	127	122	174	187	210	231	272	314	296	175	170	142	106	63
25	13	4	9	15	32	70	128	158	99	120	173	177	152	168	278	284	312	220	172	171	115	84	50
23	18	7	4	22	33	82	103	126	116	128	149	150	188	246	206	302	284	221	153	154	113	85	35
21	18	6	9	28	41	102	106	123	126	158	185	184	188	254	268	281	307	242	181	125	84	60	38

Date: Wednesday, August 28, 2019						Total Daily Volume: 12760						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
57	29	19	69	194	561	954	1270	981	754	679	693	727	778	683	683	779	815	707	517	346	253	126	86
18	4	2	9	26	79	131	334	231	175	193	177	174	193	177	173	216	213	173	137	105	79	37	36
14	10	6	6	44	113	209	389	277	179	160	163	190	215	162	174	171	206	190	138	94	60	40	20
15	3	6	30	58	201	335	298	237	214	168	166	187	189	187	157	193	211	171	135	75	57	31	17
10	12	5	24	66	168	279	249	236	186	158	187	176	181	157	179	199	185	173	107	72	57	18	13

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **El Camino Real, between Vista Oceana and Mesa Drive**

Date: Wednesday, August 28, 2019						Total Daily Volume: 25427										Description: Total Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00		
160	98	44	98	266	702	1289	1808	1532	1231	1296	1401	1466	1528	1558	1686	1947	2002	1653	1210	973	727	478	274		
51	25	10	14	31	96	202	480	348	301	351	320	346	361	394	409	468	505	444	309	267	212	147	91		
40	23	11	14	62	143	280	511	439	269	306	352	383	383	357	430	482	514	406	305	272	186	120	74		
37	22	14	34	82	249	411	423	344	326	325	345	343	386	382	362	494	493	386	301	236	193	123	51		
32	28	9	36	91	214	396	394	401	335	314	384	394	398	425	485	503	490	417	295	198	136	88	58		

Date: Wednesday, August 28, 2019						Total Daily Volume: 12420										Description: Northbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00		
106	69	27	25	65	111	298	462	500	444	544	641	697	733	906	1015	1187	1243	995	705	644	468	343	192		
32	20	8	3	6	14	61	128	104	111	142	126	156	182	215	245	262	306	284	182	166	137	107	60		
27	13	5	8	14	29	60	124	147	89	125	171	189	159	202	268	304	319	236	167	185	125	83	52		
26	20	8	4	23	29	90	91	119	106	128	144	142	195	228	204	311	300	212	175	164	126	89	37		
21	16	6	10	22	39	87	119	130	138	149	200	210	197	261	298	310	318	263	181	129	80	64	43		

Date: Wednesday, August 28, 2019						Total Daily Volume: 13007										Description: Southbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00		
54	29	17	73	201	591	991	1346	1032	787	752	760	769	795	652	671	760	759	658	505	329	259	135	82		
19	5	2	11	25	82	141	352	244	190	209	194	190	179	179	164	206	199	160	127	101	75	40	31		
13	10	6	6	48	114	220	387	292	180	181	181	194	224	155	162	178	195	170	138	87	61	37	22		
11	2	6	30	59	220	321	332	225	220	197	201	201	191	154	158	183	193	174	126	72	67	34	14		
11	12	3	26	69	175	309	275	271	197	165	184	184	201	164	187	193	172	154	114	69	56	24	15		

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Rancho Del Oro Drive, between Mission Avenue and SR 76**

Date: Wednesday, August 28, 2019						Total Daily Volume: 9851						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
33	16	17	29	39	127	437	921	579	388	421	586	619	740	898	703	769	794	551	428	323	241	117	75
11	3	8	7	12	23	37	286	199	108	109	111	182	196	288	204	154	202	169	131	88	81	41	28
8	5	4	6	7	30	56	258	159	90	106	123	141	137	241	149	189	218	134	94	90	81	23	18
7	6	2	8	8	29	137	203	114	99	115	160	142	195	198	190	213	194	146	96	85	48	28	12
7	2	3	8	12	45	207	174	107	91	91	192	154	212	171	160	213	180	102	107	60	31	25	17

Date: Wednesday, August 28, 2019						Total Daily Volume: 5043						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
18	9	12	13	12	42	157	508	246	171	195	332	307	326	524	399	419	424	289	224	175	127	73	41
6	1	6	4	4	5	10	131	84	51	53	61	90	103	178	109	75	105	85	69	47	44	28	18
6	3	3	1	3	11	17	178	59	34	56	61	69	49	148	87	106	114	67	42	55	38	14	8
5	3	1	4	1	8	47	113	53	48	45	91	68	83	104	111	125	106	80	54	47	26	18	5
1	2	2	4	4	18	83	86	50	38	41	119	80	91	94	92	113	99	57	59	26	19	13	10

Date: Wednesday, August 28, 2019						Total Daily Volume: 4808						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
15	7	5	16	27	85	280	413	333	217	226	254	312	414	374	304	350	370	262	204	148	114	44	34
5	2	2	3	8	18	27	155	115	57	56	50	92	93	110	95	79	97	84	62	41	37	13	10
2	2	1	5	4	19	39	80	100	56	50	62	72	88	93	62	83	104	67	52	35	43	9	10
2	3	1	4	7	21	90	90	61	51	70	69	74	112	94	79	88	88	66	42	38	22	10	7
6	0	1	4	8	27	124	88	57	53	50	73	74	121	77	68	100	81	45	48	34	12	12	7

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Rancho Del Oro Drive, between SR 76 and Via Rancho Road**

Date: Wednesday, August 28, 2019						Total Daily Volume: 18520						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
67	40	34	62	148	316	1041	1850	1134	846	865	966	1008	1278	1508	1235	1406	1397	1029	823	628	441	232	166
22	10	7	7	28	55	114	692	274	217	184	225	256	304	522	342	317	365	289	209	218	137	73	59
17	8	7	13	23	60	146	563	294	235	254	217	235	288	376	282	332	361	257	202	158	128	57	46
15	12	10	20	39	90	321	317	292	195	239	244	250	309	314	329	379	327	258	202	138	105	53	37
13	10	10	22	58	111	460	278	274	199	188	280	267	377	296	282	378	344	225	210	114	71	49	24

Date: Wednesday, August 28, 2019						Total Daily Volume: 9219						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
34	19	17	26	78	131	365	829	409	330	392	478	513	565	902	703	776	726	579	466	381	274	137	89
11	5	5	2	15	27	48	255	103	89	82	105	141	165	321	196	176	193	165	117	132	97	49	37
9	5	4	8	16	22	57	314	100	96	111	111	109	121	228	152	182	172	144	115	91	74	37	23
8	5	5	8	19	43	98	164	107	86	108	123	134	128	189	193	232	187	144	112	100	58	29	19
6	4	3	8	28	39	162	96	99	59	91	139	129	151	164	162	186	174	126	122	58	45	22	10

Date: Wednesday, August 28, 2019						Total Daily Volume: 9301						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
33	21	17	36	70	185	676	1021	725	516	473	488	495	713	606	532	630	671	450	357	247	167	95	77
11	5	2	5	13	28	66	437	171	128	102	120	115	139	201	146	141	172	124	92	86	40	24	22
8	3	3	5	7	38	89	249	194	139	143	106	126	167	148	130	150	189	113	87	67	54	20	23
7	7	5	12	20	47	223	153	185	109	131	121	116	181	125	136	147	140	114	90	38	47	24	18
7	6	7	14	30	72	298	182	175	140	97	141	138	226	132	120	192	170	99	88	56	26	27	14

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Rancho Del Oro Drive, between Via Rancho Road and Mesa Drive**

Date: Wednesday, August 28, 2019						Total Daily Volume: 18011						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
71	33	37	62	142	317	930	1866	1111	869	881	923	975	1319	1413	1226	1345	1335	985	763	622	450	221	115
21	7	9	10	30	45	114	654	270	202	206	214	243	283	485	353	305	330	268	196	201	123	64	32
21	8	8	9	23	61	147	615	281	234	266	218	235	295	335	290	328	376	243	185	148	125	57	37
16	11	9	23	35	93	284	341	281	211	224	237	221	322	302	306	340	304	253	186	147	114	56	29
13	7	11	20	54	118	385	256	279	222	185	254	276	419	291	277	372	325	221	196	126	88	44	17

Date: Wednesday, August 28, 2019						Total Daily Volume: 9019						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
46	19	18	20	51	88	358	785	358	313	371	465	489	692	679	673	819	775	589	482	410	307	144	68
15	5	5	2	15	13	32	362	91	81	77	110	120	142	189	191	183	208	163	120	126	89	45	20
14	5	5	4	7	16	46	274	93	83	116	104	117	164	180	135	202	209	141	117	98	88	39	22
10	4	4	8	10	30	105	79	87	77	95	118	117	171	149	185	222	181	144	113	114	63	34	17
7	5	4	6	19	29	175	70	87	72	83	133	135	215	161	162	212	177	141	132	72	67	26	9

Date: Wednesday, August 28, 2019						Total Daily Volume: 8992						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
25	14	19	42	91	229	572	1081	753	556	510	458	486	627	734	553	526	560	396	281	212	143	77	47
6	2	4	8	15	32	82	292	179	121	129	104	123	141	296	162	122	122	105	76	75	34	19	12
7	3	3	5	16	45	101	341	188	151	150	114	118	131	155	155	126	167	102	68	50	37	18	15
6	7	5	15	25	63	179	262	194	134	129	119	104	151	153	121	118	123	109	73	33	51	22	12
6	2	7	14	35	89	210	186	192	150	102	121	141	204	130	115	160	148	80	64	54	21	18	8

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mesa Drive, between Mission Avenue and N. Barnwell Street**

Date: Tuesday, August 27, 2019						Total Daily Volume: 5712						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
22	28	13	8	39	84	182	457	402	317	294	310	298	312	409	480	491	457	398	279	188	116	81	47
3	2	7	0	12	12	23	91	103	86	78	69	89	60	103	102	127	128	108	81	50	28	24	22
7	6	3	2	11	11	43	137	105	73	74	90	76	87	87	120	115	124	107	68	55	32	18	10
9	12	3	2	8	25	51	115	89	72	70	68	65	85	113	109	119	101	84	70	40	26	24	5
3	8	0	4	8	36	65	114	105	86	72	83	68	80	106	149	130	104	99	60	43	30	15	10

Date: Tuesday, August 27, 2019						Total Daily Volume: 2733						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
12	13	5	6	33	62	128	241	217	144	134	179	133	136	191	180	254	208	167	122	74	49	30	15
1	1	3	0	9	11	15	57	57	44	37	35	36	29	54	34	67	61	47	31	18	10	11	8
4	4	1	2	10	6	32	63	52	33	31	44	34	32	41	44	61	49	41	25	19	10	7	3
6	4	1	2	7	15	39	67	54	33	26	45	34	37	54	50	55	54	39	36	13	12	5	1
1	4	0	2	7	30	42	54	54	34	40	55	29	38	42	52	71	44	40	30	24	17	7	3

Date: Tuesday, August 27, 2019						Total Daily Volume: 2979						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
10	15	8	2	6	22	54	216	185	173	160	131	165	176	218	300	237	249	231	157	114	67	51	32
2	1	4	0	3	1	8	34	46	42	41	34	53	31	49	68	60	67	61	50	32	18	13	14
3	2	2	0	1	5	11	74	53	40	43	46	42	55	46	76	54	75	66	43	36	22	11	7
3	8	2	0	1	10	12	48	35	39	44	23	31	48	59	59	64	47	45	34	27	14	19	4
2	4	0	2	1	6	23	60	51	52	32	28	39	42	64	97	59	60	59	30	19	13	8	7

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mesa Drive, between N. Barnwell Street and Foussat Road**

Date: Tuesday, August 27, 2019					Total Daily Volume: 5063										Description: Total Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
18	13	16	13	30	82	215	467	308	255	236	231	247	260	365	401	461	407	383	321	153	99	50	32	
6	5	5	1	4	11	25	121	97	66	47	59	62	56	74	94	104	112	94	101	37	22	14	13	
8	1	4	1	5	19	49	110	74	55	70	48	63	81	90	95	99	108	106	89	43	36	12	12	
4	5	5	4	10	21	49	134	75	54	58	61	64	57	110	109	100	97	87	70	40	21	9	4	
0	2	2	7	11	31	92	102	62	80	61	63	58	66	91	103	158	90	96	61	33	20	15	3	

Date: Tuesday, August 27, 2019					Total Daily Volume: 2630										Description: Eastbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
12	8	7	6	14	41	91	203	148	118	122	107	119	133	197	228	261	228	200	191	90	58	30	18	
4	3	2	1	2	7	10	49	44	31	26	27	34	22	43	57	55	65	44	57	22	16	10	7	
5	1	2	1	2	9	19	51	34	26	33	21	28	46	51	62	60	72	64	55	25	21	8	7	
3	3	2	2	4	10	22	56	39	28	31	31	29	23	58	61	61	49	44	48	22	10	6	2	
0	1	1	2	6	15	40	47	31	33	32	28	28	42	45	48	85	42	48	31	21	11	6	2	

Date: Tuesday, August 27, 2019					Total Daily Volume: 2433										Description: Westbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
6	5	9	7	16	41	124	264	160	137	114	124	128	127	168	173	200	179	183	130	63	41	20	14	
2	2	3	0	2	4	15	72	53	35	21	32	28	34	31	37	49	47	50	44	15	6	4	6	
3	0	2	0	3	10	30	59	40	29	37	27	35	35	39	33	39	36	42	34	18	15	4	5	
1	2	3	2	6	11	27	78	36	26	27	30	35	34	52	48	39	48	43	22	18	11	3	2	
0	1	1	5	5	16	52	55	31	47	29	35	30	24	46	55	73	48	48	30	12	9	9	1	

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mesa Drive, between Foussat Road and El Camino Real**

Date: Wednesday, August 28, 2019						Total Daily Volume: 5774						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
22	13	12	16	32	91	278	559	386	266	247	257	277	281	441	460	505	500	393	310	181	123	77	47
3	2	4	4	4	12	33	152	125	71	59	64	77	70	78	115	116	140	100	103	56	22	20	16
8	5	3	1	11	21	57	142	97	54	63	62	69	70	106	106	116	134	109	72	48	44	22	15
7	4	4	5	5	25	67	144	94	65	60	66	70	70	138	128	113	123	93	69	42	28	17	8
4	2	1	6	12	33	121	121	70	76	65	65	61	71	119	111	160	103	91	66	35	29	18	8

Date: Wednesday, August 28, 2019						Total Daily Volume: 2763						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
9	8	2	9	8	37	101	232	146	117	121	121	138	146	206	261	260	265	200	163	97	60	35	21
1	1	1	3	1	4	12	67	44	31	26	30	40	36	35	67	58	81	39	52	30	14	12	8
4	3	1	1	2	6	16	64	35	27	39	37	29	39	62	64	59	77	58	48	23	19	8	7
3	3	0	3	1	16	29	55	36	28	27	29	38	31	58	71	56	62	50	38	22	15	7	2
1	1	0	2	4	11	44	46	31	31	29	25	31	40	51	59	87	45	53	25	22	12	8	4

Date: Wednesday, August 28, 2019						Total Daily Volume: 3011						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
13	5	10	7	24	54	177	327	240	149	126	136	139	135	235	199	245	235	193	147	84	63	42	26
2	1	3	1	3	8	21	85	81	40	33	34	37	34	43	48	58	59	61	51	26	8	8	8
4	2	2	0	9	15	41	78	62	27	24	25	40	31	44	42	57	57	51	24	25	25	14	8
4	1	4	2	4	9	38	89	58	37	33	37	32	39	80	57	57	61	43	31	20	13	10	6
3	1	1	4	8	22	77	75	39	45	36	40	30	31	68	52	73	58	38	41	13	17	10	4

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mesa Drive, between El Camino Real and Rancho Del Oro Drive**

Date: Wednesday, August 28, 2019						Total Daily Volume: 17119						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
89	45	42	54	137	345	892	1451	980	813	746	766	888	988	1303	1221	1364	1483	1213	873	599	443	241	143
30	13	8	9	20	55	142	453	274	187	191	165	217	210	396	295	312	409	333	246	153	127	61	48
21	15	11	5	22	65	173	411	251	219	196	202	220	221	278	308	331	402	302	181	149	131	70	28
19	9	11	17	48	110	234	279	234	208	172	181	209	258	339	335	349	337	301	225	164	100	61	46
19	8	12	23	47	115	343	308	221	199	187	218	242	299	290	283	372	335	277	221	133	85	49	21

Date: Wednesday, August 28, 2019						Total Daily Volume: 9011						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
65	27	28	15	33	83	280	610	306	309	342	407	454	551	669	711	872	966	778	546	395	304	159	101
24	9	6	5	6	14	30	236	87	75	77	77	114	123	195	176	211	274	212	151	109	93	39	33
16	10	7	0	5	12	35	153	67	74	95	104	119	104	152	176	217	251	202	113	92	88	51	21
11	5	9	5	11	33	75	102	79	76	75	96	96	142	179	206	218	210	186	135	113	60	39	32
14	3	6	5	11	24	140	119	73	84	95	130	125	182	143	153	226	231	178	147	81	63	30	15

Date: Wednesday, August 28, 2019						Total Daily Volume: 8108						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
24	18	14	39	104	262	612	841	674	504	404	359	434	437	634	510	492	517	435	327	204	139	82	42
6	4	2	4	14	41	112	217	187	112	114	88	103	87	201	119	101	135	121	95	44	34	22	15
5	5	4	5	17	53	138	258	184	145	101	98	101	117	126	132	114	151	100	68	57	43	19	7
8	4	2	12	37	77	159	177	155	132	97	85	113	116	160	129	131	127	115	90	51	40	22	14
5	5	6	18	36	91	203	189	148	115	92	88	117	117	147	130	146	104	99	74	52	22	19	6

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Los Arbolitos Boulevard, between Pala Road and El Camino Real**

Date: Wednesday, August 28, 2019						Total Daily Volume: 6241						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
51	33	17	26	46	141	286	387	349	274	285	228	314	381	388	404	456	457	471	397	343	251	148	108
22	13	5	2	3	26	49	89	81	72	69	46	76	75	100	97	92	132	130	110	95	66	39	23
11	7	3	3	9	30	46	122	98	77	78	69	73	112	102	104	121	114	110	107	83	72	43	33
7	6	7	11	18	58	81	94	90	60	56	62	65	92	94	105	124	113	131	99	74	68	30	25
11	7	2	10	16	27	110	82	80	65	82	51	100	102	92	98	119	98	100	81	91	45	36	27

Date: Wednesday, August 28, 2019						Total Daily Volume: 3084						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
16	13	9	17	38	118	236	280	219	170	164	107	156	196	170	166	183	185	188	150	132	84	56	31
6	5	2	2	2	24	34	70	52	39	40	18	32	45	42	38	36	55	42	34	43	20	15	11
5	2	3	2	7	24	38	89	53	49	43	28	42	61	50	47	49	51	46	54	28	27	18	7
1	1	3	7	15	49	72	64	63	42	28	33	38	37	38	45	59	44	54	39	25	22	9	5
4	5	1	6	14	21	92	57	51	40	53	28	44	53	40	36	39	35	46	23	36	15	14	8

Date: Wednesday, August 28, 2019						Total Daily Volume: 3157						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
35	20	8	9	8	23	50	107	130	104	121	121	158	185	218	238	273	272	283	247	211	167	92	77
16	8	3	0	1	2	15	19	29	33	29	28	44	30	58	59	56	77	88	76	52	46	24	12
6	5	0	1	2	6	8	33	45	28	35	41	31	51	52	57	72	63	64	53	55	45	25	26
6	5	4	4	3	9	9	30	27	18	28	29	27	55	56	60	65	69	77	60	49	46	21	20
7	2	1	4	2	6	18	25	29	25	29	23	56	49	52	62	80	63	54	58	55	30	22	19

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Alex Road, between Eddy Jones Way and Foussat Road**

Date: Tuesday, August 27, 2019						Total Daily Volume: 1495						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
23	15	11	11	114	76	97	62	44	56	52	50	63	77	124	193	87	84	68	96	20	21	18	33
7	2	3	1	1	10	9	16	8	15	12	13	12	15	17	30	30	27	17	23	5	2	5	6
2	2	3	1	24	9	10	25	8	9	17	18	17	8	20	12	18	20	27	15	6	3	0	8
10	9	0	5	27	28	33	11	17	17	15	11	19	30	60	114	26	14	13	22	6	5	12	17
4	2	5	4	62	29	45	10	11	15	8	8	15	24	27	37	13	23	11	36	3	11	1	2

Date: Tuesday, August 27, 2019						Total Daily Volume: 756						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
16	11	6	1	14	9	17	20	21	26	29	25	25	35	83	158	61	49	34	59	8	8	16	25
5	1	3	0	0	2	1	5	4	8	6	5	7	8	11	21	23	18	11	10	1	1	4	5
1	1	2	0	6	4	2	12	3	0	8	9	6	2	11	6	11	13	10	3	3	0	0	4
8	8	0	0	4	3	5	2	8	11	10	6	9	13	42	109	23	9	7	15	2	4	11	15
2	1	1	1	4	0	9	1	6	7	5	5	3	12	19	22	4	9	6	31	2	3	1	1

Date: Tuesday, August 27, 2019						Total Daily Volume: 739						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
7	4	5	10	100	67	80	42	23	30	23	25	38	42	41	35	26	35	34	37	12	13	2	8
2	1	0	1	1	8	8	11	4	7	6	8	5	7	6	9	7	9	6	13	4	1	1	1
1	1	1	1	18	5	8	13	5	9	9	9	11	6	9	6	7	7	17	12	3	3	0	4
2	1	0	5	23	25	28	9	9	6	5	5	10	17	18	5	3	5	6	7	4	1	1	2
2	1	4	3	58	29	36	9	5	8	3	3	12	12	8	15	9	14	5	5	1	8	0	1

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Benet Road, between SR 76 and Eddy Jones Way**

Date: Tuesday, August 27, 2019						Total Daily Volume: 4885						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
20	12	3	14	60	131	274	394	328	301	281	285	318	278	273	294	314	363	301	253	151	123	70	44
5	3	0	5	8	17	51	105	88	54	57	75	90	79	64	82	79	101	73	61	41	41	20	7
5	3	1	3	11	41	61	97	97	72	76	63	85	72	58	83	88	84	78	67	44	37	18	26
6	2	1	0	18	39	82	102	73	88	77	69	68	55	89	69	73	86	84	61	29	26	19	4
4	4	1	6	23	34	80	90	70	87	71	78	75	72	62	60	74	92	66	64	37	19	13	7

Date: Tuesday, August 27, 2019						Total Daily Volume: 2420						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
11	11	1	7	14	34	57	104	109	123	153	111	141	135	140	177	193	234	210	177	100	94	51	33
2	3	0	3	1	3	11	20	24	19	29	37	35	38	27	48	55	69	54	42	27	28	16	7
3	2	1	1	3	12	14	30	26	35	35	27	41	39	32	54	42	50	55	44	27	28	13	18
4	2	0	0	2	8	16	23	28	35	43	23	36	30	52	40	49	65	53	46	24	20	12	1
2	4	0	3	8	11	16	31	31	34	46	24	29	28	29	35	47	50	48	45	22	18	10	7

Date: Tuesday, August 27, 2019						Total Daily Volume: 2465						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
9	1	2	7	46	97	217	290	219	178	128	174	177	143	133	117	121	129	91	76	51	29	19	11
3	0	0	2	7	14	40	85	64	35	28	38	55	41	37	34	24	32	19	19	14	13	4	0
2	1	0	2	8	29	47	67	71	37	41	36	44	33	26	29	46	34	23	23	17	9	5	8
2	0	1	0	16	31	66	79	45	53	34	46	32	25	37	29	24	21	31	15	5	6	7	3
2	0	1	3	15	23	64	59	39	53	25	54	46	44	33	25	27	42	18	19	15	1	3	0

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Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Airport Road, between SR 76 and Mission Avenue**

Date: Tuesday, August 27, 2019						Total Daily Volume: 3056						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
11	17	15	4	33	42	95	144	188	246	206	216	231	223	282	269	230	165	154	105	58	67	35	20
5	3	6	0	7	6	20	37	34	58	47	53	63	52	51	80	66	46	41	34	20	24	10	6
1	3	6	1	7	8	18	37	50	65	61	56	52	54	64	56	51	47	42	33	12	16	11	8
3	7	2	1	6	13	33	23	45	68	46	62	69	57	77	72	58	43	37	23	10	21	10	3
2	4	1	2	13	15	24	47	59	55	52	45	47	60	90	61	55	29	34	15	16	6	4	3

Date: Tuesday, August 27, 2019						Total Daily Volume: 1471						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
3	7	7	0	12	23	44	86	85	101	111	95	115	109	146	124	123	85	70	48	27	23	15	12
2	2	2	0	5	4	11	22	15	22	26	23	36	25	27	43	33	28	21	17	12	7	4	2
0	1	2	0	1	2	6	23	26	29	36	20	30	22	31	25	24	19	19	14	5	7	2	4
1	3	2	0	1	8	12	13	19	27	27	26	32	28	38	27	31	23	18	9	5	6	6	3
0	1	1	0	5	9	15	28	25	23	22	26	17	34	50	29	35	15	12	8	5	3	3	3

Date: Tuesday, August 27, 2019						Total Daily Volume: 1585						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
8	10	8	4	21	19	51	58	103	145	95	121	116	114	136	145	107	80	84	57	31	44	20	8
3	1	4	0	2	2	9	15	19	36	21	30	27	27	24	37	33	18	20	17	8	17	6	4
1	2	4	1	6	6	12	14	24	36	25	36	22	32	33	31	27	28	23	19	7	9	9	4
2	4	0	1	5	5	21	10	26	41	19	36	37	29	39	45	27	20	19	14	5	15	4	0
2	3	0	2	8	6	9	19	34	32	30	19	30	26	40	32	20	14	22	7	11	3	1	0

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Intersection Turning Movement - Peak Hour Vehicle Count



Location: #01 Mid-Day
Intersection: Benet Road & SR-76
Date of Count: Saturday, September 07, 2019

File Name: ITM-19-102-01
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Benet Road Southbound			SR-76 Westbound			Benet Road Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Benet Road Southbound			SR-76 Westbound			Benet Road Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	9	356	6	16	7	17	41	391	33	15	7	23	921
12:15	17	399	3	26	4	16	28	345	29	6	6	23	902
12:30	14	433	5	19	7	22	22	382	24	7	6	19	960
12:45	15	372	2	19	3	22	41	368	15	6	5	35	903
13:00	15	360	1	17	3	18	35	344	21	6	7	25	852
13:15	9	385	3	16	3	11	34	431	26	3	1	24	946
13:30	11	333	2	18	2	13	29	329	24	5	1	24	791
13:45	15	409	0	13	1	20	16	397	27	2	3	30	933
Total	105	3047	22	144	30	139	246	2987	199	50	36	203	7208
Approach%	3.3	96.0	0.7	46.0	9.6	44.4	7.2	87.0	5.8	17.3	12.5	70.2	
Total%	1.5	42.3	0.3	2.0	0.4	1.9	3.4	41.4	2.8	0.7	0.5	2.8	

PM Intersection Peak Hour: 12:00 to 13:00

Volume	55	1,560	16	80	21	77	132	1,486	101	34	24	100	3,686
Approach%	3.4	95.6	1.0	44.9	11.8	43.3	7.7	86.4	5.9	21.5	15.2	63.3	
Total%	1.5	42.3	0.4	2.2	0.6	2.1	3.6	40.3	2.7	0.9	0.7	2.7	
PHF	0.90			0.93			0.92			0.86			0.96

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #01 Mid-Day
 Intersection: Benet Road & SR-76
 Date of Count: Saturday, September 07, 2019

File Name: ITM-19-102-01
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Benet Road Southbound				SR-76 Westbound				Benet Road Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Benet Road Southbound				SR-76 Westbound				Benet Road Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6	1
12:15	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	5	0
13:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
13:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Ped Total	13				0				2				1				16	
Bike Total		0	0	0		0	3	0		0	0	0		0	3	0		6

Intersection Turning Movement - Peak Hour Summary

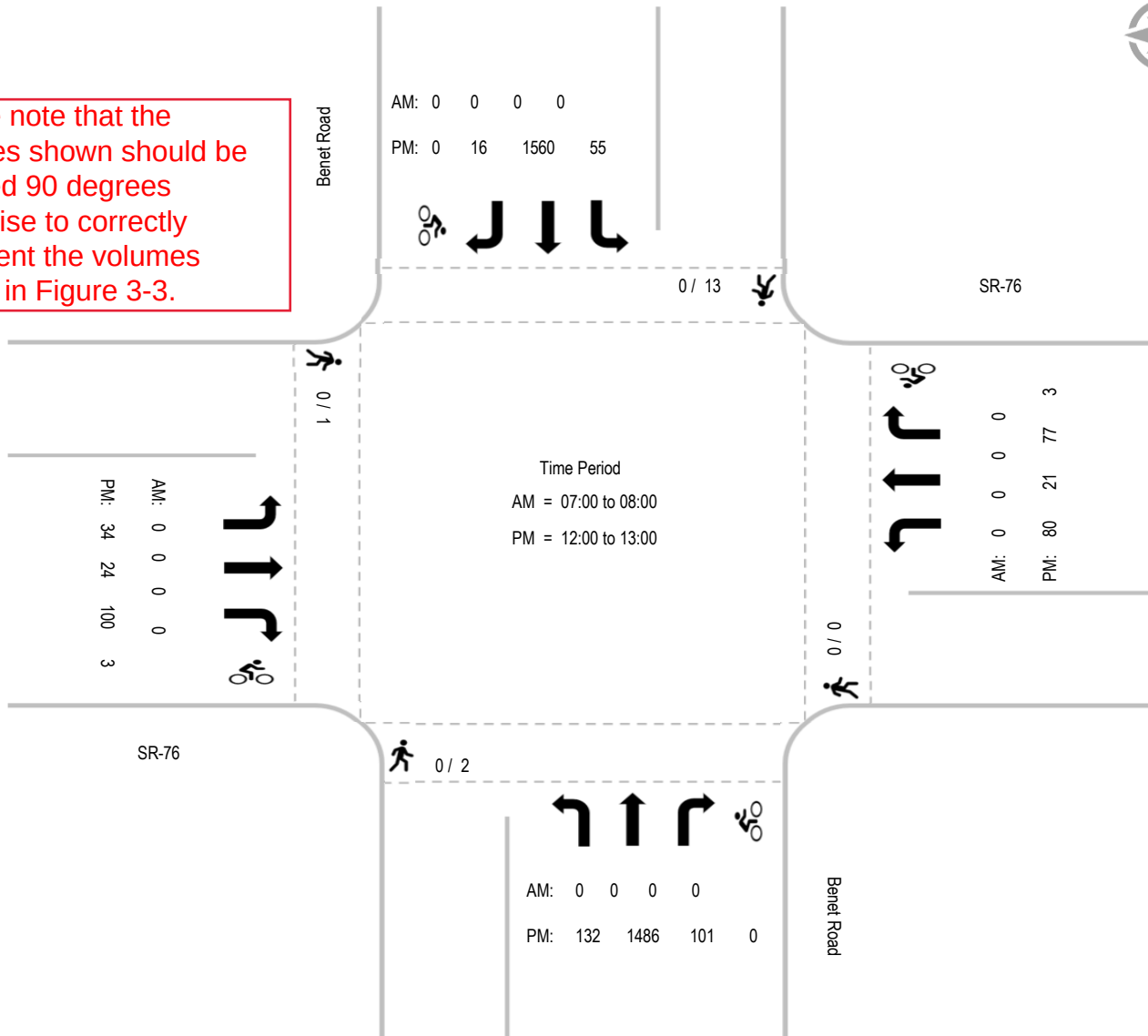


Location: #01 Mid-Day
 Intersection: Benet Road & SR-76
 Date of Count: Saturday, September 07, 2019

File Name: ITM-19-102-01
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Please note that the volumes shown should be oriented 90 degrees clockwise to correctly represent the volumes shown in Figure 3-3.



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers	Location: #02 Mid-Day	File Name: ITM-19-102-02
	Intersection: Rancho Del Oro Drive & SR-76	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound			SR-76 Westbound			Rancho Del Oro Drive Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Rancho Del Oro Drive Southbound			SR-76 Westbound			Rancho Del Oro Drive Northbound			SR-76 Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	29	38	13	62	334	17	32	31	63	14	293	55	981
12:15	19	36	16	70	400	17	38	34	42	17	351	39	1079
12:30	11	39	7	49	327	18	43	34	49	9	345	45	976
12:45	23	54	10	56	351	28	38	30	42	13	289	56	990
13:00	31	47	7	61	328	21	35	33	33	18	329	42	985
13:15	25	26	9	68	319	13	30	30	31	10	340	45	946
13:30	16	33	10	61	342	21	23	19	21	6	244	53	849
13:45	34	41	10	44	256	20	28	28	31	12	287	50	841
Total	188	314	82	471	2657	155	267	239	312	99	2478	385	7647
Approach%	32.2	53.8	14.0	14.3	80.9	4.7	32.6	29.2	38.1	3.3	83.7	13.0	
Total%	2.5	4.1	1.1	6.2	34.7	2.0	3.5	3.1	4.1	1.3	32.4	5.0	

PM Intersection Peak Hour: 12:15 to 13:15

Volume	84	176	40	236	1,406	84	154	131	166	57	1,314	182	4,030
Approach%	28.0	58.7	13.3	13.7	81.5	4.9	34.1	29.0	36.8	3.7	84.6	11.7	
Total%	2.1	4.4	1.0	5.9	34.9	2.1	3.8	3.3	4.1	1.4	32.6	4.5	
PHF	0.86			0.89			0.89			0.95			0.93

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #02 Mid-Day
 Intersection: Rancho Del Oro Drive & SR-76
 Date of Count: Saturday, September 7, 2019

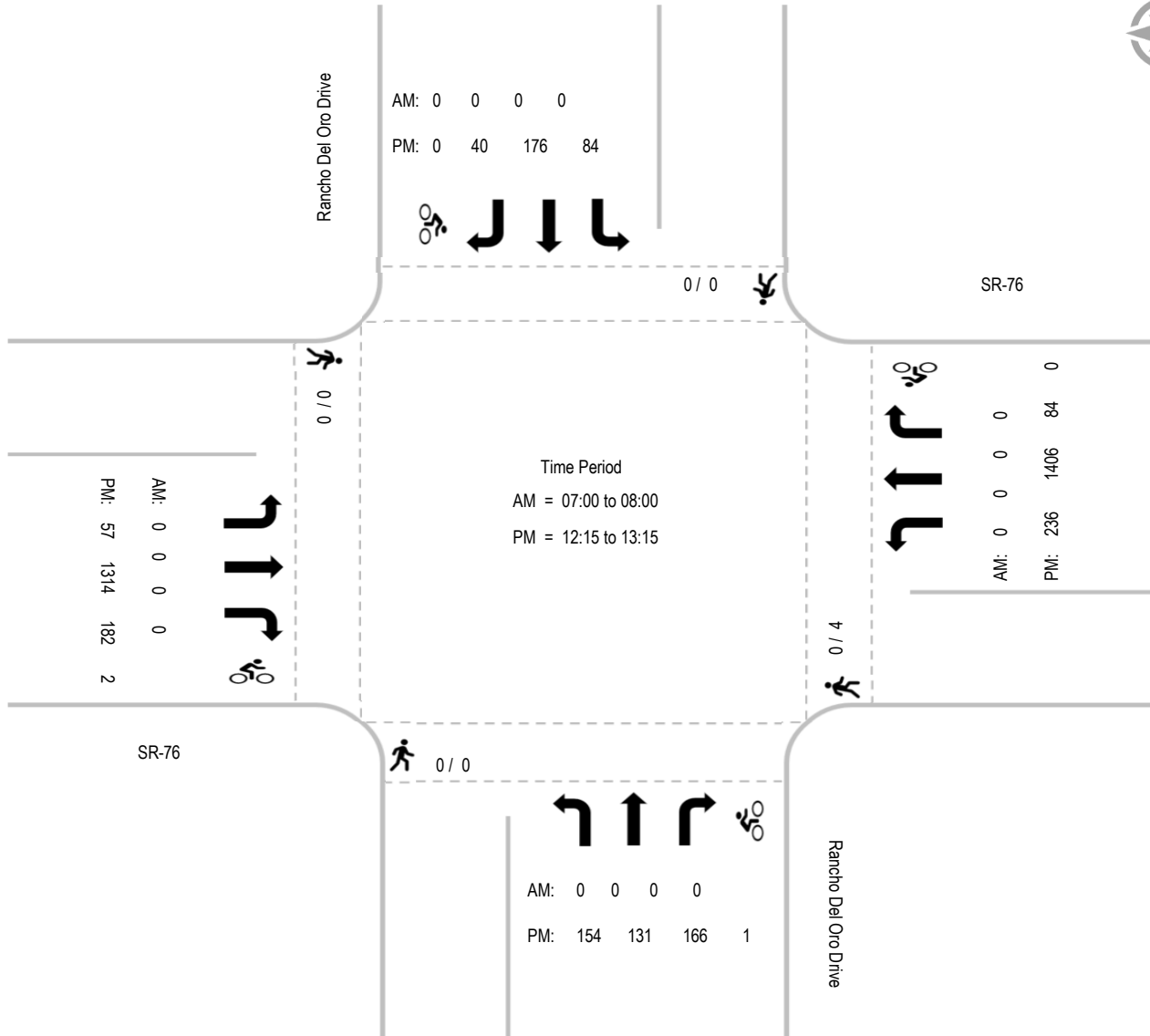
File Name: ITM-19-102-02
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Rancho Del Oro Drive Southbound				SR-76 Westbound				Rancho Del Oro Drive Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Rancho Del Oro Drive Southbound				SR-76 Westbound				Rancho Del Oro Drive Northbound				SR-76 Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
16:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
17:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				4				0				0				4	
Bike Total		0	0	0		0	0	0		0	0	1		0	2	0		3

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #02 Mid-Day	File Name: ITM-19-102-02
	Intersection: Rancho Del Oro Drive & SR-76	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers	Location: #03 Mid-Day	File Name: ITM-19-102-03
	Intersection: Mesa Drive / Amick Street & Mission Avenue	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet

AM	Amick Street Southbound			Mission Avenue Westbound			Mesa Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Amick Street Southbound			Mission Avenue Westbound			Mesa Drive Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	0	0	1	4	134	1	26	0	5	0	123	28	322
12:15	1	0	1	8	135	0	28	0	16	0	122	31	342
12:30	0	0	0	11	143	1	26	0	8	0	110	26	325
12:45	0	0	0	6	125	1	22	0	7	0	126	25	312
13:00	1	0	1	6	130	0	29	0	9	0	102	19	297
13:15	0	1	0	4	131	2	13	0	6	0	139	36	332
13:30	0	0	0	4	111	0	25	0	6	0	115	25	286
13:45	1	0	1	3	116	0	25	0	8	0	123	19	296
Total	3	1	4	46	1025	5	194	0	65	0	960	209	2512
Approach%	37.5	12.5	50.0	4.3	95.3	0.5	74.9	-	25.1	-	82.1	17.9	-
Total%	0.1	0.0	0.2	1.8	40.8	0.2	7.7	-	2.6	-	38.2	8.3	-

PM Intersection Peak Hour: 12:00 to 13:00

Volume	1	-	2	29	537	3	102	-	36	-	481	110	1,301
Approach%	33.3	-	66.7	5.1	94.4	0.5	73.9	-	26.1	-	81.4	18.6	-
Total%	0.1	-	0.2	2.2	41.3	0.2	7.8	-	2.8	-	37.0	8.5	-
PHF	0.38			0.92			0.78			0.97			0.95

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #03 Mid-Day
 Intersection: Mesa Drive / Amick Street & Mission Avenue
 Date of Count: Saturday, September 7, 2019

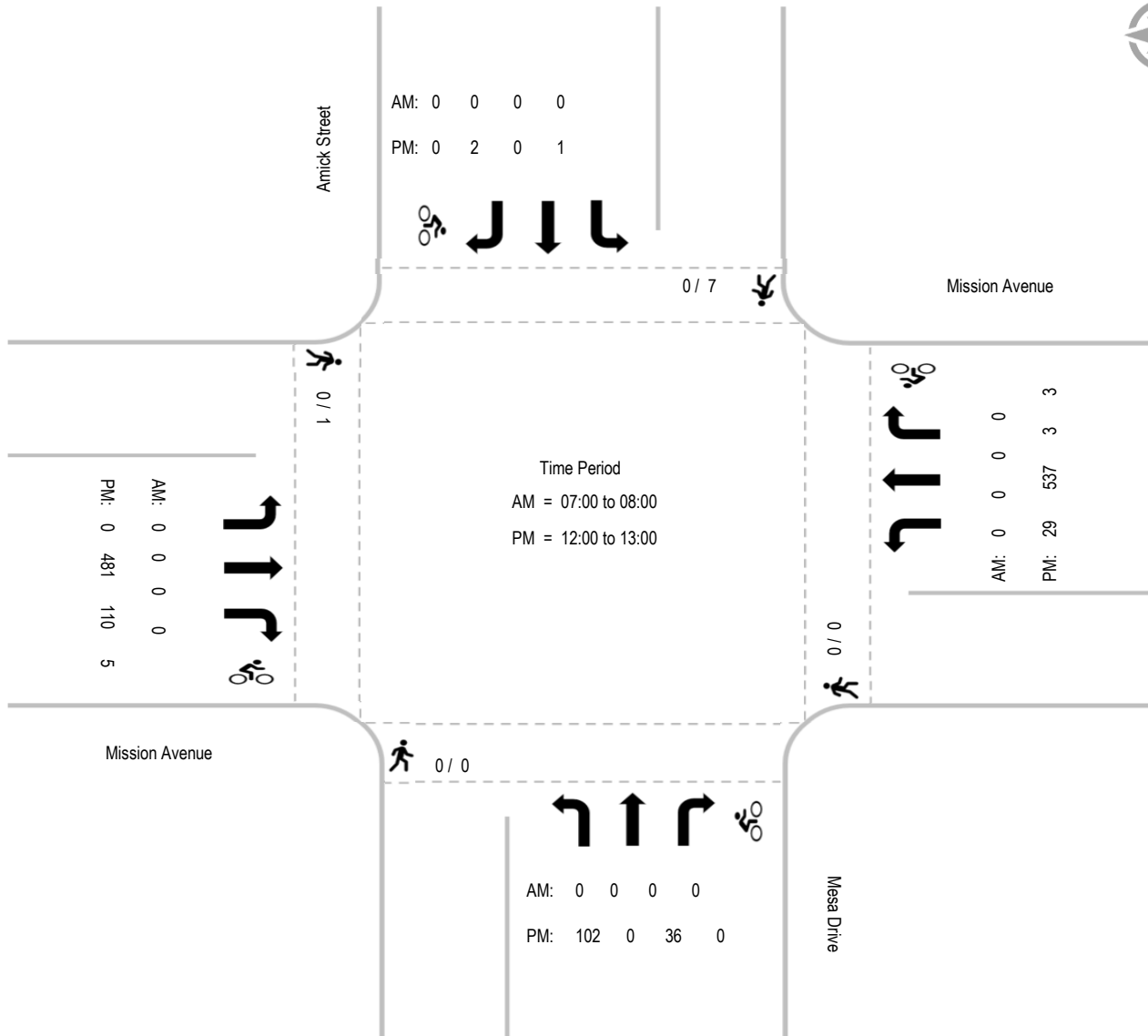
File Name: ITM-19-102-03
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Amick Street Southbound				Mission Avenue Westbound				Mesa Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Amick Street Southbound				Mission Avenue Westbound				Mesa Drive Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	2
12:45	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1
13:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
13:15	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	1
13:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
13:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Ped Total	7				0				0				1				8	
Bike Total		0	0	0		0	3	0		0	0	0		0	3	2		8

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#03 Mid-Day	File Name:	ITM-19-102-03
	Intersection:	Mesa Drive / Amick Street & Mission Avenue	Project:	LLG Ref. 3-19-3145
	Date of Count:	Saturday, September 7, 2019		Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers	Location: #04 Mid-Day	File Name: ITM-19-102-04
	Intersection: Ocean Puente & Mission Avenue	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet

AM	Ocean Puente Southbound			Mission Avenue Westbound			- Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Ocean Puente Southbound			Mission Avenue Westbound			- Northbound			Mission Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	0	0	0	0	194	0	0	0	0	0	221	0	415
12:15	0	0	0	0	205	0	0	0	0	0	191	0	396
12:30	0	0	0	0	213	0	0	0	0	0	205	0	418
12:45	0	0	0	0	200	0	0	0	0	0	197	0	397
13:00	0	0	0	0	200	0	0	0	0	0	187	0	387
13:15	0	0	0	0	160	0	0	0	0	0	212	0	372
13:30	0	0	0	0	163	0	0	0	0	0	205	0	368
13:45	0	0	0	0	166	0	0	0	0	0	178	0	344
Total	0	0	0	0	1501	0	0	0	0	0	1596	0	3097
Approach%	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-
Total%	-	-	-	-	48.5	-	-	-	-	-	51.5	-	-

PM Intersection Peak Hour: 12:00 to 13:00

Volume	-	-	-	-	812	-	-	-	-	-	814	-	1,626
Approach%	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-
Total%	-	-	-	-	49.9	-	-	-	-	-	50.1	-	-
PHF	#DIV/0!			0.95			#DIV/0!			0.92			0.00

Intersection Turning Movement - Bicycle & Pedestrian Count



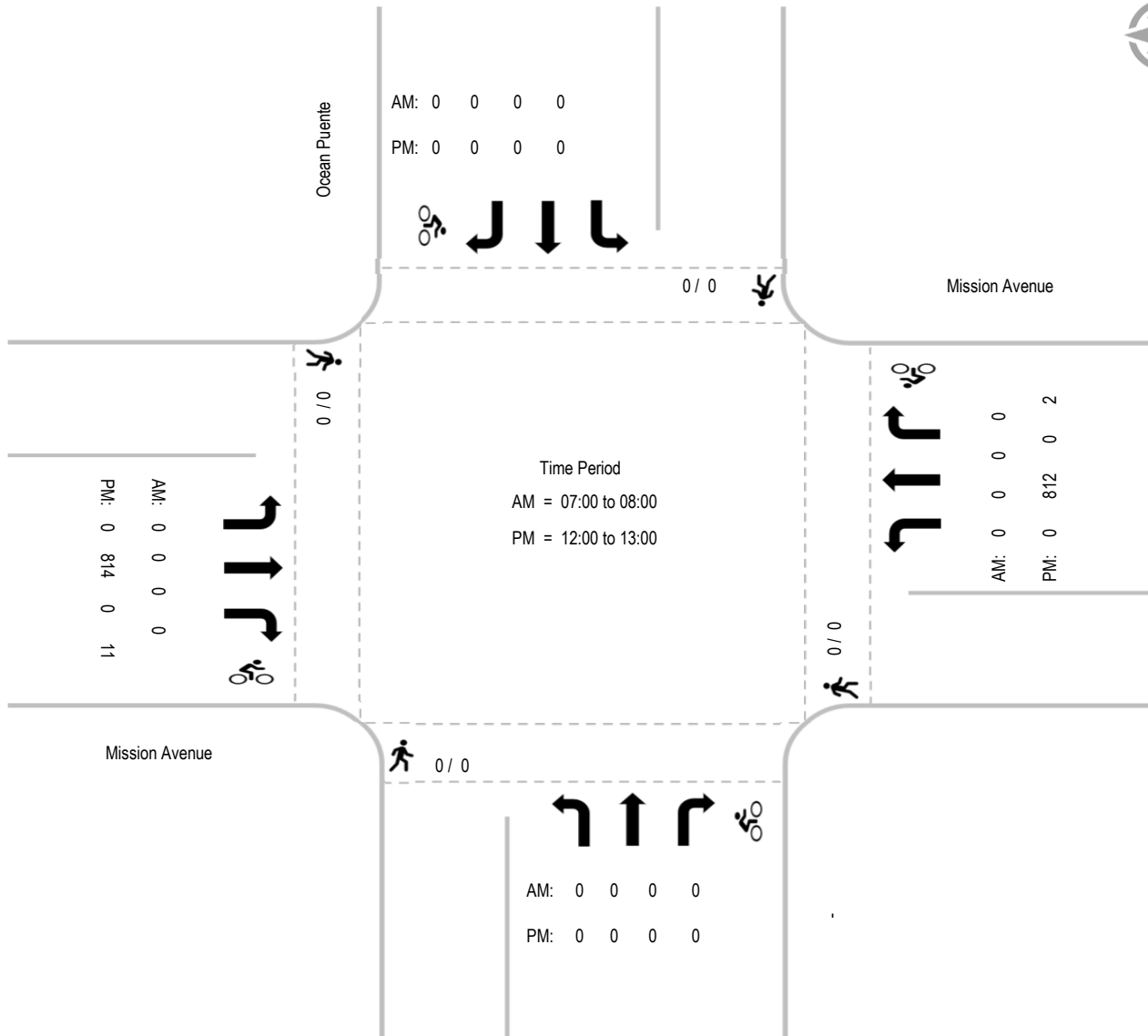
Location: #04 Mid-Day	File Name: ITM-19-102-04
Intersection: Ocean Puente & Mission Avenue	Project: LLG Ref. 3-19-3145
Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet

AM	Ocean Puente Southbound				Mission Avenue Westbound				- Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Ocean Puente Southbound				Mission Avenue Westbound				- Northbound				Mission Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
13:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	0	0	6
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	2	0		0	0	0		0	11	0		13

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#04 Mid-Day	File Name:	ITM-19-102-04
	Intersection:	Ocean Puente & Mission Avenue	Project:	LLG Ref. 3-19-3145
	Date of Count:	Saturday, September 7, 2019		Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #06 Mid-Day
Intersection: Pala Road & Los Arbolitos Boulevard
Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-06
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Los Arbolitos Boulevard Southbound			Pala Road Westbound			Los Arbolitos Boulevard Northbound			Pala Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Los Arbolitos Boulevard Southbound			Pala Road Westbound			Los Arbolitos Boulevard Northbound			Pala Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	0	6	0	5	1	0	0	4	8	0	0	0	24
12:15	1	7	0	11	0	0	0	4	7	0	0	0	30
12:30	0	4	0	14	0	0	0	4	11	0	0	0	33
12:45	1	2	0	7	0	0	0	5	5	0	0	0	20
13:00	1	5	0	12	0	3	1	2	6	0	0	0	30
13:15	0	2	0	5	0	1	0	5	6	0	0	0	19
13:30	0	3	0	9	0	2	0	5	10	0	0	0	29
13:45	0	2	0	8	0	1	0	3	12	0	0	0	26
Total	3	31	0	71	1	7	1	32	65	0	0	0	211
Approach%	8.8	91.2	-	89.9	1.3	8.9	1.0	32.7	66.3	-	-	-	-
Total%	1.4	14.7	-	33.6	0.5	3.3	0.5	15.2	30.8	-	-	-	-

PM Intersection Peak Hour: 12:15 to 13:15

Volume	3	18	-	44	-	3	1	15	29	-	-	-	113
Approach%	14.3	85.7	-	93.6	-	6.4	2.2	33.3	64.4	-	-	-	-
Total%	2.7	15.9	-	38.9	-	2.7	0.9	13.3	25.7	-	-	-	-
PHF	0.66			0.78			0.75			#DIV/0!			0.86

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #06 Mid-Day
 Intersection: Pala Road & Los Arbolitos Boulevard
 Date of Count: Saturday, September 7, 2019

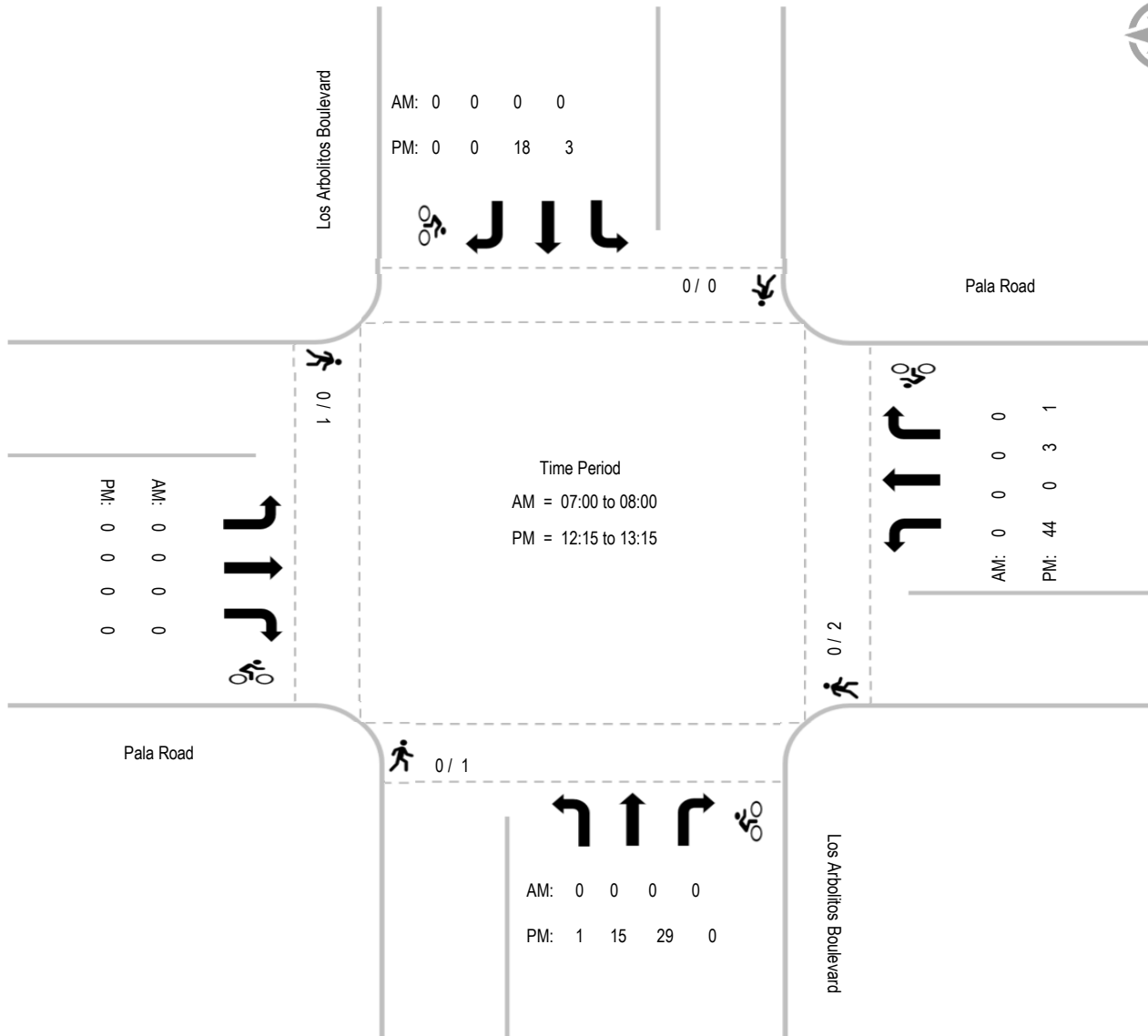
File Name: ITM-19-102-06
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Los Arbolitos Boulevard Southbound				Pala Road Westbound				Los Arbolitos Boulevard Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Los Arbolitos Boulevard Southbound				Pala Road Westbound				Los Arbolitos Boulevard Northbound				Pala Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
13:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Ped Total	0				2				1				1				4	
Bike Total		0	0	0		1	0	0		0	0	0		0	0	0		1

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #06 Mid-Day	File Name: ITM-19-102-06
	Intersection: Pala Road & Los Arbolitos Boulevard	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #07 Mid-Day
Intersection: Foussat Road & Foussat Road
Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-07
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Foussat Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Foussat Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	0	0	33	0	0	0	0	0	0	38	0	0	71
12:15	0	0	40	0	0	0	0	0	0	47	0	0	87
12:30	0	0	44	0	0	0	0	0	0	57	0	0	101
12:45	0	0	31	0	0	0	0	0	0	46	0	0	77
13:00	0	0	38	0	0	0	0	0	0	39	0	0	77
13:15	0	0	57	0	0	0	0	0	0	50	0	0	107
13:30	0	0	53	0	0	0	0	0	0	48	0	0	101
13:45	0	0	44	0	0	0	0	0	0	47	0	0	91
Total	0	0	340	0	0	0	0	0	0	372	0	0	712
Approach%	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-
Total%	-	-	47.8	-	-	-	-	-	-	52.2	-	-	-

PM Intersection Peak Hour: 13:00 to 14:00

Volume	-	-	192	-	-	-	-	-	-	184	-	-	376
Approach%	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-
Total%	-	-	51.1	-	-	-	-	-	-	48.9	-	-	-
PHF	0.84			#DIV/0!			#DIV/0!			0.92			0.88

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #07 Mid-Day
 Intersection: Foussat Road & Foussat Road
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-07
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Foussat Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

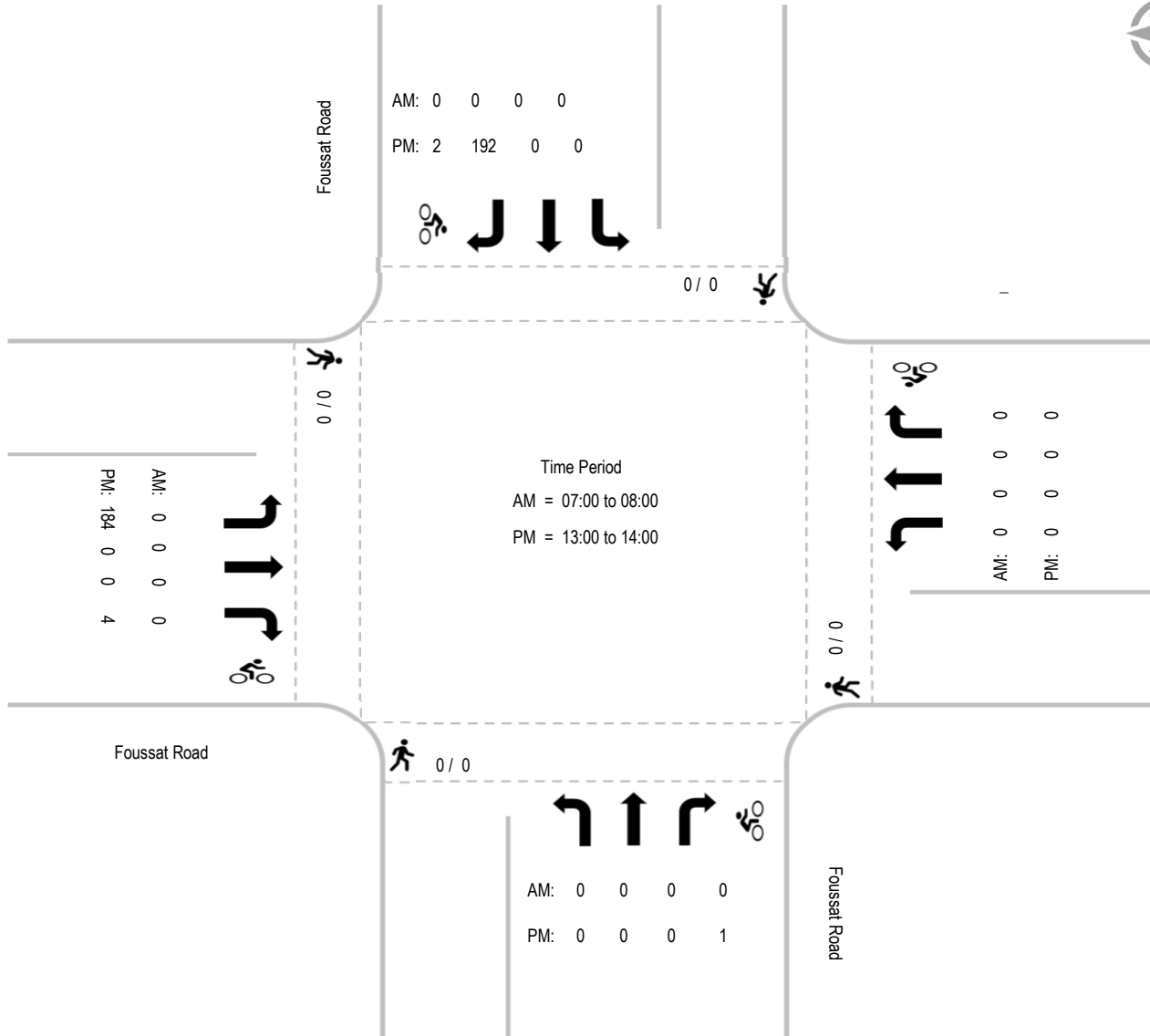
PM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Foussat Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
13:30	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	1	1		0	0	0		1	0	0		4	0	0		7

Intersection Turning Movement - Peak Hour Summary



Location: #07 Mid-Day
 Intersection: Foussat Road & Foussat Road
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-07
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers	Location: #08 Mid-Day	File Name: ITM-19-102-08
	Intersection: Alex Road & Foussat Road	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet

AM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Alex Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Foussat Road Southbound			– Westbound			Foussat Road Northbound			Alex Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	0	38	0	0	0	0	2	36	0	0	0	6	82
12:15	0	37	0	0	0	0	6	47	0	0	0	5	95
12:30	0	47	0	0	0	0	3	60	0	0	0	5	115
12:45	0	39	0	0	0	0	3	47	0	0	0	3	92
13:00	0	30	0	0	0	0	5	37	0	0	0	7	79
13:15	0	58	1	0	0	0	3	53	0	0	0	2	117
13:30	0	53	0	0	0	0	6	45	0	0	0	7	111
13:45	0	49	1	0	0	0	6	48	0	0	0	9	113
Total	0	351	2	0	0	0	34	373	0	0	0	44	804
Approach%	-	99.4	0.6	-	-	-	8.4	91.6	-	-	-	100.0	-
Total%	-	43.7	0.2	-	-	-	4.2	46.4	-	-	-	5.5	-

PM Intersection Peak Hour: 13:00 to 14:00

Volume	-	190	2	-	-	-	20	183	-	-	-	25	420
Approach%	-	99.0	1.0	-	-	-	9.9	90.1	-	-	-	100.0	-
Total%	-	45.2	0.5	-	-	-	4.8	43.6	-	-	-	6.0	-
PHF	0.81			#DIV/0!			0.91			0.69			0.90

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #08 Mid-Day
 Intersection: Alex Road & Foussat Road
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-08
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Alex Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

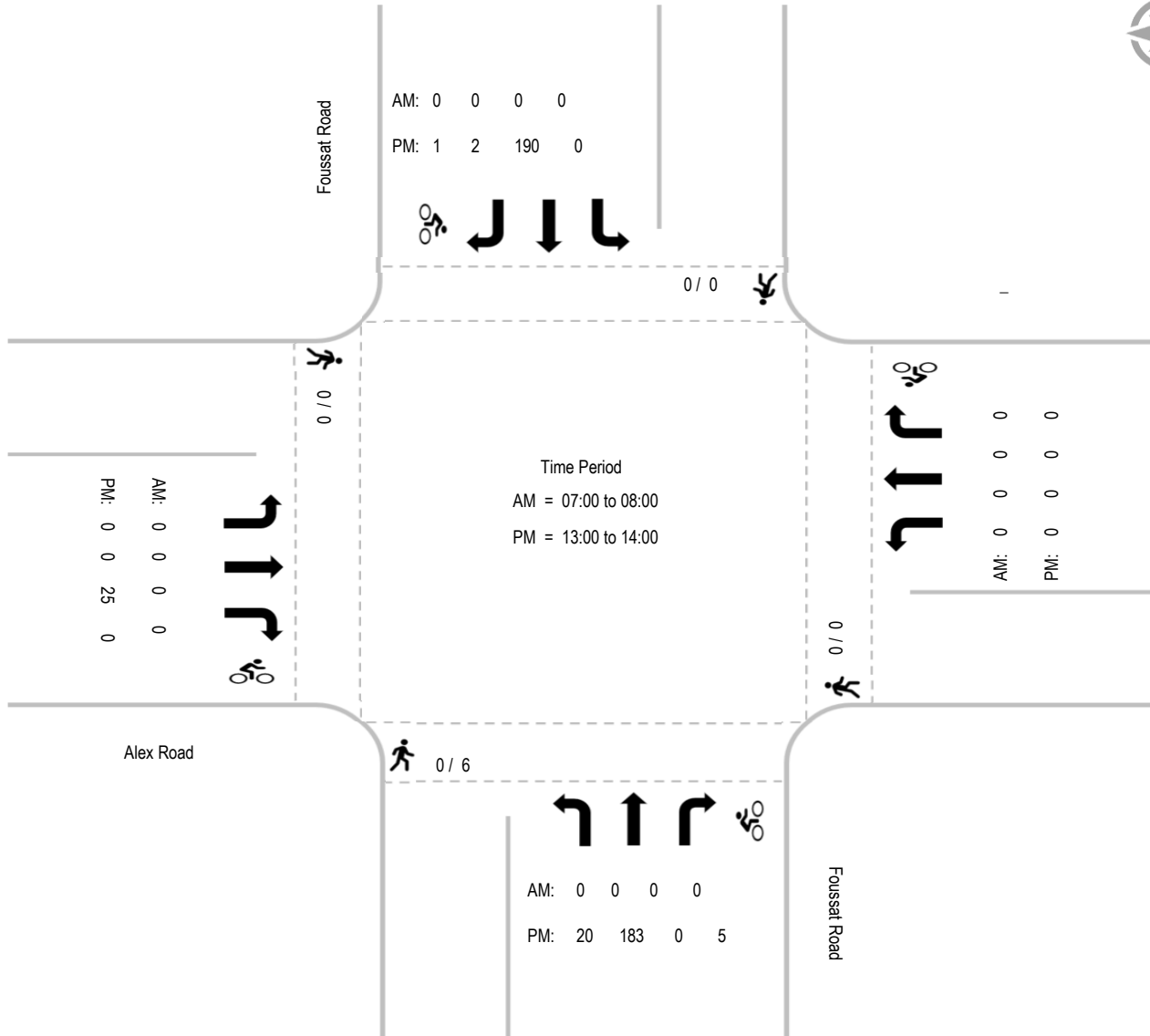
PM	Foussat Road Southbound				– Westbound				Foussat Road Northbound				Alex Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	2	1
12:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
12:30	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	2	1
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				6				0				6	
Bike Total		0	1	0		0	0	0		0	5	0		0	0	0		6

Intersection Turning Movement - Peak Hour Summary



Location: #08 Mid-Day
 Intersection: Alex Road & Foussat Road
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-08
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #09 Mid-Day
Intersection: El Camino Real & Mesa Drive
Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-09
Project: LLG Ref. 3-19-3145
Oceanside Swap Meet

AM	El Camino Real Southbound			Mesa Drive Westbound			El Camino Real Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	El Camino Real Southbound			Mesa Drive Westbound			El Camino Real Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	9	213	19	83	23	13	20	196	105	12	22	28	743
12:15	15	218	17	88	21	16	17	187	86	12	24	20	721
12:30	6	199	11	91	27	18	17	199	85	11	23	21	708
12:45	21	230	2	99	19	13	25	214	103	8	20	14	768
13:00	17	196	13	95	23	14	35	191	105	5	14	16	724
13:15	11	234	7	80	17	16	24	204	87	5	21	18	724
13:30	13	211	11	91	29	14	25	195	93	11	18	26	737
13:45	7	196	7	107	34	8	31	183	92	6	26	17	714
Total	99	1697	87	734	193	112	194	1569	756	70	168	160	5839
Approach%	5.3	90.1	4.6	70.6	18.6	10.8	7.7	62.3	30.0	17.6	42.2	40.2	
Total%	1.7	29.1	1.5	12.6	3.3	1.9	3.3	26.9	12.9	1.2	2.9	2.7	

PM Intersection Peak Hour: 12:45 to 13:45

Volume	62	871	33	365	88	57	109	804	388	29	73	74	2,953
Approach%	6.4	90.2	3.4	71.6	17.3	11.2	8.4	61.8	29.8	16.5	41.5	42.0	
Total%	2.1	29.5	1.1	12.4	3.0	1.9	3.7	27.2	13.1	1.0	2.5	2.5	
PHF	0.95			0.95			0.95			0.80			0.96

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #09 Mid-Day
 Intersection: El Camino Real & Mesa Drive
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-09
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

AM	El Camino Real Southbound				Mesa Drive Westbound				El Camino Real Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

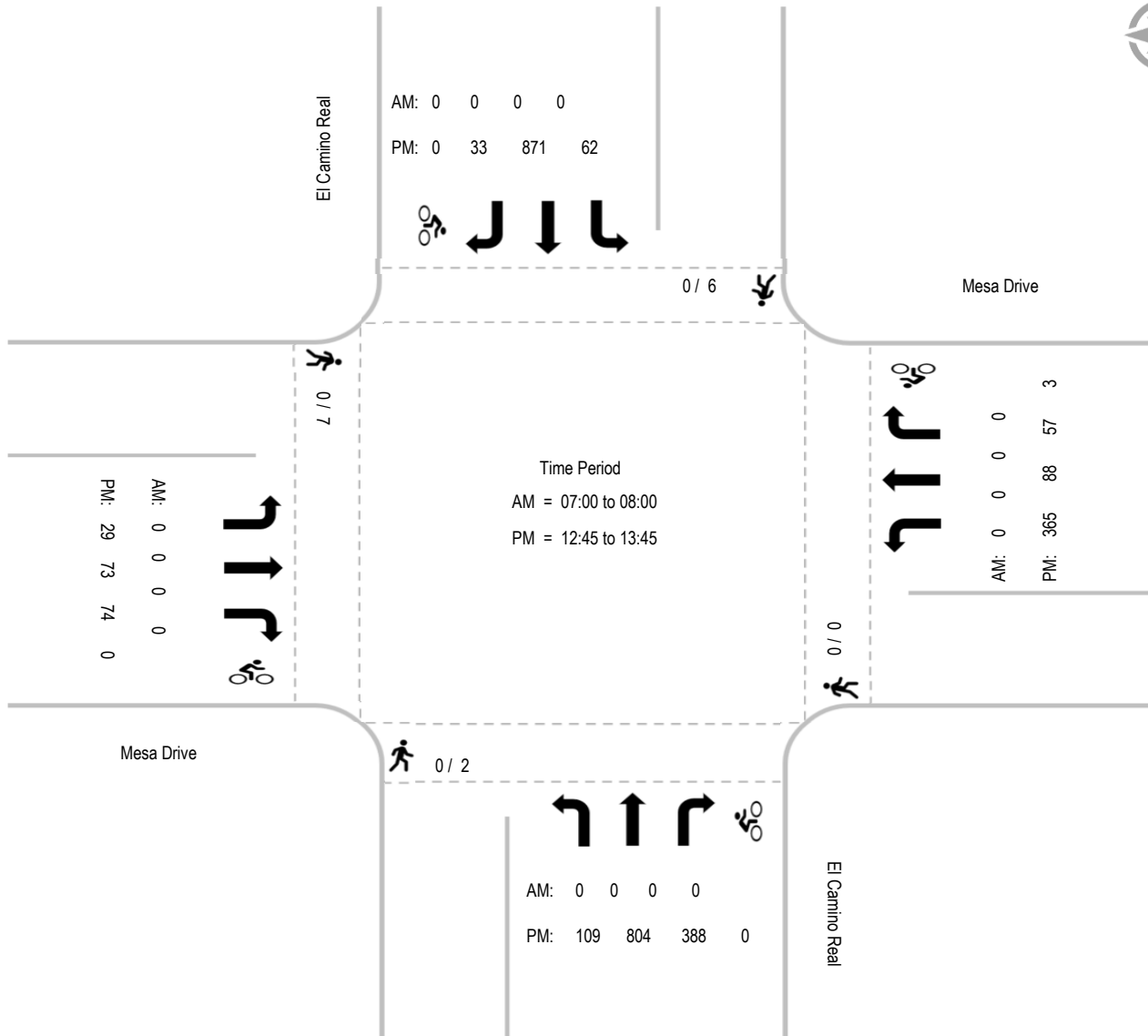
PM	El Camino Real Southbound				Mesa Drive Westbound				El Camino Real Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:00	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	4	2
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
13:45	3	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	8	0
Ped Total	6				0				2				7				15	
Bike Total		0	0	0		0	3	0		0	0	0		0	0	0		3

Intersection Turning Movement - Peak Hour Summary



Location: #09 Mid-Day
 Intersection: El Camino Real & Mesa Drive
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-09
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers	Location: #10 Mid-Day	File Name: ITM-19-102-10
	Intersection: Mesa Drive & Foussat Road	Project: LLG Ref. 3-19-3145
	Date of Count: Saturday, September 7, 2019	Oceanside Swap Meet

AM	Foussat Road Southbound			Mesa Drive Westbound			Foussat Road Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-

AM Intersection Peak Hour: 07:00 to 08:00

Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Approach%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total%	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!			0.00

PM	Foussat Road Southbound			Mesa Drive Westbound			Foussat Road Northbound			Mesa Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12:00	15	43	8	2	29	9	3	23	0	5	20	12	169
12:15	8	23	13	2	25	12	3	31	3	8	32	5	165
12:30	9	22	15	1	18	10	2	39	2	18	18	2	156
12:45	9	38	4	2	18	18	2	30	1	6	24	4	156
13:00	8	28	4	0	31	22	3	18	2	13	18	4	151
13:15	6	30	9	2	14	15	1	26	2	10	22	9	146
13:30	10	24	14	4	35	17	3	24	2	13	29	1	176
13:45	13	21	14	3	21	17	2	31	0	8	22	5	157
Total	78	229	81	16	191	120	19	222	12	81	185	42	1276
Approach%	20.1	59.0	20.9	4.9	58.4	36.7	7.5	87.7	4.7	26.3	60.1	13.6	
Total%	6.1	17.9	6.3	1.3	15.0	9.4	1.5	17.4	0.9	6.3	14.5	3.3	

PM Intersection Peak Hour: 12:00 to 13:00

Volume	41	126	40	7	90	49	10	123	6	37	94	23	646
Approach%	19.8	60.9	19.3	4.8	61.6	33.6	7.2	88.5	4.3	24.0	61.0	14.9	
Total%	6.3	19.5	6.2	1.1	13.9	7.6	1.5	19.0	0.9	5.7	14.6	3.6	
PHF	0.78			0.91			0.81			0.86			0.96

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #10 Mid-Day
 Intersection: Mesa Drive & Foussat Road
 Date of Count: Saturday, September 7, 2019

File Name: ITM-19-102-10
 Project: LLG Ref. 3-19-3145
 Oceanside Swap Meet

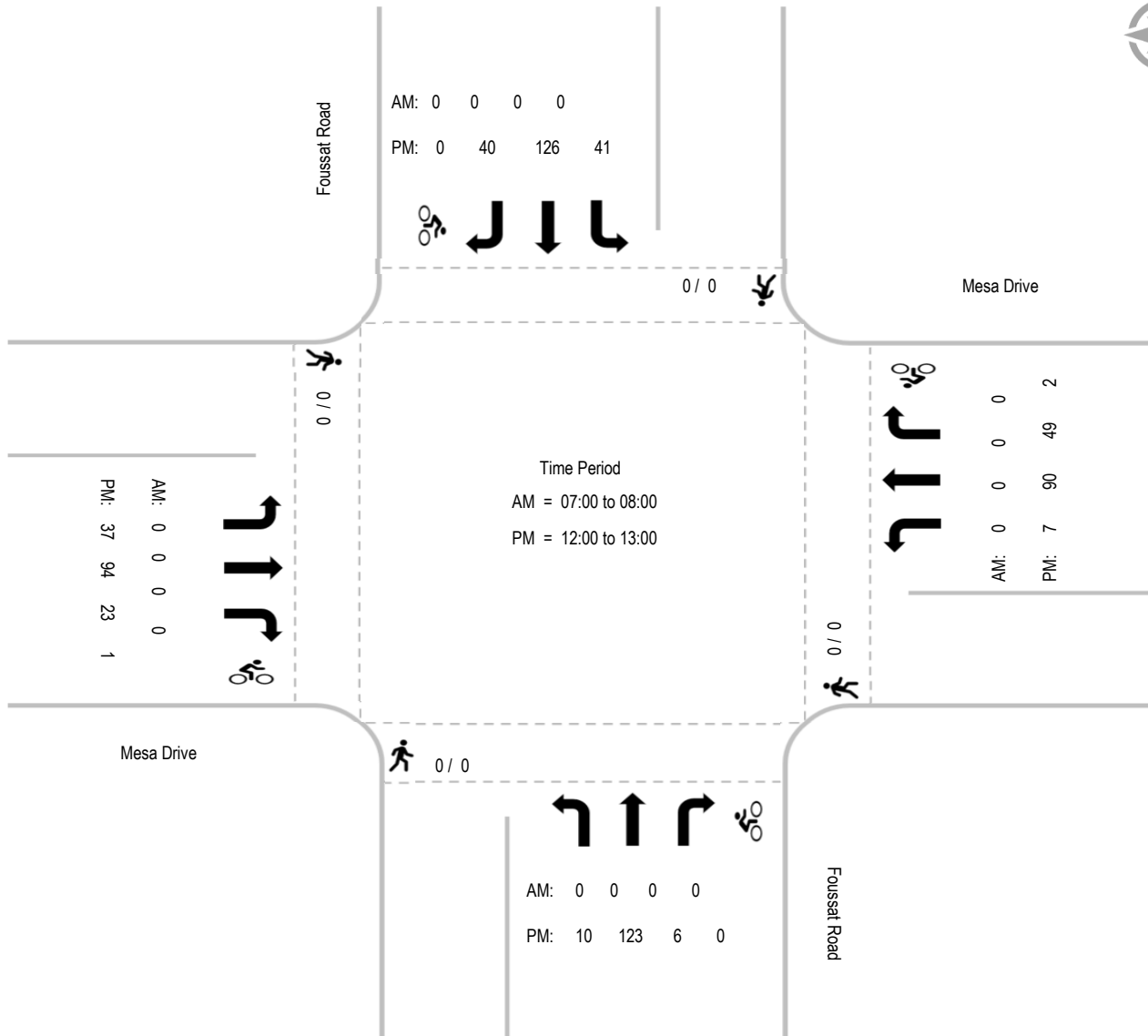
AM	Foussat Road Southbound				Mesa Drive Westbound				Foussat Road Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Foussat Road Southbound				Mesa Drive Westbound				Foussat Road Northbound				Mesa Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
12:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	1	1		0	0	0		0	1	0		3

Intersection Turning Movement - Peak Hour Summary



Location:	#10 Mid-Day	File Name:	ITM-19-102-10
Intersection:	Mesa Drive & Foussat Road	Project:	LLG Ref. 3-19-3145
Date of Count:	Saturday, September 7, 2019		Oceanside Swap Meet



Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: Mission Avenue, between Douglas Drive and Rancho Del Oro

Date: Saturday, September 7, 2019						Total Daily Volume: 17537						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
158	111	71	64	76	118	255	538	761	1028	1287	1271	1458	1310	1375	1260	1253	1177	1198	859	720	504	403	282
47	34	10	21	17	22	41	120	174	234	289	313	385	361	344	309	322	345	335	237	207	145	102	87
31	27	23	9	13	26	47	126	155	233	322	310	334	307	348	305	313	294	315	215	201	129	110	68
45	25	17	20	19	29	75	127	183	292	358	313	348	310	369	323	301	265	280	213	162	115	111	78
35	25	21	14	27	41	92	165	249	269	318	335	391	332	314	323	317	273	268	194	150	115	80	49

Date: Saturday, September 7, 2019						Total Daily Volume: 8935						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
91	62	38	36	27	58	113	260	339	518	615	614	748	687	706	622	687	609	645	455	359	270	223	153
29	16	6	13	7	11	12	63	67	122	116	149	215	195	158	137	182	187	144	135	92	80	53	44
19	14	13	5	3	17	19	67	69	114	164	148	158	157	181	159	164	146	167	106	90	66	65	36
23	17	11	7	9	13	32	65	84	146	191	129	169	146	202	152	174	127	173	115	99	65	60	46
20	15	8	11	8	17	50	65	119	136	144	188	206	189	165	174	167	149	161	99	78	59	45	27

Date: Saturday, September 7, 2019						Total Daily Volume: 8602						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
67	49	33	28	49	60	142	278	422	510	672	657	710	623	669	638	566	568	553	404	361	234	180	129
18	18	4	8	10	11	29	57	107	112	173	164	170	166	186	172	140	158	191	102	115	65	49	43
12	13	10	4	10	9	28	59	86	119	158	162	176	150	167	146	149	148	148	109	111	63	45	32
22	8	6	13	10	16	43	62	99	146	167	184	179	164	167	171	127	138	107	98	63	50	51	32
15	10	13	3	19	24	42	100	130	133	174	147	185	143	149	149	150	124	107	95	72	56	35	22

Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Foussat Road, between Alex Road and SR 76**

Date: Saturday, September 7, 2019						Total Daily Volume: 5740						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
79	40	17	23	107	52	89	215	318	336	427	398	394	434	421	386	348	353	340	337	215	155	154	102
24	12	6	4	13	16	12	46	65	71	85	117	81	85	122	93	93	101	88	102	70	52	41	43
20	8	3	4	20	9	21	49	70	82	94	88	102	115	87	103	77	78	89	89	58	37	39	22
20	13	4	6	28	16	19	57	83	93	117	99	118	118	106	102	92	84	92	84	39	37	43	21
15	7	4	9	46	11	37	63	100	90	131	94	93	116	106	88	86	90	71	62	48	29	31	16

Date: Saturday, September 7, 2019						Total Daily Volume: 2809						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
49	23	10	6	75	19	30	77	105	121	181	183	211	213	219	204	176	187	174	179	135	90	86	56
12	9	4	1	1	7	0	18	26	28	41	57	38	47	64	51	54	51	37	60	47	31	26	24
14	6	2	1	12	3	8	22	29	30	48	46	58	52	50	54	44	36	45	44	37	18	24	11
15	4	1	2	23	2	8	16	23	27	52	42	66	58	57	50	43	50	51	42	24	24	19	11
8	4	3	2	39	7	14	21	27	36	40	38	49	56	48	49	35	50	41	33	27	17	17	10

Date: Saturday, September 7, 2019						Total Daily Volume: 2931						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
30	17	7	17	32	33	59	138	213	215	246	215	183	221	202	182	172	166	166	158	80	65	68	46
12	3	2	3	12	9	12	28	39	43	44	60	43	38	58	42	39	50	51	42	23	21	15	19
6	2	1	3	8	6	13	27	41	52	46	42	44	63	37	49	33	42	44	45	21	19	15	11
5	9	3	4	5	14	11	41	60	66	65	57	52	60	49	52	49	34	41	42	15	13	24	10
7	3	1	7	7	4	23	42	73	54	91	56	44	60	58	39	51	40	30	29	21	12	14	6

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Foussat Road, between Mission Avenue and Tonopah Street**

Date: Saturday, September 7, 2019						Total Daily Volume: 5316						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
61	38	20	20	38	45	112	228	292	286	401	424	403	375	388	355	343	333	302	268	183	156	150	95
23	9	6	8	10	11	24	44	62	64	89	115	98	79	106	95	103	100	88	66	48	36	44	24
17	17	2	3	8	13	19	66	67	63	103	90	96	101	109	82	76	79	70	73	47	28	40	28
12	8	5	4	9	13	29	57	87	80	97	89	121	92	88	91	83	67	80	61	47	45	28	22
9	4	7	5	11	8	40	61	76	79	112	130	88	103	85	87	81	87	64	68	41	47	38	21

Date: Saturday, September 7, 2019						Total Daily Volume: 2713						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
32	23	9	11	20	28	72	129	155	154	190	198	201	203	198	187	186	168	139	136	78	84	65	47
10	9	2	4	4	7	17	24	32	34	39	51	40	48	60	48	57	52	40	31	21	23	16	13
11	7	1	2	5	11	10	43	38	28	50	41	49	53	58	45	42	41	34	45	19	16	15	11
5	3	2	2	4	7	21	30	42	45	43	41	68	50	35	47	41	34	34	27	19	22	14	12
6	4	4	3	7	3	24	32	43	47	58	65	44	52	45	47	46	41	31	33	19	23	20	11

Date: Saturday, September 7, 2019						Total Daily Volume: 2603						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
29	15	11	9	18	17	40	99	137	132	211	226	202	172	190	168	157	165	163	132	105	72	85	48
13	0	4	4	6	4	7	20	30	30	50	64	58	31	46	47	46	48	48	35	27	13	28	11
6	10	1	1	3	2	9	23	29	35	53	49	47	48	51	37	34	38	36	28	28	12	25	17
7	5	3	2	5	6	8	27	45	35	54	48	53	42	53	44	42	33	46	34	28	23	14	10
3	0	3	2	4	5	16	29	33	32	54	65	44	51	40	40	35	46	33	35	22	24	18	10

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Foussat Road, between Tonopah Street and Mesa Drive**

Date: Saturday, September 7, 2019						Total Daily Volume: 5699						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
75	39	18	24	41	57	117	256	306	339	448	452	409	402	404	393	379	323	312	299	192	164	150	100
21	14	3	8	7	8	20	45	65	82	101	122	96	95	114	104	108	98	88	81	69	47	41	33
22	14	4	2	12	19	35	67	65	72	103	112	93	96	98	92	85	69	81	75	43	33	44	21
17	7	4	8	10	15	27	65	88	93	110	90	111	100	92	96	86	71	68	69	44	38	35	23
15	4	7	6	12	15	35	79	88	92	134	128	109	111	100	101	100	85	75	74	36	46	30	23

Date: Saturday, September 7, 2019						Total Daily Volume: 2866						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
48	27	8	11	18	25	53	106	135	163	206	209	212	216	201	206	215	164	154	163	98	97	75	56
11	13	1	5	3	5	10	16	30	39	43	51	37	52	55	51	65	52	45	45	34	31	21	19
14	7	2	1	7	10	14	33	28	30	47	52	51	51	48	55	46	34	39	40	21	19	23	12
13	3	1	3	3	4	13	24	33	50	51	43	64	51	41	48	46	35	31	40	22	22	18	12
10	4	4	2	5	6	16	33	44	44	65	63	60	62	57	52	58	43	39	38	21	25	13	13

Date: Saturday, September 7, 2019						Total Daily Volume: 2833						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
27	12	10	13	23	32	64	150	171	176	242	243	197	186	203	187	164	159	158	136	94	67	75	44
10	1	2	3	4	3	10	29	35	43	58	71	59	43	59	53	43	46	43	36	35	16	20	14
8	7	2	1	5	9	21	34	37	42	56	60	42	45	50	37	39	35	42	35	22	14	21	9
4	4	3	5	7	11	14	41	55	43	59	47	47	49	51	48	40	36	37	29	22	16	17	11
5	0	3	4	7	9	19	46	44	48	69	65	49	49	43	49	42	42	36	36	15	21	17	10

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **El Camino Real, between Los Arbolitos Boulevard and Mission Avenue**

Date: Saturday, September 7, 2019						Total Daily Volume: 29181						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
330	211	136	110	166	344	692	1014	1518	1744	2020	2117	2077	2050	2152	2042	1850	2011	1647	1443	1213	1044	786	464
105	71	35	27	16	53	145	235	298	393	434	461	543	463	513	535	450	492	427	319	336	277	204	146
77	50	43	27	32	83	162	245	315	445	514	531	509	534	562	507	434	504	381	399	331	252	217	120
89	47	27	29	52	100	186	263	457	415	534	546	522	536	531	501	522	492	448	347	302	247	207	101
59	43	31	27	66	108	199	271	448	491	538	579	503	517	546	499	444	523	391	378	244	268	158	97

Date: Saturday, September 7, 2019						Total Daily Volume: 10968						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
190	120	90	51	43	48	109	195	309	424	570	634	723	746	835	888	818	836	689	723	644	554	469	260
63	44	24	18	7	10	16	51	54	74	144	178	188	168	186	220	201	225	186	160	181	155	128	81
44	23	28	16	8	10	32	56	69	105	136	154	177	197	221	223	206	230	157	199	187	140	137	67
51	27	20	10	6	10	19	40	90	116	153	148	166	193	195	241	219	177	169	179	143	118	117	49
32	26	18	7	22	18	42	48	96	129	137	154	192	188	233	204	192	204	177	185	133	141	87	63

Date: Saturday, September 7, 2019						Total Daily Volume: 18213						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
140	91	46	59	123	296	583	819	1209	1320	1450	1483	1354	1304	1317	1154	1032	1175	958	720	569	490	317	204
42	27	11	9	9	43	129	184	244	319	290	283	355	295	327	315	249	267	241	159	155	122	76	65
33	27	15	11	24	73	130	189	246	340	378	377	332	337	341	284	228	274	224	200	144	112	80	53
38	20	7	19	46	90	167	223	367	299	381	398	356	343	336	260	303	315	279	168	159	129	90	52
27	17	13	20	44	90	157	223	352	362	401	425	311	329	313	295	252	319	214	193	111	127	71	34

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **El Camino Real, between Mission Avenue and Vista Oceana**

Date: Saturday, September 7, 2019						Total Daily Volume: 23680						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
251	155	121	105	166	276	467	823	1040	1403	1631	1657	1819	1743	1810	1731	1581	1580	1315	1202	989	810	624	381
79	37	32	21	30	41	97	170	224	294	391	378	457	474	421	435	393	423	331	292	274	221	183	125
55	40	33	24	36	55	112	192	242	356	390	384	433	416	506	433	389	414	324	293	278	185	179	93
69	38	20	32	47	86	114	220	270	367	409	451	468	433	438	435	398	351	354	309	240	195	154	75
48	40	36	28	53	94	144	241	304	386	441	444	461	420	445	428	401	392	306	308	197	209	108	88

Date: Saturday, September 7, 2019						Total Daily Volume: 11592						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
156	94	78	43	51	78	158	300	381	541	689	698	896	836	916	932	852	863	664	689	562	495	392	228
51	24	22	15	13	16	34	68	82	97	170	182	216	239	200	231	188	241	184	173	160	138	122	73
32	22	21	12	14	16	37	67	83	138	173	177	217	195	259	230	227	237	159	172	161	126	122	49
43	21	15	9	10	14	32	71	99	133	177	167	228	201	216	244	218	185	164	172	118	106	85	39
30	27	20	7	14	32	55	94	117	173	169	172	235	201	241	227	219	200	157	172	123	125	63	67

Date: Saturday, September 7, 2019						Total Daily Volume: 12088						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
95	61	43	62	115	198	309	523	659	862	942	959	923	907	894	799	729	717	651	513	427	315	232	153
28	13	10	6	17	25	63	102	142	197	221	196	241	235	221	204	205	182	147	119	114	83	61	52
23	18	12	12	22	39	75	125	159	218	217	207	216	221	247	203	162	177	165	121	117	59	57	44
26	17	5	23	37	72	82	149	171	234	232	284	240	232	222	191	180	166	190	137	122	89	69	36
18	13	16	21	39	62	89	147	187	213	272	272	226	219	204	201	182	192	149	136	74	84	45	21

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **El Camino Real, between Vista Oceana and Mesa Drive**

Date: Saturday, September 7, 2019						Total Daily Volume: 24148						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
242	156	124	106	171	269	488	831	1079	1420	1613	1699	1843	1786	1876	1768	1627	1615	1378	1214	999	836	625	383
79	41	33	23	29	40	98	157	247	312	402	389	458	457	419	438	413	414	323	307	275	217	178	125
51	40	36	24	36	57	114	187	233	334	393	411	437	452	501	469	394	427	383	294	290	202	180	96
61	40	19	28	53	84	118	215	287	368	405	454	461	451	448	449	401	398	351	331	233	191	158	78
51	35	36	31	53	88	158	272	312	406	413	445	487	426	508	412	419	376	321	282	201	226	109	84

Date: Saturday, September 7, 2019						Total Daily Volume: 11720						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
157	98	82	48	55	67	160	282	387	527	660	702	885	833	950	952	872	880	708	688	581	521	398	227
53	26	25	17	11	14	36	62	93	101	183	172	223	209	193	218	201	250	170	174	165	137	119	69
33	24	21	12	16	14	30	57	74	125	157	192	194	208	266	265	235	232	195	164	173	137	132	53
40	22	15	9	14	15	38	67	98	142	168	158	232	209	207	252	214	219	169	192	123	112	83	42
31	26	21	10	14	24	56	96	122	159	152	180	236	207	284	217	222	179	174	158	120	135	64	63

Date: Saturday, September 7, 2019						Total Daily Volume: 12428						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
85	58	42	58	116	202	328	549	692	893	953	997	958	953	926	816	755	735	670	526	418	315	227	156
26	15	8	6	18	26	62	95	154	211	219	217	235	248	226	220	212	164	153	133	110	80	59	56
18	16	15	12	20	43	84	130	159	209	236	219	243	244	235	204	159	195	188	130	117	65	48	43
21	18	4	19	39	69	80	148	189	226	237	296	229	242	241	197	187	179	182	139	110	79	75	36
20	9	15	21	39	64	102	176	190	247	261	265	251	219	224	195	197	197	147	124	81	91	45	21

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Mesa Drive, between Foussat Road and El Camino Real**

Date: Saturday, September 7, 2019						Total Daily Volume: 4338						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
54	34	28	20	36	36	85	141	192	241	266	331	294	327	333	334	310	266	255	255	178	141	116	65
14	12	4	1	7	7	18	36	48	58	70	85	75	81	72	83	80	74	60	69	69	42	33	19
19	12	6	6	13	9	19	32	44	47	59	77	81	71	91	84	66	68	67	55	33	32	26	14
15	5	5	7	8	9	23	32	40	61	56	86	61	95	84	88	73	66	63	66	34	29	28	19
6	5	13	6	8	11	25	41	60	75	81	83	77	80	86	79	91	58	65	65	42	38	29	13

Date: Saturday, September 7, 2019						Total Daily Volume: 1967						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
25	18	13	11	16	14	30	41	54	83	113	152	138	142	167	165	143	126	116	129	101	66	71	33
8	5	2	1	2	3	5	16	11	13	30	40	32	29	34	44	35	37	29	32	42	19	19	9
10	8	4	4	3	3	10	6	12	20	23	39	43	40	48	42	29	27	29	29	21	16	15	6
6	3	2	3	6	5	7	9	15	23	22	37	29	39	43	37	41	32	33	34	13	11	15	11
1	2	5	3	5	3	8	10	16	27	38	36	34	34	42	42	38	30	25	34	25	20	22	7

Date: Saturday, September 7, 2019						Total Daily Volume: 2371						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
29	16	15	9	20	22	55	100	138	158	153	179	156	185	166	169	167	140	139	126	77	75	45	32
6	7	2	0	5	4	13	20	37	45	40	45	43	52	38	39	45	37	31	37	27	23	14	10
9	4	2	2	10	6	9	26	32	27	36	38	38	31	43	42	37	41	38	26	12	16	11	8
9	2	3	4	2	4	16	23	25	38	34	49	32	56	41	51	32	34	30	32	21	18	13	8
5	3	8	3	3	8	17	31	44	48	43	47	43	46	44	37	53	28	40	31	17	18	7	6

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Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Los Arbolitos Boulevard, between Pala Road and El Camino Real**

Date: Saturday, September 7, 2019						Total Daily Volume: 6025						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
93	52	41	24	38	56	116	193	267	324	369	414	400	409	389	425	393	413	396	351	302	236	211	113
26	18	10	7	5	6	18	42	54	81	79	101	98	86	100	122	103	106	128	91	79	55	57	36
23	15	13	3	8	15	26	39	51	81	100	111	101	107	106	95	92	99	88	88	83	66	44	30
18	8	9	4	12	16	34	49	75	74	109	97	107	115	88	114	92	100	89	87	78	60	63	25
26	11	9	10	13	19	38	63	87	88	81	105	94	101	95	94	106	108	91	85	62	55	47	22

Date: Saturday, September 7, 2019						Total Daily Volume: 2988						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
32	21	15	13	29	42	87	136	176	192	210	223	213	193	183	176	181	187	181	165	124	93	76	40
11	8	3	1	3	5	13	32	41	51	48	55	49	43	45	48	47	48	57	45	27	24	24	13
6	6	3	0	6	12	21	27	29	49	59	57	55	48	52	45	35	47	41	36	33	26	12	10
6	4	4	2	11	11	22	37	49	45	57	52	57	51	32	45	48	41	37	43	37	21	22	8
9	3	5	10	9	14	31	40	57	47	46	59	52	51	54	38	51	51	46	41	27	22	18	9

Date: Saturday, September 7, 2019						Total Daily Volume: 3037						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
61	31	26	11	9	14	29	57	91	132	159	191	187	216	206	249	212	226	215	186	178	143	135	73
15	10	7	6	2	1	5	10	13	30	31	46	49	43	55	74	56	58	71	46	52	31	33	23
17	9	10	3	2	3	5	12	22	32	41	54	46	59	54	50	57	52	47	52	50	40	32	20
12	4	5	2	1	5	12	12	26	29	52	45	50	64	56	69	44	59	52	44	41	39	41	17
17	8	4	0	4	5	7	23	30	41	35	46	42	50	41	56	55	57	45	44	35	33	29	13

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: Alex Road, between Eddy Jones Way and Foussat Road

Date: Saturday, September 7, 2019						Total Daily Volume: 448						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
8	3	0	6	83	30	2	5	10	11	93	37	16	27	19	23	27	19	5	2	2	9	5	6
4	0	0	0	10	19	0	3	3	1	3	14	1	12	2	3	6	3	1	0	2	7	0	1
3	0	0	1	12	8	0	1	0	1	5	15	9	2	5	7	1	4	2	0	0	2	0	4
0	2	0	3	23	2	2	0	5	1	36	7	5	6	4	6	8	5	1	2	0	0	0	0
1	1	0	2	38	1	0	1	2	8	49	1	1	7	8	7	12	7	1	0	0	0	5	1

Date: Saturday, September 7, 2019						Total Daily Volume: 229						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
6	3	0	0	17	1	0	2	4	3	72	35	6	17	10	8	20	13	3	1	1	5	0	2
4	0	0	0	9	1	0	1	1	0	2	12	0	3	1	0	4	3	1	0	1	4	0	0
2	0	0	0	3	0	0	1	0	0	2	15	5	1	3	3	0	3	1	0	0	1	0	2
0	2	0	0	2	0	0	0	2	1	25	7	0	6	2	3	4	3	0	1	0	0	0	0
0	1	0	0	3	0	0	0	1	2	43	1	1	7	4	2	12	4	1	0	0	0	0	0

Date: Saturday, September 7, 2019						Total Daily Volume: 219						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2	0	0	6	66	29	2	3	6	8	21	2	10	10	9	15	7	6	2	1	1	4	5	4
0	0	0	0	1	18	0	2	2	1	1	2	1	9	1	3	2	0	0	0	1	3	0	1
1	0	0	1	9	8	0	0	0	1	3	0	4	1	2	4	1	1	1	0	0	1	0	2
0	0	0	3	21	2	2	0	3	0	11	0	5	0	2	3	4	2	1	1	0	0	0	0
1	0	0	2	35	1	0	1	1	6	6	0	0	0	4	5	0	3	0	0	0	0	5	1

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2017 Traffic Volumes: Route 76

Traffic Volumes: Annual Average Daily Traffic (AADT), for all vehicles on CA State Highways.

Dist	Rte	Rte Suffix	CO	Post Mile Prefix	Post Mile	Post Mile Suffix	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	076		SD R		0.000		JCT. RTE. 5				3700	55000	51000
11	076		SD R		0.486		OCEANSIDE, LORETTA STREET	3700	55000	51000	3950	53000	45000
11	076		SD R		1.156		OCEANSIDE, CANYON DRIVE	3700	49500	42000	4050	51000	46500
11	076		SD R		1.767		OCEANSIDE, BENET ROAD	3750	47500	43000	3850	48500	43000
11	076		SD R		2.145		OCEANSIDE, AIRPORT ROAD	3850	48500	43000	4050	52000	47500
11	076		SD R		3.389		OCEANSIDE, EL CAMINO REAL	4050	52000	47500	3650	44000	41500
11	076		SD R		3.745		OCEANSIDE, DOUGLAS STREET	3650	44000	41500	3850	47500	46500
11	076		SD R		4.211		OCEANSIDE, RANCHO DEL ORO	3250	40500	36500	3150	39500	36500
11	076		SD R		5.597		OCEANSIDE, FRAZEE ROAD	3150	39500	36500	3800	47000	43500
11	076		SD R		6.207		COLLEGE BOULEVARD	3600	44500	41000	4800	47500	46000
11	076		SD R		6.721		OCEANSIDE, NORTH SANTA FE ROAD	4800	47500	46000	4550	51000	50000
11	076		SD R		9.490		VISTA WAY	3300	43000	40000	3250	39500	37000
11	076		SD		12.000		OLIVE HILL ROAD	3800	49500	45500	3450	41500	39000

11	076	SD	12.180	THOROUGHbred LN - RT	3800	46000	43000	3450	41500	39000
11	076	SD	12.472	MISSION ROAD	3450	41500	39000	1600	18700	17600
11	076	SD	14.700	GIRD ROAD	1600	18700	17600	2100	24400	23500
11	076	SD R	17.012	OLD HIGHWAY 15	2100	24400	23500	2600	33500	30500
11	076	SD R	17.303	JCT. RTE. 15	2500	34000	30500	2150	16000	15100
11	076	SD	23.010	PALA MISSION ROAD	1400	13500	12600	610	7200	6900
11	076	SD	24.130	COUNTY ROAD S 16	690	8200	7800	960	11600	11000
11	076	SD	29.866	COLE GRADE ROAD	1000	12000	11400	860	9300	8100
11	076	SD	32.870	VALLEY CENTER ROAD	860	9300	8100	480	5000	4850
11	076	SD	38.250	PALOMAR MOUNTAIN ROAD	420	3650	3000	330	2850	2250
11	076	SD	47.790	EAST PALOMAR ROAD	360	3150	2450	300	1950	1650
11	076	SD	52.319	JCT. RTE. 79	300	1950	1650			

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 7, 2018

City: Oceanside

Project #: 18-1126-008

Location: SR-76 btwn. Benet Rd. & Airport Rd.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			19	20	12:00			359	373
00:15			22	16	12:15			375	356
00:30			20	15	12:30			367	350
00:45			28	89	12:45			374	1475
01:00			24	10	13:00			343	302
01:15			28	11	13:15			408	361
01:30			21	19	13:30			399	325
01:45			37	110	13:45			383	1533
02:00			51	20	14:00			470	294
02:15			43	20	14:15			475	330
02:30			25	24	14:30			494	283
02:45			17	136	14:45			490	1929
03:00			16	37	15:00			486	298
03:15			25	44	15:15			501	338
03:30			31	49	15:30			508	337
03:45			22	94	15:45			432	1927
04:00			28	93	16:00			358	322
04:15			37	120	16:15			378	328
04:30			49	184	16:30			385	341
04:45			51	165	16:45			422	1543
05:00			61	307	17:00			528	352
05:15			79	387	17:15			541	363
05:30			92	369	17:30			599	385
05:45			127	359	17:45			528	2196
06:00			153	443	18:00			501	331
06:15			162	347	18:15			517	288
06:30			229	344	18:30			510	305
06:45			243	787	18:45			422	1950
07:00			241	387	19:00			370	270
07:15			239	377	19:15			437	202
07:30			299	352	19:30			334	217
07:45			298	1077	19:45			403	1544
08:00			328	549	20:00			309	159
08:15			344	553	20:15			319	170
08:30			385	543	20:30			293	151
08:45			301	1358	20:45			297	1218
09:00			277	487	21:00			284	129
09:15			264	435	21:15			334	146
09:30			234	408	21:30			278	116
09:45			274	1049	21:45			224	1120
10:00			285	363	22:00			231	97
10:15			281	373	22:15			196	109
10:30			310	412	22:30			190	75
10:45			320	1196	22:45			158	775
11:00			320	358	23:00			156	59
11:15			373	349	23:15			130	59
11:30			358	289	23:30			120	39
11:45			389	1440	23:45			104	510

Total Vol. 7860 12399 **20259** 17720 11736 **29456**

GPS Coordinates:

Daily Totals

	NB	SB	EB	WB	Combined
			25580	24135	49715
AM					
Split %	38.8%	61.2%	40.8%	PM	
				60.2%	39.8%
Peak Hour	11:45	07:45	07:45	17:00	17:00
Volume	1490	2197	3552	2196	1492
P.H.F.	0.96	0.99	0.96	0.92	0.95

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 7, 2018

City: Oceanside

Project #: 18-1126-009

Location: SR-76 btwn. Airport Rd. & Foussat Rd.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			29	17	12:00			333	347
00:15			24	21	12:15			372	340
00:30			25	20	12:30			369	339
00:45			32	110	12:45			350	1424
01:00			30	18	13:00			337	295
01:15			33	19	13:15			377	348
01:30			39	17	13:30			389	316
01:45			37	139	13:45			377	1480
02:00			51	17	14:00			403	293
02:15			41	17	14:15			474	318
02:30			31	21	14:30			386	275
02:45			17	140	14:45			442	1705
03:00			17	35	15:00			465	300
03:15			25	34	15:15			492	314
03:30			32	43	15:30			489	315
03:45			21	95	15:45			448	1894
04:00			28	78	16:00			369	321
04:15			34	95	16:15			366	301
04:30			48	168	16:30			385	369
04:45			51	161	16:45			475	1595
05:00			58	278	17:00			584	365
05:15			72	340	17:15			566	349
05:30			92	395	17:30			601	363
05:45			122	344	17:45			528	2279
06:00			146	407	18:00			483	276
06:15			151	384	18:15			431	279
06:30			211	370	18:30			446	289
06:45			236	744	18:45			432	1792
07:00			375	378	19:00			378	252
07:15			369	396	19:15			404	182
07:30			299	366	19:30			320	209
07:45			319	1362	19:45			399	1501
08:00			348	574	20:00			288	137
08:15			396	499	20:15			322	150
08:30			388	528	20:30			285	142
08:45			321	1453	20:45			294	1189
09:00			258	422	21:00			287	115
09:15			245	407	21:15			319	125
09:30			223	401	21:30			271	101
09:45			271	997	21:45			224	1101
10:00			266	360	22:00			234	82
10:15			283	352	22:15			194	89
10:30			308	396	22:30			173	65
10:45			297	1154	22:45			178	779
11:00			305	342	23:00			157	53
11:15			347	351	23:15			126	50
11:30			362	275	23:30			123	36
11:45			384	1398	23:45			98	504

Total Vol. 8097 12042 **20139** 17243 11127 **28370**

GPS Coordinates: 33.217508, -117.347393

Daily Totals

NB	SB	EB	WB	Combined
		25340	23169	48509

AM

PM

Split %	40.2%	59.8%	41.5%	60.8%	39.2%	58.5%
Peak Hour	11:45	07:45	08:00	17:00	16:30	17:00
Volume	1458	2150	3603	2279	1438	3688
P.H.F.	0.95	0.94	0.98	0.95	0.97	0.96

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-010

Location: SR-76 btwn. Foussat Rd. & Douglas Dr.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			21	20	12:00			306	353
00:15			20	13	12:15			361	334
00:30			26	16	12:30			339	336
00:45			24	91	12:45			370	1376
01:00			25	21	13:00			373	282
01:15			24	20	13:15			358	373
01:30			33	20	13:30			379	317
01:45			41	123	13:45			423	1533
02:00			49	17	14:00			430	305
02:15			38	19	14:15			448	299
02:30			33	28	14:30			423	302
02:45			19	139	14:45			487	1788
03:00			14	40	15:00			498	312
03:15			23	50	15:15			520	347
03:30			27	50	15:30			528	316
03:45			26	90	15:45			495	2041
04:00			27	100	16:00			369	321
04:15			27	128	16:15			348	333
04:30			45	203	16:30			374	369
04:45			51	150	16:45			422	1513
05:00			53	297	17:00			578	396
05:15			67	398	17:15			549	354
05:30			106	469	17:30			582	403
05:45			130	356	17:45			501	2210
06:00			134	471	18:00			480	364
06:15			163	474	18:15			440	304
06:30			211	406	18:30			473	322
06:45			247	755	18:45			487	1880
07:00			282	422	19:00			372	283
07:15			269	405	19:15			383	209
07:30			322	420	19:30			384	222
07:45			369	1242	19:45			364	1503
08:00			355	562	20:00			309	158
08:15			411	492	20:15			321	184
08:30			401	519	20:30			295	155
08:45			328	1495	20:45			290	1215
09:00			253	433	21:00			279	141
09:15			232	399	21:15			329	147
09:30			241	443	21:30			262	125
09:45			274	1000	21:45			232	1102
10:00			228	395	22:00			230	91
10:15			320	333	22:15			177	107
10:30			308	392	22:30			197	72
10:45			276	1132	22:45			170	774
11:00			332	305	23:00			138	60
11:15			318	364	23:15			136	60
11:30			379	306	23:30			127	37
11:45			381	1410	23:45			96	497

Total Vol. 7983 12851 **20834** 17432 11998 **29430**

GPS Coordinates: 33.219658, -117.340176

Daily Totals

NB	SB	EB	WB	Combined
		25415	24849	50264

AM

PM

Split %	38.3%	61.7%	41.4%	59.2%	40.8%	58.6%
Peak Hour	07:45	08:00	07:45	17:00	17:00	17:00
Volume	1536	2122	3651	2210	1542	3752
P.H.F.	0.93	0.94	0.99	0.95	0.96	0.95

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-003

Location: Mission Ave. btwn. Airport Rd. & Roymar Rd.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			22	17	12:00			142	126
00:15			25	7	12:15			159	145
00:30			18	6	12:30			172	142
00:45			16	81	12:45			157	630
01:00			11	10	13:00			142	125
01:15			7	7	13:15			157	156
01:30			8	2	13:30			144	130
01:45			10	36	13:45			162	605
02:00			8	3	14:00			145	160
02:15			11	11	14:15			163	177
02:30			11	9	14:30			245	154
02:45			6	36	14:45			195	748
03:00			4	5	15:00			235	182
03:15			3	12	15:15			223	159
03:30			2	14	15:30			223	143
03:45			7	16	15:45			255	936
04:00			10	17	16:00			263	210
04:15			7	25	16:15			278	233
04:30			13	34	16:30			285	228
04:45			19	49	16:45			311	1137
05:00			28	50	17:00			363	208
05:15			24	80	17:15			301	222
05:30			47	137	17:30			298	196
05:45			37	136	17:45			311	1273
06:00			42	170	18:00			250	143
06:15			67	216	18:15			216	134
06:30			56	198	18:30			210	123
06:45			65	230	18:45			167	843
07:00			79	236	19:00			178	97
07:15			80	228	19:15			138	105
07:30			87	220	19:30			146	99
07:45			99	345	19:45			131	593
08:00			128	296	20:00			84	59
08:15			166	266	20:15			97	68
08:30			154	258	20:30			101	57
08:45			141	589	20:45			80	362
09:00			143	196	21:00			106	59
09:15			103	205	21:15			86	63
09:30			108	175	21:30			64	61
09:45			114	468	21:45			70	326
10:00			126	123	22:00			67	64
10:15			125	124	22:15			65	37
10:30			114	132	22:30			45	42
10:45			106	471	22:45			26	203
11:00			127	140	23:00			41	21
11:15			122	123	23:15			39	24
11:30			149	123	23:30			35	15
11:45			149	547	23:45			23	138

Total Vol. 3004 5182 **8186** 7794 5771 **13565**

GPS Coordinates: 33.214446, -117.346766

Daily Totals

NB	SB	EB	WB	Combined
		10798	10953	21751

AM

PM

Split %	36.7%	63.3%	37.6%	57.5%	42.5%	62.4%
Peak Hour	11:45	07:45	08:00	16:45	16:00	16:30
Volume	622	1061	1650	1273	912	2159
P.H.F.	0.90	0.90	0.95	0.88	0.95	0.95

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-004

Location: Mission Ave. btwn. Roymar Rd. & Foussat Rd.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			25	19	12:00			163	155
00:15			21	7	12:15			169	146
00:30			10	5	12:30			152	154
00:45			11	67	12:45			155	639
01:00			7	13	13:00			141	173
01:15			5	10	13:15			147	157
01:30			8	5	13:30			154	149
01:45			5	25	13:45			161	603
02:00			8	4	14:00			166	160
02:15			6	15	14:15			185	180
02:30			9	9	14:30			214	149
02:45			7	30	14:45			222	787
03:00			5	7	15:00			236	133
03:15			8	15	15:15			222	163
03:30			6	18	15:30			252	173
03:45			9	28	15:45			254	964
04:00			13	14	16:00			265	204
04:15			16	24	16:15			258	241
04:30			14	47	16:30			241	236
04:45			21	64	16:45			322	1086
05:00			42	56	17:00			328	219
05:15			41	90	17:15			319	205
05:30			24	142	17:30			322	200
05:45			28	135	17:45			328	1297
06:00			32	223	18:00			263	185
06:15			59	248	18:15			258	143
06:30			50	228	18:30			241	143
06:45			75	216	18:45			216	978
07:00			78	241	19:00			185	97
07:15			80	243	19:15			166	111
07:30			87	220	19:30			141	116
07:45			99	344	19:45			122	614
08:00			128	319	20:00			130	71
08:15			154	276	20:15			104	78
08:30			163	263	20:30			85	68
08:45			149	594	20:45			88	407
09:00			155	196	21:00			80	57
09:15			154	222	21:15			87	66
09:30			141	204	21:30			74	68
09:45			128	578	21:45			75	316
10:00			133	142	22:00			50	51
10:15			131	129	22:15			54	53
10:30			128	148	22:30			41	39
10:45			124	516	22:45			42	187
11:00			141	131	23:00			28	38
11:15			143	141	23:15			24	16
11:30			139	124	23:30			26	19
11:45			133	556	23:45			30	108

Total Vol. 3153 5687 **8840** 7986 6022 **14008**

GPS Coordinates: 33.216131, -117.344319

Daily Totals

NB	SB	EB	WB	Combined
		11139	11709	22848

AM

PM

Split %	35.7%	64.3%	38.7%	57.0%	43.0%	61.3%
Peak Hour	08:15	08:00	08:00	17:00	16:15	16:45
Volume	621	1132	1726	1297	907	2126
P.H.F.	0.95	0.89	0.97	0.99	0.94	0.97

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-005

Location: Mission Ave. btwn. Foussat Rd. & Frontier Dr.

AM Period		NB	SB	EB	WB	PM Period		NB	SB	EB	WB				
00:00				25	21	12:00				178	169				
00:15				22	8	12:15				187	175				
00:30				23	6	12:30				198	158				
00:45				16	86	8	43	129		195	758	165	667	1425	
01:00				16		13:00				172		167			
01:15				6		13:15				180		172			
01:30				11		13:30				197		167			
01:45				12	45	5	26	71		183	732	140	646	1378	
02:00				11		14:00				171		170			
02:15				13		14:15				219		172			
02:30				11		14:30				232		141			
02:45				10	45	10	40	85		267	889	156	639	1528	
03:00				7		15:00				236		153			
03:15				6		15:15				279		162			
03:30				7		15:30				249		163			
03:45				12	32	12	42	74		287	1051	166	644	1695	
04:00				12		16:00				269		192			
04:15				9		16:15				266		199			
04:30				15		16:30				258		187			
04:45				19	55	39	121	176		322	1115	196	774	1889	
05:00				28		17:00				324		188			
05:15				27		17:15				328		187			
05:30				33		17:30				333		174			
05:45				34	122	123	372	494		305	1290	171	720	2010	
06:00				54		18:00				277		162			
06:15				63		18:15				237		119			
06:30				65		18:30				215		135			
06:45				66	248	196	754	1002		194	923	98	514	1437	
07:00				55		19:00				194		100			
07:15				54		19:15				174		102			
07:30				78		19:30				141		128			
07:45				80	267	241	870	1137		130	639	86	416	1055	
08:00				89		20:00				139		75			
08:15				136		20:15				127		80			
08:30				133		20:30				119		71			
08:45				128	486	263	1136	1622		105	490	81	307	797	
09:00				118		21:00				121		51			
09:15				131		21:15				90		66			
09:30				143		21:30				68		60			
09:45				135	527	137	703	1230		78	357	51	228	585	
10:00				148		22:00				63		45			
10:15				151		22:15				74		52			
10:30				146		22:30				66		38			
10:45				141	586	153	565	1151		46	249	30	165	414	
11:00				149		23:00				48		34			
11:15				152		23:15				47		20			
11:30				178		23:30				28		20			
11:45				192	671	137	543	1214		27	150	19	93	243	
Total Vol.				3170		5215		8385		8643		5813		14456	
GPS Coordinates:				33.217809, -117.341921											
										Daily Totals					
										NB	SB	EB	WB	Combined	
												11813	11028	22841	
AM										PM					
Split %				37.8%	62.2%	36.7%				59.8%		40.2%	63.3%		
Peak Hour				11:45	08:00	08:00				16:45		16:00	16:45		
Volume				755	1136	1622				1307		774	2052		
P.H.F.				0.95	0.86	0.97				0.98		0.97	0.99		

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-006

Location: Mission Ave. btwn. Frontier Dr. & Fireside St.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			28	22	12:00			182	199
00:15			23	9	12:15			185	196
00:30			21	8	12:30			187	185
00:45			14	86	11	50	136	169	723
					12:45			187	185
01:00			19	13	13:00			187	200
01:15			8	9	13:15			179	193
01:30			13	3	13:30			195	185
01:45			12	52	8	33	85	195	756
					13:45			149	727
02:00			8	5	14:00			167	191
02:15			8	15	14:15			236	179
02:30			14	5	14:30			222	167
02:45			12	42	10	35	77	241	866
					14:45			172	709
03:00			6	6	15:00			259	155
03:15			6	15	15:15			278	188
03:30			6	13	15:30			245	182
03:45			8	26	12	46	72	288	1070
					15:45			183	708
04:00			11	15	16:00			294	189
04:15			9	28	16:15			269	199
04:30			12	43	16:30			263	204
04:45			15	47	45	131	178	333	1159
					16:45			214	806
05:00			29	61	17:00			305	187
05:15			30	89	17:15			325	185
05:30			39	134	17:30			322	199
05:45			36	134	129	413	547	296	1248
					17:45			176	747
06:00			48	172	18:00			282	165
06:15			62	227	18:15			233	151
06:30			54	194	18:30			219	137
06:45			57	221	222	815	1036	191	925
					18:45			127	580
07:00			63	200	19:00			209	112
07:15			66	216	19:15			177	125
07:30			60	222	19:30			149	142
07:45			87	276	208	846	1122	139	674
					19:45			93	472
08:00			85	333	20:00			145	79
08:15			133	285	20:15			141	84
08:30			136	301	20:30			127	81
08:45			128	482	274	1193	1675	105	518
					20:45			77	321
09:00			110	236	21:00			111	69
09:15			117	219	21:15			102	70
09:30			142	187	21:30			66	63
09:45			125	494	141	783	1277	87	366
					21:45			59	261
10:00			141	150	22:00			63	49
10:15			141	137	22:15			72	57
10:30			133	156	22:30			65	37
10:45			136	551	160	603	1154	45	245
					22:45			32	175
11:00			135	154	23:00			53	31
11:15			161	135	23:15			57	26
11:30			179	156	23:30			21	23
11:45			193	668	147	592	1260	25	156
					23:45			16	96

Total Vol. 3079 5540 8619 8706 6369 15075

GPS Coordinates: 33.221883, -117.336155

					Daily Totals				
					NB	SB	EB	WB	Combined
							11785	11909	23694
AM					PM				
Split %	35.7%	64.3%	36.4%		57.8%	42.2%	63.6%		
Peak Hour	11:45	08:00	08:00		16:45	16:00	16:45		
Volume	747	1193	1675		1285	806	2070		
P.H.F.	0.97	0.90	0.96		0.96	0.94	0.95		

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-007

Location: Mission Ave. btwn. Fireside St. & El Camino Real

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			20	19	12:00			187	199
00:15			19	5	12:15			199	189
00:30			15	2	12:30			196	175
00:45			14	68	12:45			185	767
				3				187	750
				29				187	1517
				97					
01:00			18	6	13:00			187	192
01:15			6	9	13:15			183	188
01:30			10	5	13:30			187	154
01:45			13	47	13:45			202	759
				8				196	730
				28				196	1489
				75					
02:00			8	14	14:00			155	185
02:15			7	10	14:15			204	174
02:30			11	11	14:30			214	154
02:45			10	36	14:45			227	800
				13				161	674
				48				161	1474
				84					
03:00			6	16	15:00			242	166
03:15			7	14	15:15			247	196
03:30			10	21	15:30			227	185
03:45			11	34	15:45			257	973
				41				178	725
				92				178	1698
				126					
04:00			12	54	16:00			265	163
04:15			10	50	16:15			258	200
04:30			13	75	16:30			244	196
04:45			19	54	16:45			245	1012
				87				214	773
				266				214	1785
				320					
05:00			28	104	17:00			322	181
05:15			29	133	17:15			258	187
05:30			48	139	17:30			277	174
05:45			35	140	17:45			271	1128
				142				163	705
				518				163	1833
				658					
06:00			51	174	18:00			257	166
06:15			68	214	18:15			222	161
06:30			65	199	18:30			186	154
06:45			74	258	18:45			182	847
				196				128	609
				783				128	1456
				1041					
07:00			76	193	19:00			181	122
07:15			80	198	19:15			183	104
07:30			89	214	19:30			135	122
07:45			103	348	19:45			132	631
				222				104	452
				827				104	1083
				1175					
08:00			111	258	20:00			127	78
08:15			128	243	20:15			117	85
08:30			155	269	20:30			116	86
08:45			128	522	20:45			93	453
				263				60	309
				1033				60	762
				1555					
09:00			102	245	21:00			97	65
09:15			120	252	21:15			79	58
09:30			139	196	21:30			70	54
09:45			116	477	21:45			73	319
				166				41	218
				859				41	537
				1336					
10:00			136	161	22:00			59	42
10:15			148	154	22:15			67	28
10:30			135	174	22:30			50	24
10:45			135	554	22:45			43	219
				145				21	115
				634				21	334
				1188					
11:00			132	163	23:00			45	25
11:15			151	136	23:15			50	21
11:30			150	155	23:30			19	16
11:45			171	604	23:45			22	136
				154				13	75
				608				13	211
				1212					

Total Vol. 3142 5725 **8867** 8044 6135 **14179**

GPS Coordinates: 33.224011, -117.333131

Daily Totals

NB	SB	EB	WB	Combined
		11186	11860	23046

AM

PM

Split %	35.4%	64.6%	38.5%	56.7%	43.3%	61.5%
Peak Hour	11:45	08:00	08:00	17:00	16:15	16:15
Volume	753	1033	1555	1128	791	1860
P.H.F.	0.95	0.96	0.92	0.88	0.92	0.92

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Thursday, March 8, 2018

City: Oceanside

Project #: 18-1126-002

Location: Mission Ave. btwn. El Camino Real & Douglas Dr.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			6	13	12:00			157	153
00:15			13	13	12:15			148	167
00:30			11	12	12:30			159	179
00:45			10	40	12:45			136	600
01:00			7	14	13:00			146	165
01:15			8	6	13:15			159	167
01:30			10	11	13:30			122	146
01:45			2	27	13:45			145	572
02:00			4	3	14:00			133	166
02:15			10	6	14:15			130	162
02:30			6	6	14:30			176	173
02:45			5	25	14:45			149	588
03:00			8	11	15:00			150	136
03:15			6	3	15:15			164	133
03:30			9	6	15:30			196	128
03:45			13	36	15:45			205	715
04:00			6	6	16:00			241	129
04:15			15	8	16:15			187	133
04:30			28	11	16:30			185	151
04:45			25	74	16:45			241	854
05:00			37	22	17:00			233	141
05:15			39	16	17:15			243	133
05:30			60	26	17:30			249	120
05:45			52	188	17:45			236	961
06:00			66	46	18:00			205	141
06:15			88	53	18:15			185	143
06:30			104	44	18:30			156	139
06:45			96	354	18:45			103	649
07:00			82	120	19:00			95	148
07:15			98	105	19:15			116	120
07:30			87	125	19:30			88	114
07:45			85	352	19:45			97	396
08:00			103	174	20:00			85	89
08:15			128	169	20:15			72	73
08:30			149	181	20:30			79	86
08:45			136	516	20:45			74	310
09:00			130	128	21:00			76	80
09:15			129	104	21:15			54	57
09:30			126	101	21:30			53	53
09:45			106	491	21:45			41	224
10:00			115	112	22:00			44	53
10:15			115	123	22:15			37	55
10:30			137	99	22:30			40	33
10:45			122	489	22:45			12	133
11:00			118	132	23:00			20	33
11:15			123	147	23:15			21	17
11:30			142	158	23:30			16	16
11:45			119	502	23:45			13	70

Total Vol. 3094 3124 **6218** 6072 5530 **11602**

GPS Coordinates: 33.227305, -117.327625

Daily Totals

NB	SB	EB	WB	Combined
		9166	8654	17820

AM

PM

Split %	49.8%	50.2%	34.9%	52.3%	47.7%	65.1%
Peak Hour	11:45	08:00	11:45	16:45	14:00	16:45
Volume	583	700	1240	966	693	1514
P.H.F.	0.92	0.97	0.92	0.97	0.90	0.96

Prepared by: Field Data Services of Arizona/Veracity Traffic Group (520) 316-6745

Volumes for: Wednesday, March 7, 2018

City: Oceanside

Project #: 18-1126-001

Location: Foussat Rd. btwn. SR-76 & Mission Ave.

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	8	2			12:00	66	26		
00:15	5	0			12:15	79	25		
00:30	5	1			12:30	79	38		
00:45	1	19	0	3	12:45	69	293	49	138
01:00	5	2			13:00	70	38		
01:15	4	3			13:15	81	33		
01:30	1	3			13:30	60	49		
01:45	3	13	1	9	13:45	65	276	43	163
02:00	7	1			14:00	71	35		
02:15	6	3			14:15	65	47		
02:30	8	0			14:30	65	47		
02:45	3	24	3	7	14:45	57	258	54	183
03:00	2	3			15:00	50	24		
03:15	4	1			15:15	49	39		
03:30	0	2			15:30	41	62		
03:45	3	9	4	10	15:45	54	194	53	178
04:00	9	1			16:00	55	36		
04:15	10	3			16:15	50	41		
04:30	16	5			16:30	45	55		
04:45	14	49	6	15	16:45	60	210	71	203
05:00	25	5			17:00	54	76		
05:15	14	10			17:15	49	60		
05:30	28	16			17:30	50	65		
05:45	27	94	19	50	17:45	54	207	54	255
06:00	33	28			18:00	55	39		
06:15	37	25			18:15	59	27		
06:30	29	25			18:30	63	29		
06:45	56	155	37	115	18:45	53	230	24	119
07:00	46	43			19:00	51	19		
07:15	36	36			19:15	41	34		
07:30	38	29			19:30	70	36		
07:45	22	142	33	141	19:45	42	204	12	101
08:00	30	30			20:00	34	20		
08:15	28	32			20:15	29	21		
08:30	24	28			20:30	44	17		
08:45	22	104	34	124	20:45	46	153	23	81
09:00	38	31			21:00	24	11		
09:15	57	18			21:15	29	27		
09:30	41	28			21:30	22	16		
09:45	55	191	20	97	21:45	15	90	14	68
10:00	53	18			22:00	14	15		
10:15	41	17			22:15	24	9		
10:30	52	36			22:30	16	5		
10:45	50	196	25	96	22:45	11	65	7	36
11:00	58	33			23:00	12	8		
11:15	54	49			23:15	17	4		
11:30	65	31			23:30	14	4		
11:45	45	222	44	157	23:45	12	55	3	19
Total Vol.	1218	824			2042	2235	1544		3779
GPS Coordinates:	33.217501, -117.343749								
					Daily Totals				
					NB	SB	EB	WB	Combined
					3453	2368			5821
AM					PM				
Split %	59.6%	40.4%		35.1%	59.1%	40.9%			64.9%
Peak Hour	11:45	11:00		11:45	12:30	16:45			16:45
Volume	269	157		402	299	272			485
P.H.F.	0.85	0.80		0.86	0.92	0.89			0.93

F PAGE

	INTERVAL	PHASE TIMING								9	PRE-EMPTION		F													
		1	2	3	4	5	6	7	8		E	FLAGS	1	2	3	4	5	6	7	8						
0	WALK		1			1	1	1	7	CLK RST	EV SEL	0	PERMIT		2			5	6	7	8	0				
1	DONT WALK		1			1	1	1	37		RR1 CLR	15	RED LOCK									1				
2	MIN GREEN		25			13	25	13	5		EVA DLY	0	YEL LOCK									2				
3	TYPE 3 DET		255			0	255	0	0		EVA CLR	5	V RECALL		2				6			3				
4	ADD/VEH		0.0			0.0	0.0	0.0	0.0		EVB DLY	0	P RECALL									4				
5	PASSAGE		6.3			3.0	6.3	2.0	3.0		EVB CLR	5	PED PHASES								8	5				
6	MAX GAP		8.3			5.0	8.3	2.0	3.0		EVC DLY	0	RT OLA									6				
7	MIN GAP		3.5			2.0	3.5	2.0	3.0		EVC CLR	5	RT OLB									7				
8	MAX EXT		50			17	50	17	10		EVD DLY	0	DBL ENTRY									8				
9	MAX 2		80			32	80			YR	EVD CLR	5	MAX 2 PHASES		2			5	6			9				
A	MAX 3									MO	MAX EV	255	LAG PHASES	READ ONLY								A				
B										DAY	RR2 CLR	15	RED REST									B				
C	REDUCE BY		0.1			0.1	0.1	0.0	0.0	DOW			REST-IN-WALK									C				
D	EVERY		1.0			1.0	1.0	1.0	1.0	HR			MAX 3 PHASES									D				
E	YELLOW		5.5			3.7	5.5	4.1	4.1	MIN			YEL START UP		2				6			E				
F	RED		2.5			2.0	2.5	2.0	2.0	SEC			FIRST PHASE							7		F				
3.5	PED XING FT								149						1	2	3	4	5	6	7	8				
	BIKE XING FT		112			168	96	170																		

FOC LONG FAILURE	
FOD SHORT FAILURE	
FOE	0
FOF	5

FCO	3
FC1	3
FC2	10
FCA	0.0
FCB	0.0
FCC	0.0
FCD	0.0

FDO TB SELECT	1
FD3 PED SELECT	0
FD4 7 WIRE	0
FD5 PERMISSIVE	0
FD8 OS SEEKING	1

CO5 FLASH TYPE	1
CC2 DOWNLOAD	1

NOTES:

7/8 SPLIT

INTERNAL COUNT STATION

OLA = FZ 5

FZ 2 BIKE = 7 sec

FZ 6 BIKE = 6 sec

ENTRIES IN THESE LOCATIONS CAN BE CHANGED IN CC1 FLASH ONLY

C PAGE

		CONTROL PLANS									Y-COORD			LAG PHASE		FLAGS													
		1	2	3	4	5	6	7	8	9		C	D	E		F		1	2	3	4	5	6	7	8				
0	CYCLE LENGTH	160	160	160	160	160	160		200	180						LAG FZ FREE		2				6		8	0				
1	FZ1 GRN FCTR	0	0	0	0	0	0		0	0				GAPOUT CP1	1	LAG FZ CP 1		2			5			8	1				
2														GAPOUT CP2	1	LAG FZ CP 2		2			5			8	2				
3	FZ3 GRN FCTR	0	0	0	0	0	0		0	0				GAPOUT CP3	1	LAG FZ CP 3		2			5			8	3				
4	FZ4 GRN FCTR	0	0	0	0	0	0		0	0	PERM TIME			GAPOUT CP4	0	LAG FZ CP 4		2				6		8	4				
5	FZ5 GRN FCTR	30	30	45	30	30	45		45	45	LAG OFFSET			GAPOUT CP5	1	LAG FZ CP 5		2			5			8	5				
6											FORCE OFF			GAPOUT CP6	0	LAG FZ CP 6		2				6		8	6				
7	FZ7 GRN FCTR	13	13	13	13	13	13		13	13	LONG GRN			GAPOUT CP7		LAG FZ CP 7									7				
8	FZ8 GRN FCTR	44	44	44	44	44	44		44	44	NO GREEN			GAPOUT CP8	1	LAG FZ CP 8		2			5			8	8				
9	MULTI CYCLE	0	0	0	0	0	0		0	0				GAPOUT CP9	0	LAG FZ CP 9		2				6		8	9				
A	OFFSET A	131	147	38	106	144	88		116	95	OFFSET					LAG C COORD									A				
B	OFFSET B	131	147	38	106	144	88		116	95						LAG D COORD									B				
C	OFFSET C	131	147	38	106	144	88		116	95						COORD FAZES		2				6			C				
D	FZ 3 EXT																								D				
E	FZ 7 EXT	22	22	22	22	22	22		22	22															E				
F	OFFSET INTRPT																								F				
																	1	2	3	4	5	6	7	8					

CO1 MANUAL CP

CO2 MASTER CP

CO3 CURRENT CP

SYSTEM MASTER:

CO4 LAST CP

RTE 76X @

CO7 TRNSMT CP

COLLEGE BLVE

COD MANUAL OFFSET

CAO LOCAL CYCLE TIMER

CBO MASTER CYCLE TIMER

CAA LOCAL OFFSET

CBA MASTER OFFSET

FEATURE

	OFF	ON
1		
2		
3		
4		
5		
6		
7		
8		

LOCATION

	OFF	ON
1		1
2		
3		
4		8
5		
6		
7		
8		

COO = 9

CCB/CDB OFFSET TIMER

CCC/CDC LAG GREEN TIMER

CCD/CDD FORCE OFF TIMER

CCE/CDE LONG GREEN TIMER

CCF/CDF NO GREEN TIMER

D PAGE

E PAGE

	D	FLAGS							E	FLAGS								F	FLAGS								
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8
0	RCL									RCL									RCL								
1	CP 1									CP 1					5				CP 1								
2	CP 2									CP 2					5				CP 2								
3	CP 3									CP 3					5				CP 3								
4	CP 4									CP 4									CP 4								
5	CP 5									CP 5									CP 5								
6	CP 6									CP 6									CP 6								
7	CP 7									CP 7									CP 7								
8	CP 8									CP 8							7		CP 8								
9	CP 9									CP 9							7		CP 9								
A																			RCL 1								
B																			RCL 2								
C																											
D																											
E																											
F																											
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8

LAST POWER FAILURE REGISTER

HOUR = D-A-E

MINUTE = D-B-E

DAY = D-C-E

RCL 1 = TIME OF DAY MAX RECALL (1ST SELECT) PHASES
(CALL ACTIVE LIGHTS)RCL 2 = TIME OF DAY MAX RECALL (2ND SELECT) PHASES
(CALL ACTIVE LIGHTS)

LAST FLASH TIME REGISTER

HOUR = D-A-F

MINUTE = D-B-F

DAY = D-C-F

D-E-E = C8 VERSION NUMBER

D-E-F = LITHIUM BATTERY CONDITION

84 = BAD

85 = GOOD

	E	FLAGS								F	FLAGS							
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8
0										CODE 4								
1										CODE 5								
2										C-RECALL								
3										D-RECALL								
4										EXCLUSIVE								
5										2 PED		2						
6										6 PED						6		
7										4 PED				4				
8										8 PED								8
9																		
A	OIA NOT									OIA ON								
B	OLB NOT									OLB ON								
C	OLC NOT									OLC ON								
D	OLD NOT									OLD ON								
E																		
F																		
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8

TIME OF DAY ACTIVITY TABLE											
7+EVENT+HR+MIN+ACT+"E"+ON/OFF+DOW LTS											
	HR	MIN	ACT	ON/	S	M	T	W	T	F	S
				OFF	1	2	3	4	5	6	7
0	05	30	2	ON	1	2	3	4	5	6	7
1	21	00	2		1	2	3	4	5	6	7
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C	20	00	E	ON	1	2	3	4	5	6	7
D	05	30	E			2	3	4	5	6	
E											
F	09	00	E		1						7

ACTIVITY CODE

- ```

1 TYPE OF MAX TERMINATION
2 MAX 2
3 MAX 3
4 COND SERV (1ST SELECT)
5 COND SERV (2ND SELECT)
6 ENERGIZE AUX OUTPUT-RED
7 ENERGIZE AUX OUTPUT-GREEN

```

[illegible]

- ```

8 ENERGIZE AUX OUTPUT-YELLOW
9 TIME OF DAY MAX RECALL (1ST SELECT)
A TRAFFIC ACT. MAX 2 OPERATION
B TIME OF DAY MAX RECALL (2ND SELECT)
C YELLOW YIELD COORDINATION
D YELLOW YIELD COORDINATION
E TIME OF DAY FREE OPERATION
F FLASHING OPERATION

```

[illegible]

E PAGE

D PAGE

F+C+F+1+2+3+E+B+ E+PHASES or TYPE+EVENT NO.									
		PHASES		TYPE			PHASES	TYPE	
		C		D			E	F	
0	I1	1	5	5,6	J1	5		5,6	
1	I2U	2		5,6 7,8	J2U	6		5,6	
2	I2L	2		5,6 7,8	J2L	6		5,6	
3	I3U	2	5	5,6	J3U	6		5,6	
4	I3L	2	5	5 5,6	J3L	6		5 7,8	
5	I4	2		7,8 5,6	J4	6		7,8	
6	I5	3	5	5,6	J5	7		5,6	
7	I6U	4	7	5,6	J6U	8		5,6	
8	I6L	4		5,6	J6L	8		5,6	
9	I7U	4	2	5,6	J7U	8		5,6	
A	I7L	4	2	5 5,6	J7L	8		5	
B	I8	4		7,8	J8	8		7,8	
C	I9U	1		5,6	J9U	5		5,6	
D	I9L	3		5,6	J9L	7		5,6	

DETECTOR TYPE

- 1 RED LOCK
 2 YELLOW LOCK
 5 EXTENSION
 6 COUNT
 7 CALLING
 8 TYPE 3 DISCONNECT

REASSIGNS DETECTORS TO VARIOUS PHASES / FUNCTIONS

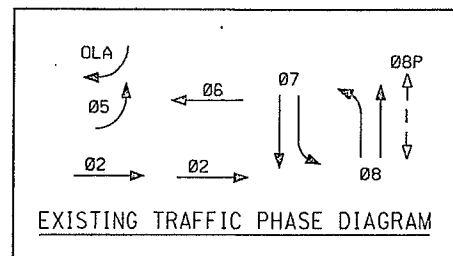
F-C-F MUST EQUAL ZERO WHEN FINISHED

LOWER CASE NUMBERS ARE DEFAULT VALUES

BLANK SPACES CONTAIN DEFAULTS (DO NOT ZERO OUT)

DETECTOR SETTINGS									
I FILE					J FILE				
DELAY		CARRYOVER			DELAY		CARRYOVER		
I1	D10		D30		J1	D20	2.0	D40	1.0
I2U	D11		D31		J2U	D21		D41	
I2L	D12		D32		J2L	D22		D42	
I3U	D13		D33	1.0	J3U	D23		D43	
I3L	D14		D34	1.0	J3L	D24		D44	
I4	D15		D35		J4	D25		D45	
I5	D16	25.0	D36		J5	D26	2.0	D46	2.0
I6U	D17	2.0	D37		J6U	D27		D47	
I6L	D18		D38		J6L	D28		D48	
I7U	D19		D39		J7U	D29		D49	
I7L	D1A		D3A		J7L	D2A		D4A	
I8	D1B		D3B		J8	D2B		D4B	
I9U	D1C		D3C		J9U	D2C		D4C	
I9L	D1D		D3D		J9L	D2D		D4D	

SEE SHEET E-6 FOR CONDUIT NOTES.



Two left turn lanes
with rear detection @ 43m
MC#99-073
01-04-01

NOTES:

- 1 - ADD 1 VIDEO CABLE HARNESS (Ø6).
- 2 - ADD 1 VIDEO CABLE HARNESS (Ø2, Ø5).
- 3 - FURNISH AND INSTALL VDU, VIDEO DISPLAY, AND COMMUNICATION CARD IN CABINET.
- 4 - AB EXISTING LOOP DETECTORS.
- 5 - RC 3 dlc (Ø6).
- 6 - RC 3 dlc (1-Ø5, AND 2-Ø2).
- 7 - EXISTING POLE AND EQUIPMEN SCHEDULE ON SHEET E-6.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No. TOTAL SHEETS
11	SD	76	R2.2/R4.2	86

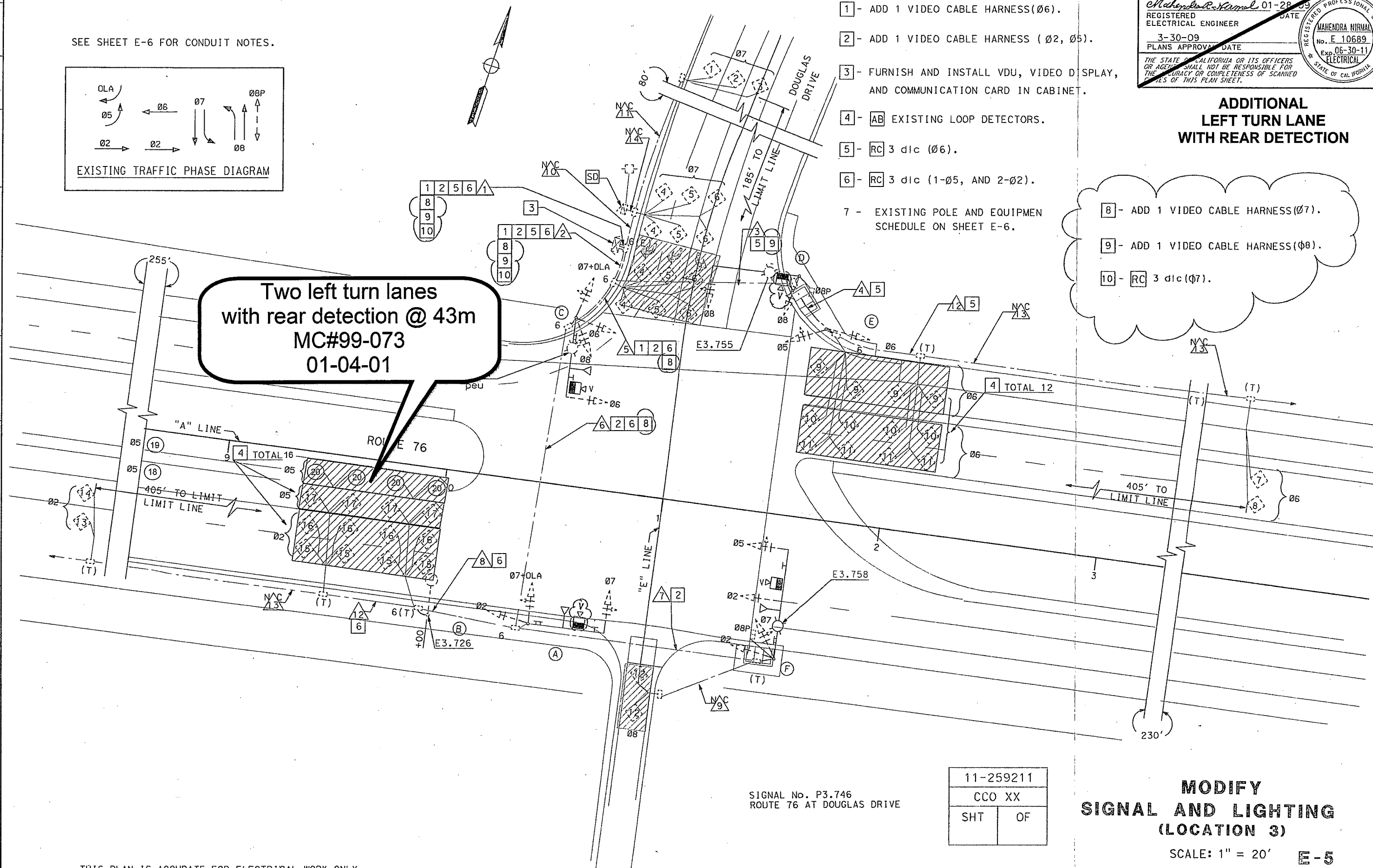
MAHENDRA R. NIRMAL 01-28-09
REGISTERED ELECTRICAL ENGINEER
3-30-09
PLANS APPROVAL DATE

MAHENDRA NIRMAL
No. E 10689
Exp. 06-30-11
ELECTRICAL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENCIES SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ADDITIONAL
LEFT TURN LANE
WITH REAR DETECTION

- 8 - ADD 1 VIDEO CABLE HARNESS (Ø7).
- 9 - ADD 1 VIDEO CABLE HARNESS (Ø8).
- 10 - RC 3 dlc (Ø7).



SIGNAL No. P3.746
ROUTE 76 AT DOUGLAS DRIVE

11-259211	
CCO XX	
SHT	OF

MODIFY
SIGNAL AND LIGHTING
(LOCATION 3)

SCALE: 1" = 20' E-5

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

F PAGE

	INTERVAL	PHASE TIMING								9	PRE-EMPTION		F															
		1	2	3	4	5	6	7	8		E		FLAGS	1	2	3	4	5	6	7	8							
0	WALK	1	7	1	7	1	7	1	7	CLK RST	EV SEL	0	PERMIT	1	2	3	4	5	6	7	8	0						
1	DONT WALK	1	39	1	41	1	38	1	42		RR1 CLR	15	RED LOCK									1						
2	MIN GREEN	16	25	13	13	17	25	12	12		EVA DLY	0	YEL LOCK									2						
3	TYPE 3 DET	0	255	0	0	0	255	0	0		EVA CLR	5	V RECALL		2				6			3						
4	ADD/VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		EVB DLY	0	P RECALL									4						
5	PASSAGE	4.0	6.3	1.5	2.0	2.0	6.3	1.5	2.0		EVB CLR	5	PED PHASES		2		4		6		8	5						
6	MAX GAP	6.0	8.3	1.5	2.0	2.0	8.3	1.5	2.0		EVC DLY	0	RT OLA									6						
7	MIN GAP	2.0	3.5	1.5	2.0	2.0	3.5	1.5	2.0		EVC CLR	5	RT OLB									7						
8	MAX EXT	14	50	7	17	8	50	8	18		EVD DLY	0	DBL ENTRY				4				8	8						
9	MAX 2	39	80		7		80		8	YR	EVD CLR	5	MAX 2 PHASES	1	2		4		6		8	9						
A	MAX 3									MO	MAX EV	255	LAG PHASES	READ ONLY								A						
B										DAY	RR2 CLR	15	RED REST									B						
C	REDUCE BY	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	DOW			REST-IN-WALK									C						
D	EVERY	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	HR			MAX 3 PHASES									D						
E	YELLOW	3.7	5.5	3.7	4.1	3.7	5.5	3.7	4.1	MIN			YEL START UP		2				6			E						
F	RED	2.0	2.5	2.0	2.0	2.0	2.5	2.0	2.0	SEC			FIRST PHASE			3				7		F						
3.5	PED XING FT		163		162		160		165					1	2	3	4	5	6	7	8							
	BIKE XING FT	215	160	164	171	229	156	155	180																			

NOTES:

FZ 2 BIKE = 10 sec

FZ 6 BIKE = 10 sec

ENTRIES IN THESE LOCATIONS CAN BE CHANGED IN CC1 FLASH ONLY

FOC LONG FAILURE	
FOD SHORT FAILURE	
FOE	0
FOF	5

FCO	3
FC1	3
FC2	10
FCA	0.0
FCB	0.0
FCC	0.0
FCD	0.0

FDO TB SELECT	1
FD3 PED SELECT	0
FD4 7 WIRE	0
FD5 PERMISSIVE	0
FD8 OS SEEKING	1

CO5 FLASH TYPE	1
CC2 DOWNLOAD	1

C PAGE

		CONTROL PLANS									Y-COORD			LAG PHASE	FLAGS													
		1	2	3	4	5	6	7	8	9		C	D	E	F	1	2	3	4	5	6	7	8					
0	CYCLE LENGTH	160	160	160	160	160	160		200	180					LAG FZ FREE		2		4		6		8	0				
1	FZ1 GRN FCTR	55	25	21	55	25	21		21	21				GAPOUT CP1	1	LAG FZ CP 1		2		4		6		8	1			
2														GAPOUT CP2	1	LAG FZ CP 2		2		4		6		8	2			
3	FZ3 GRN FCTR	13	13	13	13	13	13		13	13				GAPOUT CP3	1	LAG FZ CP 3		2		4	5			8	3			
4	FZ4 GRN FCTR	48	48	48	48	48	48		48	48	PERM TIME			GAPOUT CP4	0	LAG FZ CP 4		2		4		6		8	4			
5	FZ5 GRN FCTR	15	15	15	15	15	15		15	15	LAG OFFSET			GAPOUT CP5	1	LAG FZ CP 5	1			4		6		8	5			
6											FORCE OFF			GAPOUT CP6	1	LAG FZ CP 6		2		4	5			8	6			
7	FZ7 GRN FCTR	12	12	12	12	12	12		12	12	LONG GRN			GAPOUT CP7		LAG FZ CP 7									7			
8	FZ8 GRN FCTR	49	49	49	49	49	49		49	49	NO GREEN			GAPOUT CP8	1	LAG FZ CP 8	1			4		6		8	8			
9	MULTI CYCLE	0	0	0	0	0	0		0	0				GAPOUT CP9	1	LAG FZ CP 9	1			4		6		8	9			
A	OFFSET A	40	59	57	75	64	68		35	73	OFFSET					LAG C COORD									A			
B	OFFSET B	40	59	57	75	64	68		35	73						LAG D COORD									B			
C	OFFSET C	40	59	57	75	64	68		35	73						COORD FAZES		2				6			C			
D	FZ 3 EXT	10	7	7	10	7	7		7	7															D			
E	FZ 7 EXT	8	8	8	8	8	8		8	8															E			
F	OFFSET INTRPT																								F			

CO1 MANUAL CP

CO2 MASTER CP

CO3 CURRENT CP

CO4 LAST CP

CO7 TRNSMT CP

COD MANUAL OFFSET

CAO LOCAL CYCLE TIMER

CBO MASTER CYCLE TIMER

CAA LOCAL OFFSET

CBA MASTER OFFSET

FEATURE

	OFF	ON
1		
2		
3		
4		
5		
6		
7		
8		

LOCATION

	OFF	ON
1		
2		2
3		
4		8
5		
6		
7		
8		

COO = 10

CCB/CDB OFFSET TIMER

CCC/CDC LAG GREEN TIMER

CCD/CDD FORCE OFF TIMER

CCE/CDE LONG GREEN TIMER

CCF/CDF NO GREEN TIMER

LOCATION: RTE 76 EXPRESSWAY @ RANCHO DEL ORO DRIVE

CALTRANS C8 Version 3

DATE: 8/13/10

PAGE 3

D PAGE

E PAGE

	D	FLAGS							E	FLAGS							F	FLAGS											
	MAX	1	2	3	4	5	6	7	8	MIN	1	2	3	4	5	6	7	8	PED	1	2	3	4	5	6	7	8		
0	RCL									RCL									RCL										
1	CP 1									CP 1	1								CP 1										
2	CP 2									CP 2	1								CP 2										
3	CP 3									CP 3					5				CP 3										
4	CP 4									CP 4									CP 4										
5	CP 5									CP 5									CP 5										
6	CP 6									CP 6									CP 6										
7	CP 7									CP 7									CP 7										
8	CP 8									CP 8	1								CP 8										
9	CP 9									CP 9	1								CP 9										
A																			RCL 1										
B																			RCL 2										
C																													
D																													
E																													
F																													
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8

LAST POWER FAILURE REGISTER

HOUR = D-A-E
 MINUTE = D-B-E
 DAY = D-C-E

RCL 1 = TIME OF DAY MAX RECALL (1ST SELECT) PHASES
 (CALL ACTIVE LIGHTS)
 RCL 2 = TIME OF DAY MAX RECALL (2ND SELECT) PHASES
 (CALL ACTIVE LIGHTS)

LAST FLASH TIME REGISTER

HOUR = D-A-F
 MINUTE = D-B-F
 DAY = D-C-F

D-E-E = C8 VERSION NUMBER
 D-E-F = LITHIUM BATTERY CONDITION
 84 = BAD
 85 = GOOD

	E	FLAGS								F	FLAGS								
	FUNCTION	1	2	3	4	5	6	7	8	FUNCTION	1	2	3	4	5	6	7	8	
0										CODE 4									0
1										CODE 5									1
2										C-RECALL									2
3										D-RECALL									3
4										EXCLUSIVE									4
5										2 PED	2								5
6										6 PED					6				6
7										4 PED				4					7
8										8 PED								8	8
9																			9
A	OLA NOT									OLA ON									A
B	OLB NOT									OLB ON									B
C	OLC NOT									OLC ON									C
D	OLD NOT									OLD ON									D
E																			E
F																			F
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	

TIME OF DAY ACTIVITY TABLE											
7+EVENT+HR+MIN+ACT+"E"+ON/OFF+DOW LTS											
	HR	MIN	ACT	ON/ OFF	S	M	T	W	T	F	S
					1	2	3	4	5	6	7
0	05	30	2	ON	1	2	3	4	5	6	7
1	21	00	2		1	2	3	4	5	6	7
2											
3											
4											
5											
6											
7											
8											
9											
A											
B											
C	20	00	E	ON	1	2	3	4	5	6	7
D	05	30	E			2	3	4	5	6	
E											
F	09	00	E		1						7

ACTIVITY CODE

- ```

1 TYPE OF MAX TERMINATION
2 MAX 2
3 MAX 3
4 COND SERV (1ST SELECT)
5 COND SERV (2ND SELECT)
6 ENERGIZE AUX OUTPUT-RED
7 ENERGIZE AUX OUTPUT-GREEN

```

[illegible]

- ```

8 ENERGIZE AUX OUTPUT-YELLOW

9 TIME OF DAY MAX RECALL (1ST SELECT)
A TRAFFIC ACT. MAX 2 OPERATION
B TIME OF DAY MAX RECALL (2ND SELECT)
C YELLOW YIELD COORDINATION
D YELLOW YIELD COORDINATION
E TIME OF DAY FREE OPERATION
F FLASHING OPERATION

```

[illegible]

E PAGE

D PAGE

F+C+F+1+2+3+E+B+ E+PHASES or TYPE+EVENT NO.											
		PHASES		TYPE			PHASES		TYPE		
		C		D			E		F		
0	I1	1		5,6		J1	5		5,6		
1	I2U	2		5,6		J2U	6		5,6		
2	I2L	2		5,6		J2L	6		5,6		
3	I3U	2		5,6		J3U	6		5,6		
4	I3L	2		5	7,8	J3L	6		5	7,8	
5	I4	2		7,8		J4	6		7,8		
6	I5	3		5,6		J5	7		5,6		
7	I6U	4		5,6		J6U	8		5,6		
8	I6L	4		5,6		J6L	8		5,6		
9	I7U	4		5,6		J7U	8		5,6		
A	I7L	4		5	5,6	J7L	8		5	5,6	
B	I8	4		7,8		J8	8		7,8		
C	I9U	1		5,6		J9U	5		5,6		
D	I9L	3		5,6		J9L	7		5,6		

DETECTOR TYPE

- 1 RED LOCK
 2 YELLOW LOCK
 5 EXTENSION
 6 COUNT
 7 CALLING
 8 TYPE 3 DISCONNECT

DETECTOR SETTINGS										
I FILE					J FILE					
DELAY		CARRYOVER			DELAY		CARRYOVER			
I1	D10		D30		J1	D20		D40		
I2U	D11		D31		J2U	D21		D41		
I2L	D12		D32		J2L	D22		D42		
I3U	D13		D33		J3U	D23		D43		
I3L	D14		D34		J3L	D24		D44		
I4	D15		D35		J4	D25		D45		
I5	D16	2.0	D36		J5	D26	2.0	D46		
I6U	D17	2.0	D37	2.0	J6U	D27	2.0	D47	2.0	
I6L	D18	2.0	D38	2.0	J6L	D28	2.0	D48	2.0	
I7U	D19		D39		J7U	D29		D49		
I7L	D1A		D3A		J7L	D2A		D4A		
I8	D1B		D3B		J8	D2B		D4B		
I9U	D1C		D3C		J9U	D2C		D4C		
I9L	D1D		D3D		J9L	D2D		D4D		

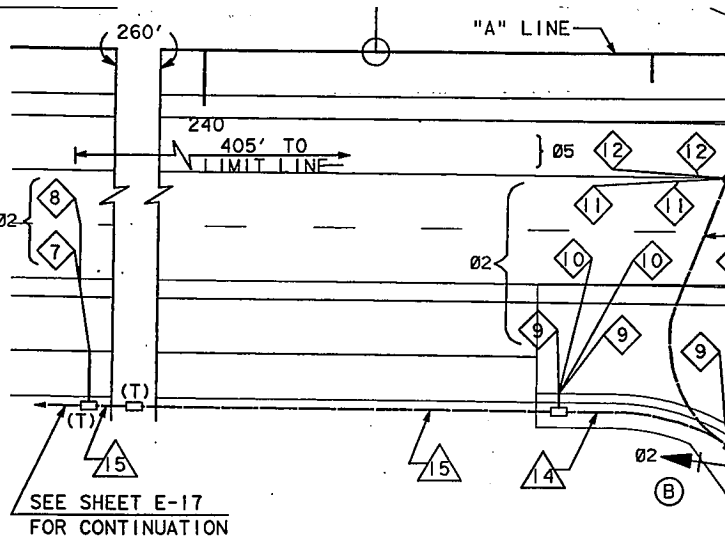
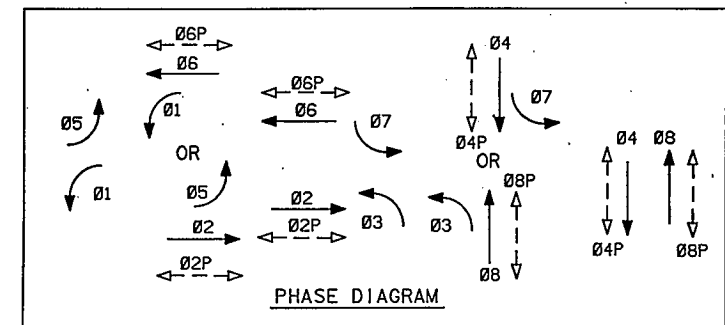
REASSIGNS DETECTORS TO VARIOUS PHASES / FUNCTIONS

F-C-F MUST EQUAL ZERO WHEN FINISHED

LOWER CASE NUMBERS ARE DEFAULT VALUES

BLANK SPACES CONTAIN DEFAULTS (DO NOT ZERO OUT)

POLE AND EQUIPMENT SCHEDULE (ALL VEHICLE SIGNAL SECTIONS SHALL BE 12") (ALL VISORS SHALL BE TUNNEL TYPE)									
NO.	Type	STANDARD		SIGNAL MOUNTING & PLACEMENT		VEHICLE		PEDESTRIAN	
		SMA	LMA	Location	MAST ARM	POLE	SIGNAL MOUNTING	PPB	LUMINAIRE
(A)	29-5-80	55'	15'	30' 12'	MAT, MAS	SV-1-T	SP-1-T	2	180W
(B)	1-A-10'	—	—	30' 14'	—	TV-2-T	SP-1-T	4	—
(C)	29-5-80	50'	15'	13' 8'	MAT, MAS	SV-1-T	SP-1-T	4	180W
(D)	1-A-10'	—	—	18' 8'	—	TV-2-T	SP-1-T	6	—
(E)	29-5-80	55'	15'	29' 12'	MAT, MAS	SV-1-T	SP-1-T	6	180W
(F)	1-A-10'	—	—	31' 16'	—	TV-2-T	SP-1-T	8	—
(G)	29-5-80	50'	15'	15' 11'	MAT, MAS	SV-1-T	SP-1-T	8	180W
(H)	1-A-10'	—	—	16' 8'	—	TV-2-T	SP-1-T	2	—



- CONSTRUCTION NOTES:
- INSTALL STATE FURNISHED MODEL 170 CONTROLLER ASSEMBLY. (TYPE 332 CABINET)
 - TYPE III-BR.120/240V SERVICE EQUIPMENT ENCLOSURE. SEE WIRING DIAGRAM ON SHEET E-4, DETAIL "C".
 - INSTALL STATE FURNISHED SIGN PANEL, DETAIL "U" STANDARD PLAN ES-6T REQUIRED. SEE SIGN PLAN FOR SIGN PANEL INFORMATION.
 - INSTALL STATE FURNISHED SIGN PANEL AND MOUNTING HARDWARE. SEE SIGN PLAN FOR SIGN PANEL INFORMATION.
 - EV-DLC

NOTE: THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

- CONDUIT NOTES:
- 16 - 2"C. MT. CONNECTION AND CONDUCTORS BY SDG&E

CONDUIT AND CONDUCTOR SCHEDULE																	
AWG SIZE CABLE TYPE		Ø	POLE OR CIRCUIT	CONDUIT RUN													
				4-3"	3-3"	2-3"	3"	3"	2-3"	2-3"	3"	2"	2"				
* 14 CABLES			POLE - A	1	2	3	4	5	6	7	8	9	△				
COND 3 12 COND			B	1	1	1	1	1	1	1	1	1	1				
			C	1	1	1	1	1	1	1	1	1	1				
			D	1	1	1	1	1	1	1	1	1	1				
			E	1	1	1	1	1	1	1	1	1	1				
			F	1	1	1	1	1	1	1	1	1	1				
			G	1	1	1	1	1	1	1	1	1	1				
			H	1	1	1	1	1	1	1	1	1	1				
TOTAL CABLES-3 CONDUCTOR/12 CONDUCTOR				8	8	8	3	2	2	1	4	4	3	2	2	1	-
*6			SERVICE	2	2	2	2	-	-	-	-	-	-	-	-	-	-
*10			LIGHTING	-	-	2	2	-	2	2	2	2	2	-	-	-	-
TYPE B DLC		1	LOOP DETECTORS	1	1	-	-	-	1	-	-	-	-	-	-	-	-
		2		5	5	5	5	5	-	-	-	-	-	-	-	-	-
		3		2	2	2	-	-	-	-	-	-	-	-	-	-	-
		4		4	4	-	-	-	4	4	4	-	-	-	-	-	-
		5		1	1	1	1	1	-	-	-	-	-	-	-	-	-
		6		5	5	-	-	-	5	-	-	-	-	-	-	-	-
		7		2	2	-	-	-	2	2	2	-	-	-	-	-	-
		8		4	4	4	-	-	-	-	-	-	-	-	-	-	-
TOTAL DLC				24	24	12	6	6	12	6	6	-	-	-	-	-	-
EV-DLC				4	4	1	1	-	2	2	1	1	-	-	-	-	
6 PAIR #20 SIC				2	2	1	1	1	-	-	-	-	-	-	-	-	
*14 PEU				-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL CONDUCTORS/CABLES				48	48	24	16	9	25	16	13	5	-	-	-	-	-

SIGNAL AND LIGHTING
(LOCATION 7)
SCALE: 1"=20'

SIGNAL No P 4.212
ROUTE 76 AT RANCHO DEL ORO

E-10

DIST 11 COUNTY SD ROUTE 76 POST MILES TOTAL PROJECT R2.4/R5.0 SHEET NO. 231 TOTAL SHEETS 348

REGISTERED CIVIL ENGINEER

2-26-96
PLANS APPROVAL DATE

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.
505 S. MAIN STREET, SUITE 900
ORANGE, CA 92668

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
RICHARD S. DEAL
No. 44696
Exp. 3-31-98
CIVIL
STATE OF CALIFORNIA

- CONDUIT NOTES:
- 10 - 2"C. 2*6 SERVICE, 2*10 LIGHTING, 3*14 PEU
 - 11 - 2"C. 8 TWISTED PAIR LOOP WIRE
 - 12 - 2"C. 4 DLC
 - 13 - 2"C. 2 DLC
 - 14 - 2"C. 4 DLC, 1-6 PAIR #20 SIC
 - 15 - 2"C. 2 DLC, 1-6 PAIR #20 SIC

SEE SHEET E-17 FOR CONTINUATION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
R. CHAVEZ
DESIGN OVERSIGHT

INTERSECTION: Mission & Canyon

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **9/19/2019 10:37**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **66**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	3	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	66	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	30	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	22	0	24	0	22	0	24
2	Min Green	6	8	6	7	6	8	6	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	5.0	3.0	3.0	3.0	5.0	3.0	3.0
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8	Max Limit	25	50	30	25	20	50	35	20
9	Max Limit 2	0	0	0	0	0	0	0	0
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	0.8	0.0	0.0	0.0	0.8	0.0	0.0
E	Yellow Change	4.1	4.8	4.4	4.8	4.1	4.8	4.1	4.4
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12345678
Red Lock	4 7
Yellow Lock	
Min Recall	2 6
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2 6
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	2 6
First Phases	4 7

Phase Functions

<F Page>

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	120	120	110	120	100	110	120	0	0	0
1	Phase 1 - ForceOff	68	86	70	86	70	90	74	0	0	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	51	51	48	62	48	68	48	0	0	3
4	Phase 4 - ForceOff	24	24	24	24	24	44	44	0	0	4
5	Phase 5 - ForceOff	68	86	70	86	70	20	74	0	0	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	18	20	20	20	20	40	20	0	0	7
8	Phase 8 - ForceOff	40	62	48	62	48	68	48	0	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	38	23	41	28	38	94	36	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	12	D
E	Hold Release	255	255	255	255	95	255	255	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F
Coordination <C Page>											

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	<u>2</u> <u>6</u>	1
Plan 2 - Sync	<u>2</u> <u>6</u>	2
Plan 3 - Sync	<u>2</u> <u>6</u>	3
Plan 4 - Sync	<u>2</u> <u>6</u>	4
Plan 5 - Sync	<u>2</u> <u>6</u>	5
Plan 6 - Sync	<u>2</u> <u>6</u>	6
Plan 7 - Sync	<u>2</u> <u>6</u>	7
Plan 8 - Sync	<u>2</u> <u>6</u>	8
Plan 9 - Sync	<u>2</u> <u>6</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>4</u> <u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>3</u> <u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>34</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	<u>8</u>
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	<u>3</u> <u>7</u>
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5
Coord Force-Off Adjust for Ped Service	<C+D+F>

Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	<u>23</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>23</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag	<u>23</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag	<u>23</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag	<u>23</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag	<u>23</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag	<u>23</u> <u>5</u> <u>8</u>	6
Plan 7 - Lag	<u>23</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:30	1	A	23456
2	08:30	E	A	23456
3	15:00	2	A	23456
4	19:00	E	A	23456
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	2.0	0.0		I-5	16
7	2.0	0.0		I-6U	3
8	2.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	2.0	0.0		J-6U	4
8	2.0	0.0		J-6L	8
9	7.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Canyon

Page 5 (of 5)

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	22	0	24	0	22	0	24
2	Min Green	5	8	5	5	5	8	5	5
3	Type 3 Limit	0	255	0	0	0	255	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	5.0	3.0	3.0	3.0	5.0	3.0	3.0
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8	Max Limit	25	50	30	25	20	50	35	20
9	Max Limit 2	0	0	0	0	0	0	0	0
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	0.8	0.0	0.0	0.0	0.8	0.0	0.0
E	Yellow Change	3.2	4.3	3.9	3.9	3.2	4.3	3.9	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2

<F Page>

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	22	0	24	0	22	0	24
2	Min Green	5	8	5	5	5	8	5	5
3	Type 3 Limit	0	255	0	0	0	255	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	5.0	3.0	3.0	3.0	5.0	3.0	3.0
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8	Max Limit	25	50	30	25	20	50	35	20
9	Max Limit 2	0	0	0	0	0	0	0	0
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	0.8	0.0	0.0	0.0	0.8	0.0	0.0
E	Yellow Change	3.2	4.3	3.9	3.9	3.2	4.3	3.9	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3

<F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Mesa

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **10/5/2017 15:57**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **67**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	4	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	67	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	12	0	30	0	12	0	30
2	Min Green	5	10	3	6	5	10	3	6
3	Type 3 Limit	0	255	0	0	0	255	0	0
4	Added Initial	0.0	2.2	0.0	0.0	0.0	2.2	0.0	0.0
5	Veh Extension	2.0	6.5	0.5	3.0	2.0	6.5	0.5	3.0
6	Max Gap	2.0	8.0	0.5	3.0	2.0	8.0	0.5	3.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	0.5	3.0
8	Max Limit	20	40	17	35	20	40	17	35
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
D	Reduce Every	0.0	0.6	1.0	0.0	0.0	0.6	1.0	0.0
E	Yellow Change	4.4	5.2	3.0	3.6	4.4	5.2	3.0	3.6
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12_456_8
Red Lock	1__5__
Yellow Lock	_____
Min Recall	_2_6_
Ped Recall	_____
View Set Peds	- - - - -
Rest In Walk	_____
Red Rest	_____
Dual Entry	_2_4_6_8
Max Recall	_____
Soft Recall	_____
Max 2	_____
Cond. Service	_____
Man Cntrl Calls	_____
Yellow Start	_2_6_
First Phases	_4_8

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->									Row	
0	Cycle Length	110	100	110	90	100	100	60	120	100	0
1	Phase 1 - ForceOff	60	60	60	55	60	61	35	35	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	1	1	1	20	25	1	1	25	3
4	Phase 4 - ForceOff	30	30	30	30	40	40	20	20	40	4
5	Phase 5 - ForceOff	60	60	60	55	60	63	35	35	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	1	1	1	20	25	1	1	25	7
8	Phase 8 - ForceOff	1	1	1	1	40	40	1	1	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	68	63	68	8	0	0	10	111	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	<u>2 6</u>	1
Plan 2 - Sync	<u>2 6</u>	2
Plan 3 - Sync	<u>2 6</u>	3
Plan 4 - Sync	<u>2 6</u>	4
Plan 5 - Sync	<u>2 6</u>	5
Plan 6 - Sync	<u>2 6</u>	6
Plan 7 - Sync	<u>2 6</u>	7
Plan 8 - Sync	<u>2 6</u>	8
Plan 9 - Sync	<u>2 6</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2 5</u>
B	EV-B Phases	<u>4</u>
C	EV-C Phases	<u>1 6</u>
D	EV-D Phases	<u>8</u>
E	Extra 1 Config. Bits	<u>1 4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	<u>8</u>
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5

**Coord Force-Off Adjust
for Ped Service** <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	<u>2 4 6 8</u>	0
Plan 1 - Lag	<u>2 4 6 8</u>	1
Plan 2 - Lag	<u>2 4 6 8</u>	2
Plan 3 - Lag	<u>2 4 6 8</u>	3
Plan 4 - Lag	<u>2 4 6 8</u>	4
Plan 5 - Lag	<u>2 4 6 8</u>	5
Plan 6 - Lag	<u>2 4 6 8</u>	6
Plan 7 - Lag	<u>2 4 6 8</u>	7
Plan 8 - Lag	<u>2 4 6 8</u>	8
Plan 9 - Lag	<u>2 4 6 8</u>	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A	4	5	7	1234567
B	0	0	0	
C	0	0	0	

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	2.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	2.0	0.0		I-6U	3
8	2.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	2.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0
B	Overlap B	0.0	0.0	0
C	Overlap C	0.0	0.0	0
D	Overlap D	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Mesa

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	5	0	5	0	7
1	Ped FDW	0	12	0	24	0	12	0	10
2	Min Green	5	10	3	6	5	10	3	7
3	Type 3 Limit	0	255	0	0	0	255	0	0
4	Added Initial	0.0	2.2	0.0	0.0	0.0	2.2	0.0	1.2
5	Veh Extension	2.0	6.5	0.5	3.0	2.0	6.5	0.5	3.5
6	Max Gap	2.0	8.0	0.5	3.0	2.0	8.0	0.5	5.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	0.5	2.0
8	Max Limit	20	50	17	35	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	0.6	1.0	0.0	0.0	0.6	1.0	1.0
E	Yellow Change	3.0	4.5	3.0	3.5	3.0	4.5	3.0	4.0
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	5	0	5	0	7
1	Ped FDW	0	12	0	24	0	12	0	10
2	Min Green	5	10	3	6	5	10	3	7
3	Type 3 Limit	0	255	0	0	0	255	0	0
4	Added Initial	0.0	2.2	0.0	0.0	0.0	2.2	0.0	1.2
5	Veh Extension	2.0	6.5	0.5	3.0	2.0	6.5	0.5	3.5
6	Max Gap	2.0	8.0	0.5	3.0	2.0	8.0	0.5	5.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	0.5	2.0
8	Max Limit	20	50	17	35	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	0.6	1.0	0.0	0.0	0.6	1.0	1.0
E	Yellow Change	3.0	4.5	3.0	3.5	3.0	4.5	3.0	4.0
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Airport

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **3/6/2018 13:20**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **68**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	5	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	68	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	30	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	0	0	7	5	5
1	Ped FDW	0	14	0	0	0	16	22	22
2	Min Green	5	10	3	5	5	10	8	8
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	6.7	0.5	4.0	3.0	6.7	4.0	4.0
6	Max Gap	3.0	9.0	0.5	4.0	3.0	9.0	4.0	4.0
7	Min Gap	3.0	3.0	0.5	4.0	3.0	3.0	4.0	4.0
8	Max Limit	20	50	17	30	30	50	30	30
9	Max Limit 2	30	70	30	30	30	70	30	30
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	0.4	1.0	0.0	0.0	0.4	0.0	0.0
E	Yellow Change	4.4	5.2	3.0	3.5	4.4	5.2	3.6	3.6
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12_5678
Red Lock	
Yellow Lock	
Min Recall	2_67_
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2_6_
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	1_5_
First Phases	2_6_

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	80	90	100	100	100	120	100	100	100	0
1	Phase 1 - ForceOff	55	60	60	70	70	75	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	1	1	1	1	1	25	25	25	3
4	Phase 4 - ForceOff	1	1	1	1	1	1	40	40	40	4
5	Phase 5 - ForceOff	55	60	60	70	70	75	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	20	25	25	25	30	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	50	50	55	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	53	88	80	98	46	27	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	80	255	90	90	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F
Coordination <C Page>											

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2 6	1
Plan 2 - Sync	2 6	2
Plan 3 - Sync	2 6	3
Plan 4 - Sync	2 6	4
Plan 5 - Sync	2 6	5
Plan 6 - Sync	2 6	6
Plan 7 - Sync	2 6	7
Plan 8 - Sync	2 6	8
Plan 9 - Sync	2 6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 34
F	IC Select (Interconnect)	2

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	6
Ped 4P	7
Ped 8P	8
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5

**Coord Force-Off Adjust
for Ped Service** <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:30	4	A	23456
2	09:00	5	A	23456
3	15:00	6	A	23456
4	19:00	E	A	23456
5	00:00	0	0	
6	14:15	5	A	
7	15:00	6	A	
8	16:00	3	A	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
21:00	3	A	1234567
23:55	E	A	1234567
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A	4	8	7	1234567
B	0	0	0	
C	0	0	0	

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	2.0	0.0		J-4	10
6	2.0	0.0		J-5	15
7	2.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	10.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Airport

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service	0	0	---	---	---	---	---	---	---
A	Int. ---->	---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Roymar

Page 1 (of 9)

 Group Assignment: **NONE**
 Field Master Assignment: **NONE**
 System Reference Number: **69**

 N/S Street Name: **Not Assigned**
 E/W Street Name: **Not Assigned**

 Last Database Change: **2/27/2018 13:52**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Drop Number	6	<C/0+0+0>
Zone Number	0	<C/0+0+1>
Area Number	1	<C/0+0+2>
Area Address	69	<C/0+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	20	<F/1+0+E>
Red Revert	2.0	<F/1+0+F>
All Red Start	5.0	<F/1+C+0>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase

 (Outputs specified in Assignable
 Outputs at E/127+A+E & F)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	6	0	7	0	6
1	Ped FDW	0	14	0	24	0	14	0	24
2	Min Green	5	10	4	8	5	10	4	8
3	Type 3 Disconnect	0	99	0	0	0	99	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	7.0	2.0	3.0	3.0	7.0	2.0	3.0
6	Max Gap	3.0	9.0	3.0	3.0	3.0	9.0	3.0	3.0
7	Min Gap	3.0	3.0	0.5	3.0	3.0	3.0	0.5	3.0
8	Max Limit	20	50	20	30	25	50	20	30
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	0	7	0	0	0	7	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
E	Yellow Change	4.1	4.8	3.0	3.7	4.1	4.8	3.0	3.7
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

	F	Row
Permit	12_456_8	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	2_6_	3
Ped Recall	_____	4
View Set Peds	-----	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	2_4_6_8	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	1_5_	E
First Phases	2_6_	F

Phase Functions <C+0+F=1>

		Overlap							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments

<C+0+E=29>

Extra 1 Flags

- 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = Solid FDW on EV
 5 = Extended Status
 6 = International Ped
 7 = Flash - Clear Outputs
 8 = Split Ring

Extra 2 Flags

- 1 = AWB During Initial
 2 = LMU Installed
 3 = Disable Min Walk
 4 = QuicNet/4 System
 5 = Ignore P/P on EV
 6 =
 7 = Allow QuicNet PE
 8 =

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

Preempt Priority

<C+0+E=125>

(* RR-1 is always Highest,
 and RR-2 is always
 Second Highest)

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4
C	EV-C Phases	1 6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration

<C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Configuration

<C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials

<C+0+F=2>

Flash to PE &
PE Non-Lock

- 1 = EV A 5 = RR 1
 2 = EV B 6 = RR 2
 3 = EV C 7 = SE 1
 4 = EV D 8 = SE 2

IC Select Flags

- 1 =
 2 = Modern
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

Coordination
Transition
Minimums

<C+0+C=5>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length	80	90	100	100	100	120	100	100	100
1	Phase 1 - ForceOff	55	55	60	60	55	55	55	55	55
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	1	1	1	1	1	1	20	20	20
4	Phase 4 - ForceOff	30	30	30	34	34	32	40	40	40
5	Phase 5 - ForceOff	55	55	60	60	55	60	55	55	55
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	1	1	1	1	1	1	20	20	20
8	Phase 8 - ForceOff	30	30	30	34	34	32	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	24	59	5	72	37	48	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	15	15	15	15	15	15	15	15	15
E	Hold Release	255	255	255	90	90	110	255	255	255
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination - Bank 1

<C+0+C=1>

Row										
0	Ped Adjustment	5	5	5	2	2	2	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2

<C+0+C=2>

Coord Extra
 1 = Programmed WALK Time for Sync Phases
 2 = Always Terminate Sync Phase Peds

Row		E	Row
0			0
1	Plan 1 - Sync	<u>2 6</u>	1
2	Plan 2 - Sync	<u>2 6</u>	2
3	Plan 3 - Sync	<u>2 6</u>	3
4	Plan 4 - Sync	<u>2 6</u>	4
5	Plan 5 - Sync	<u>2 6</u>	5
6	Plan 6 - Sync	<u>2 6</u>	6
7	Plan 7 - Sync	<u>2 6</u>	7
8	Plan 8 - Sync	<u>2 6</u>	8
9	Plan 9 - Sync	<u>2 6</u>	9
A	NEMA Sync		A
B	NEMA Hold		B
C			C
D			D
E	Coord Extra		E
F			F

Sync Phases

<C+0+C=1>

Row		F	Row
0	Free Lag	<u>2 4 6 8</u>	0
1	Plan 1 - Lag	<u>2 4 6 8</u>	1
2	Plan 2 - Lag	<u>2 4 6 8</u>	2
3	Plan 3 - Lag	<u>2 4 6 8</u>	3
4	Plan 4 - Lag	<u>2 4 6 8</u>	4
5	Plan 5 - Lag	<u>2 4 6 8</u>	5
6	Plan 6 - Lag	<u>2 4 6 8</u>	6
7	Plan 7 - Lag	<u>2 4 6 8</u>	7
8	Plan 8 - Lag	<u>2 4 6 8</u>	8
9	Plan 9 - Lag	<u>2 4 6 8</u>	9
A	External Lag		A
B			B
C			C
D			D
E			E
F			F

Lag Phases

<C+0+C=1>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs

<C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs

<C+0+E=127>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

		1	2	3	4	5	6	7	8
Row									
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
 0.X = Shortway
 1.X = Lengthen
 X.1 thru X.4 =
 Number of
 cycles when
 lengthening

Transition Type | 0.3 <C/5+1+9>

TBC Transition

Lag Hold Phases | <C/5+1+A>

Coordinated Lag Hold Phases

Daylight Savings
 Date
 If set to all zeros,
 standard dates
 will be used.

Begin Month | 3 <C/5+2+A>

Begin Week | 2 <C/5+2+B>

End Month | 11 <C/5+2+C>

End Week | 1 <C/5+2+D>

Daylight Savings Time

Time B4 Yellow | 0.0 <F/1+C+E>

Phase Number | 0 <F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow | 0.0 <F/1+D+E>

Phase Number | 0 <F/1+D+F>

Advance Warning Beacon - Sign 2

Column Numbers ---->						1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45_7_	2_	123_8	0.0	0.0
1		40	45_7_	6_	123_8	0.0	0.0
2		41	45_7_	4_	123_8	0.0	0.0
3		42	45_7_	8_	123_8	0.0	0.0
4		43	45_7_	2_	123_8	0.0	0.0
5		44	45_7_	6_	123_8	0.0	0.0
6		45	45_7_	4_	123_8	0.0	0.0
7		46	45_7_	8_	123_8	2.0	0.0
8		47	67_	2_	123_8	0.0	0.0
9		48	67_	6_	123_8	0.0	0.0
A		49	67_	4_	123_8	0.0	0.0
B		50	67_	8_	123_8	8.0	0.0
C		55	45_7_	5_	123_8	0.0	0.0
D		56	45_7_	1_	123_8	0.0	0.0
E		57	45_7_	7_	123_8	0.0	0.0
F		58	45_7_	3_	123_8	0.0	0.0

Column Numbers ---->						2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7_	5_	123_8	0.0	0.0
1		60	45_7_	1_	123_8	0.0	0.0
2		61	45_7_	7_	123_8	0.0	0.0
3		62	45_7_	3_	123_8	0.0	0.0
4		63	45_7_	2_	123_8	0.0	0.0
5		64	45_7_	6_	123_8	0.0	0.0
6		65	45_7_	4_	123_8	0.0	0.0
7		66	45_7_	8_	123_8	2.0	0.0
8		67	2_	2_	123_8	0.0	0.0
9		68	2_	6_	123_8	0.0	0.0
A		69	2_	4_	123_8	0.0	0.0
B		70	2_	8_	123_8	8.0	0.0
C		76	45_7_	2_	123_8	0.0	0.0
D		77	45_7_	6_	123_8	0.0	0.0
E		78	45_7_	4_	123_8	0.0	0.0
F		79	45_7_	8_	123_8	0.0	0.0

Detector Assignments <C+0+E=126>

<C+0+D=0>

Ped / Phase / Overlap									Row
Column Numbers ---->	1	2	3	4	5	6	7	8	
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type || 0 <E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes) || 255 <D/0+0+1>

Max ON (minutes) || 7 <D/0+0+2>

Detector Failure MonitorDetector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 =
- 4 = Count
- 5 = Extension
- 6 = Type 3
- 7 = Calling
- 8 = Alternate

Det. Assignments

- 1 = Det. Set 1
- 2 = Det. Set 2
- 3 = Det. Set 3
- 4 =
- 5 =
- 6 = Failure - Min Recall
- 7 = Failure - Max Recall
- 8 = Report on Failure

Disable Alarms

- 1 = Stop Time
- 2 = Flash Sense
- 3 = Keyboard Entry
- 4 = Manual Plan
- 5 = Police Control
- 6 = External Alarm
- 7 = Detector Failure
- 8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times

<C+0+D=0> (seconds)

Omit Alarm || <C/5+F+0>

Disable Alarm Reporting

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	
1	06 : 30	4	A	23456
2	09 : 00	5	A	23456
3	15 : 00	6	A	23456
4	19 : 00	E	A	23456
5	00 : 00	0	0	
6	14 : 15	5	A	
7	15 : 00	6	A	
8	16 : 00	3	A	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
 0 =
 1 = Red Lock
 2 = Yellow Lock
 3 = Veh Min Recall
 4 = Ped Recall
 5 =
 6 = Rest In Walk
 7 = Red Rest
 8 = Double Entry
 9 = Veh Max Recall
 A = Veh Soft Recall
 B = Maximum 2
 C = Conditional Service
 D = Free Lag Phases
 E = Bit 1 - Local Override
 Bit 4 - Disable Detector
 OFF Monitor
 Bit 5 - Disable Low
 Priority Preempt
 Bit 7 - Detector Count
 Monitor
 Bit 8 - Real Time Split
 Monitor
 F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
 1 thru 9 = Coordination
 Plan 1 thru 9
 14 or E = Free
 15 or F = Flash

Offset Select
 A = Offset A
 B = Offset B
 C = Offset C

Month Select
 1 = January
 2 = February
 3 = March
 4 = April
 5 = May
 6 = June
 7 = July
 8 = August
 9 = September
 A = October
 B = November
 C = December

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:

0 <E/27+5+F>

Limited Service Interval

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds) || 0 <F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes) || 255 <F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds) || 0 <F/1+0+A>

Min Time Between Same Preempts

(Does Not Apply To Railroad Preempt)

Low Pri. Channel || <E/125+C+8>

Disable Low Priority ChannelLow Priority

- 1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Delay Time (seconds) || 0 <F/1+A+D>

Bus Delay

Max Time (seconds) || 0 <F/1+A+E>

Max Early Green

Max Time (seconds) || 0 <F/1+A+F>

Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

Headway <C+0+9=2.1>Headway Time
(minutes)

1 thru 9 = 1 thru 9

A = 10

B = 11

C = 12

D = 13

E = 14

F = 15

Low Priority Preemption (Bus Priority)Only available with *Program 233RV2.B* (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: Mission & Foussat

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **5/31/2018 14:43**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **70**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	7	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	70	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	0	0	5	0	4
1	Ped FDW	0	18	0	0	0	28	0	28
2	Min Green	5	10	5	5	5	10	5	5
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	3.0	7.0	3.0	3.0	3.0	7.0	3.0	3.0
6	Max Gap	3.0	9.0	3.0	3.0	3.0	9.0	3.0	3.0
7	Min Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8	Max Limit	25	50	15	30	30	50	25	25
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0
E	Yellow Change	4.1	4.8	3.6	4.1	4.1	4.8	3.6	4.1
F	Red Clear	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12345678
Red Lock	8
Yellow Lock	8
Min Recall	2 6
Ped Recall	---
View Set Peds	-----
Rest In Walk	---
Red Rest	---
Dual Entry	2 4 6 8
Max Recall	---
Soft Recall	---
Max 2	---
Cond. Service	---
Man Cntrl Calls	---
Yellow Start	2 6
First Phases	3 7

Phase Functions

<F Page>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	80	90	100	100	100	120	100	100	100	0
1	Phase 1 - ForceOff	75	80	80	85	85	100	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	35	40	45	40	40	50	25	25	25	3
4	Phase 4 - ForceOff	60	65	65	70	70	80	40	40	40	4
5	Phase 5 - ForceOff	15	17	20	20	20	25	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	35	37	40	40	40	50	25	25	25	7
8	Phase 8 - ForceOff	60	65	65	70	70	80	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	10	45	70	52	28	27	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	17	20	22	22	22	27	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	<u>2</u> <u>6</u>	1
Plan 2 - Sync	<u>2</u> <u>6</u>	2
Plan 3 - Sync	<u>2</u> <u>6</u>	3
Plan 4 - Sync	<u>2</u> <u>6</u>	4
Plan 5 - Sync	<u>2</u> <u>6</u>	5
Plan 6 - Sync	<u>2</u> <u>6</u>	6
Plan 7 - Sync	<u>2</u> <u>6</u>	7
Plan 8 - Sync	<u>2</u> <u>6</u>	8
Plan 9 - Sync	<u>2</u> <u>6</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	<u>3</u> <u>6</u>
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>4</u> <u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>3</u> <u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	
Ped 8P	<u>8</u>
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	<u>45</u>
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5
Coord Force-Off Adjust for Ped Service	<C+D+F>
Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>2</u> <u>45</u> <u>8</u>	1
Plan 2 - Lag	<u>2</u> <u>45</u> <u>8</u>	2
Plan 3 - Lag	<u>2</u> <u>45</u> <u>8</u>	3
Plan 4 - Lag	<u>2</u> <u>45</u> <u>8</u>	4
Plan 5 - Lag	<u>2</u> <u>45</u> <u>8</u>	5
Plan 6 - Lag	<u>2</u> <u>45</u> <u>8</u>	6
Plan 7 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *		A
Coord Lag *	<u>5</u>	B
		C
		D
		E
		F

Lag Phases

<C Page>

TOD Coordination
<9 Key with C+D+9=0>

TOD Function
<7 Key>

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions

- 0 = Permitted Phases
- 1 = Red Lock
- 2 = Yellow Lock
- 3 = Veh Min Recall
- 4 = Ped Recall
- 5 =
- 6 = Rest In Walk
- 7 = Red Rest
- 8 = Double Entry
- 9 = Veh Max Recall
- A = Veh Soft Recall
- B = Maximum 2
- C = Conditional Service
- D = Free Lag Phases
- E = Bit 1 - Local Override
 - Bit 2 - Phase Bank 2
 - Bit 3 - Phase Bank 3
 - Bit 4 - Disable Detector
- OFF Monitor
- Bit 7 - Detector Count Monitor
- Bit 8 - Real Time Split Monitor
- F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	2.0	2.0		I-6U	3
8	2.0	2.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	2.0	1.0		J-5	15
7	2.0	2.0		J-6U	4
8	2.0	2.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Foussat

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Copperwood

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **3/6/2018 13:22**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **71**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	8	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	71	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	7	0	5	0	4
1	Ped FDW	0	10	0	10	0	10	0	22
2	Min Green	3	10	3	7	3	10	5	5
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	0.0
5	Veh Extension	2.0	7.0	0.5	3.5	3.0	7.0	3.0	3.0
6	Max Gap	2.0	9.0	0.5	5.0	3.0	9.0	3.0	3.0
7	Min Gap	2.0	3.0	0.5	2.0	3.0	3.0	3.0	3.0
8	Max Limit	20	50	17	40	15	50	20	25
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0
E	Yellow Change	4.1	4.8	3.0	4.0	4.1	4.8	3.6	3.6
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12_5678
Red Lock	
Yellow Lock	
Min Recall	2_6
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2_6
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	2_6
First Phases	7

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	80	90	100	100	100	120	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	1	1	1	1	1	25	25	25	3
4	Phase 4 - ForceOff	1	1	1	1	1	1	40	40	40	4
5	Phase 5 - ForceOff	55	55	55	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	15	15	15	15	15	15	25	25	25	7
8	Phase 8 - ForceOff	35	35	35	45	45	45	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	28	44	27	60	95	91	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	80	90	255	255	110	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	<u>2</u> <u>6</u>	1
Plan 2 - Sync	<u>2</u> <u>6</u>	2
Plan 3 - Sync	<u>2</u> <u>6</u>	3
Plan 4 - Sync	<u>2</u> <u>6</u>	4
Plan 5 - Sync	<u>2</u> <u>6</u>	5
Plan 6 - Sync	<u>2</u> <u>6</u>	6
Plan 7 - Sync	<u>2</u> <u>6</u>	7
Plan 8 - Sync	<u>2</u> <u>6</u>	8
Plan 9 - Sync	<u>2</u> <u>6</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	<u>2</u>
Ped 6P	<u>6</u>
Ped 4P	
Ped 8P	<u>8</u>
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 5
Coord Force-Off Adjust
for Ped Service <C+D+F>

Transition Type 0
TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:30	4	A	23456
2	09:00	5	A	23456
3	15:00	6	A	23456
4	19:00	E	A	23456
5	00:00	0	0	
6	14:15	5	A	
7	15:00	6	A	
8	16:00	3	A	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	12.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing

<F Page>

<D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Copperwood

Page 5 (of 5)

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	5	0	7	0	0	0	4
1	Ped FDW	0	10	0	10	0	0	0	22
2	Min Green	3	30	3	7	3	30	3	5
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	0.0
5	Veh Extension	2.0	7.0	0.5	3.5	0.5	7.0	0.5	3.0
6	Max Gap	2.0	9.0	0.5	5.0	0.5	9.0	0.5	3.0
7	Min Gap	2.0	3.0	0.5	2.0	0.5	3.0	0.5	3.0
8	Max Limit	20	50	17	40	17	50	17	35
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
D	Reduce Every	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
E	Yellow Change	3.2	4.3	3.0	4.0	3.0	4.3	3.0	3.6
F	Red Clear	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

Phase Timing - Bank 2

<F Page>

Column Numbers ---->	Phase							
	1	2	3	4	5	6	7	8
Phase Names ---->								
Ped Walk	0	5	0	7	0	0	0	4
Ped FDW	0	10	0	10	0	0	0	22
Min Green	3	30	3	7	3	30	3	5
Type 3 Limit	0	99	0	0	0	99	0	0
Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	0.0
Veh Extension	2.0	7.0	0.5	3.5	0.5	7.0	0.5	3.0
Max Gap	2.0	9.0	0.5	5.0	0.5	9.0	0.5	3.0
Min Gap	2.0	3.0	0.5	2.0	0.5	3.0	0.5	3.0
Max Limit	20	50	17	40	17	50	17	35
Max Limit 2	30	70	30	70	30	70	30	70
-----	0	0	0	0	0	0	0	0
Call To Phase	0	0	0	0	0	0	0	0
Reduce By	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Reduce Every	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Yellow Change	3.2	4.3	3.0	4.0	3.0	4.3	3.0	3.6
Red Clear	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

Phase Timing - Bank 3

<F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Frontier

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **2/27/2018 10:42**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **72**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	9	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	72	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	25	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	5	0	7	0	0	0	4
1	Ped FDW	0	10	0	10	0	0	0	22
2	Min Green	4	10	3	7	3	10	3	5
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.2	0.0	1.2	0.0	1.2	0.0	0.0
5	Veh Extension	2.0	7.0	0.5	3.5	0.5	7.0	0.5	3.0
6	Max Gap	2.0	9.0	0.5	5.0	0.5	9.0	0.5	3.0
7	Min Gap	2.0	3.0	0.5	2.0	0.5	3.0	0.5	3.0
8	Max Limit	25	50	17	40	17	50	17	35
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
D	Reduce Every	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
E	Yellow Change	4.1	4.8	3.0	4.0	3.0	4.8	3.0	3.6
F	Red Clear	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12_6_8
Red Lock	1_
Yellow Lock	_
Min Recall	2_6_
Ped Recall	_
View Set Peds	-----
Rest In Walk	_
Red Rest	_
Dual Entry	2_6_
Max Recall	_
Soft Recall	_
Max 2	_
Cond. Service	_
Man Cntrl Calls	_
Yellow Start	2_6_
First Phases	8

Phase Functions

<F Page>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	80	90	100	100	100	120	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	60	60	60	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	1	1	1	1	1	25	25	25	3
4	Phase 4 - ForceOff	1	1	1	1	1	1	40	40	40	4
5	Phase 5 - ForceOff	1	1	1	1	1	1	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	1	1	1	1	1	25	25	25	7
8	Phase 8 - ForceOff	30	30	30	30	30	30	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	36	31	18	58	4	100	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	80	255	90	90	110	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F
Coordination <C Page>											

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2 6	1
Plan 2 - Sync	2 6	2
Plan 3 - Sync	2 6	3
Plan 4 - Sync	2 6	4
Plan 5 - Sync	2 6	5
Plan 6 - Sync	2 6	6
Plan 7 - Sync	2 6	7
Plan 8 - Sync	2 6	8
Plan 9 - Sync	2 6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	
Ped 4P	
Ped 8P	8
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	3
Coord Force-Off Adjust for Ped Service	<C+D+F>
Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:30	4	A	23456
2	09:00	5	A	23456
3	15:00	6	A	23456
4	19:00	E	A	23456
5	00:00	0	0	
6	14:15	5	A	
7	15:00	6	A	
8	16:00	3	A	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Frontier

Page 5 (of 5)

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	5	0	7	0	0	0	4
1	Ped FDW	0	10	0	10	0	0	0	19
2	Min Green	3	10	3	7	3	10	3	5
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.2	0.0	1.2	0.0	1.2	0.0	0.0
5	Veh Extension	2.0	7.0	0.5	3.5	0.5	7.0	0.5	3.0
6	Max Gap	2.0	9.0	0.5	5.0	0.5	9.0	0.5	3.0
7	Min Gap	2.0	3.0	0.5	2.0	0.5	3.0	0.5	3.0
8	Max Limit	25	50	17	40	17	50	17	35
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
D	Reduce Every	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
E	Yellow Change	3.2	4.3	3.0	4.0	3.0	4.3	3.0	3.6
F	Red Clear	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

Phase Timing - Bank 2

<F Page>

Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	5	0	7	0	0	0	4
1	Ped FDW	0	10	0	10	0	0	0	19
2	Min Green	3	10	3	7	3	10	3	5
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.2	0.0	1.2	0.0	1.2	0.0	0.0
5	Veh Extension	2.0	7.0	0.5	3.5	0.5	7.0	0.5	3.0
6	Max Gap	2.0	9.0	0.5	5.0	0.5	9.0	0.5	3.0
7	Min Gap	2.0	3.0	0.5	2.0	0.5	3.0	0.5	3.0
8	Max Limit	25	50	17	40	17	50	17	35
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
D	Reduce Every	0.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
E	Yellow Change	3.2	4.3	3.0	4.0	3.0	4.3	3.0	3.6
F	Red Clear	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

Phase Timing - Bank 3

<F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Ocean Point

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **4/3/2018 9:22**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **101**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	28	<C+0+0>
Zone Number		<C+0+1>
Area Number	2	<C+0+2>
Area Address	110	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	0	0	4	0	5	0	7
1	Ped FDW	0	0	0	22	0	19	0	10
2	Min Green	3	10	3	5	3	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.2	0.0	0.0	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	7.0	0.5	3.0	2.0	7.0	0.5	3.5
6	Max Gap	0.5	9.0	0.5	5.0	2.0	9.0	0.5	5.0
7	Min Gap	0.5	3.0	0.5	3.0	2.0	3.0	0.5	2.0
8	Max Limit	17	50	17	35	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.8	3.0	3.6	4.1	4.8	3.0	4.0
F	Red Clear	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	<u>2_456</u>
Red Lock	<u>5</u>
Yellow Lock	
Min Recall	<u>2_6</u>
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	<u>2_6</u>
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	<u>2_6</u>
First Phases	<u>4</u>

Phase Functions

<F Page>

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	80	90	100	100	100	120	100	100	100	0
1	Phase 1 - ForceOff	1	1	1	1	1	1	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	1	1	1	1	1	25	25	25	3
4	Phase 4 - ForceOff	30	30	30	30	30	30	40	40	40	4
5	Phase 5 - ForceOff	55	55	55	60	60	60	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	1	1	1	1	1	25	25	25	7
8	Phase 8 - ForceOff	1	1	1	1	1	1	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	66	6	53	21	16	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	80	255	90	90	110	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2 6	1
Plan 2 - Sync	2 6	2
Plan 3 - Sync	2 6	3
Plan 4 - Sync	2 6	4
Plan 5 - Sync	2 6	5
Plan 6 - Sync	2 6	6
Plan 7 - Sync	2 6	7
Plan 8 - Sync	2 6	8
Plan 9 - Sync	2 6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	
Ped 6P	6
Ped 4P	4
Ped 8P	
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags

- 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs

- (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	3
Coord Force-Off Adjust for Ped Service	<C+D+F>

Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

TOD Coordination
<9 Key with C+D+9=0>

TOD Function
<7 Key>

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	2.0	0.0		I-6U	3
8	2.0	0.0		I-6L	7
9	10.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Ocean Point

Page 5 (of 5)

Row	Column Numbers ---->	Phase							
		1	2	3	4	5	6	7	8
0	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

Column Numbers ---->	Phase							
	1	2	3	4	5	6	7	8
Phase Names ---->								
Ped Walk	0	7	0	7	0	7	0	7
Ped FDW	0	10	0	10	0	10	0	10
Min Green	3	7	3	7	3	7	3	7
Type 3 Limit	0	0	0	0	0	0	0	0
Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
Max Limit	17	40	17	40	17	40	17	40
Max Limit 2	30	70	30	70	30	70	30	70
-----	0	0	0	0	0	0	0	0
Call To Phase	0	0	0	0	0	0	0	0
Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Fireside

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **4/3/2018 9:19**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **74**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	10	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	74	<C+0+3>
QuicNet Channel	P:8009:10.160.0	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	0	0	4	0	5	0	7
1	Ped FDW	0	0	0	22	0	10	0	10
2	Min Green	3	10	3	5	3	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.2	0.0	0.0	0.0	1.2	0.0	1.2
5	Veh Extension	2.0	7.0	0.5	3.0	2.0	7.0	0.5	3.5
6	Max Gap	2.0	9.0	0.5	3.0	2.0	9.0	0.5	5.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	0.5	2.0
8	Max Limit	20	50	17	35	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0
E	Yellow Change	4.1	4.8	3.0	3.6	4.1	4.8	3.0	4.0
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12_456__
Red Lock	1__5__
Yellow Lock	_____
Min Recall	__2__6__
Ped Recall	_____
View Set Peds	- - - - -
Rest In Walk	_____
Red Rest	_____
Dual Entry	__2__6__
Max Recall	_____
Soft Recall	_____
Max 2	_____
Cond. Service	_____
Man Cntrl Calls	_____
Yellow Start	__2__6__
First Phases	__4__

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan									
		1	2	3	4	5	6	7	8	9	
Row	Plan Name ---->										Row
0	Cycle Length	80	90	100	100	100	120	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	55	55	55	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	1	1	1	25	25	25	3
4	Phase 4 - ForceOff	30	30	30	30	30	30	40	40	40	4
5	Phase 5 - ForceOff	60	60	60	60	60	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	1	1	1	1	1	25	25	25	7
8	Phase 8 - ForceOff	1	1	1	1	1	1	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	57	6	41	8	97	5	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	80	90	90	90	110	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F
Coordination <C Page>											

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	<u>2</u> <u>6</u>	1
Plan 2 - Sync	<u>2</u> <u>6</u>	2
Plan 3 - Sync	<u>2</u> <u>6</u>	3
Plan 4 - Sync	<u>2</u> <u>6</u>	4
Plan 5 - Sync	<u>2</u> <u>6</u>	5
Plan 6 - Sync	<u>2</u> <u>6</u>	6
Plan 7 - Sync	<u>2</u> <u>6</u>	7
Plan 8 - Sync	<u>2</u> <u>6</u>	8
Plan 9 - Sync	<u>2</u> <u>6</u>	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>4</u> <u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	
Ped 6P	<u>6</u>
Ped 4P	<u>4</u>
Ped 8P	
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 3
Coord Force-Off Adjust
for Ped Service <C+D+F>

Transition Type 0
TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag	<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:30	4	A	23456
2	09:00	5	A	23456
3	15:00	6	A	23456
4	19:00	E	A	23456
5	00:00	0	0	
6	14:15	5	A	
7	15:00	6	A	
8	16:00	3	A	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	12.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Fireside

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	0	0	4	0	5	0	7
1	Ped FDW	0	0	0	18	0	10	0	10
2	Min Green	3	10	3	5	3	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.2	0.0	0.0	0.0	1.2	0.0	1.2
5	Veh Extension	2.0	7.0	0.5	3.0	2.0	7.0	0.5	3.5
6	Max Gap	2.0	9.0	0.5	3.0	2.0	9.0	0.5	5.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	0.5	2.0
8	Max Limit	20	50	17	35	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0
E	Yellow Change	3.2	4.3	3.0	3.6	3.2	4.3	3.0	4.0
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	0	0	4	0	5	0	7
1	Ped FDW	0	0	0	18	0	10	0	10
2	Min Green	3	10	3	5	3	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.2	0.0	0.0	0.0	1.2	0.0	1.2
5	Veh Extension	2.0	7.0	0.5	3.0	2.0	7.0	0.5	3.5
6	Max Gap	2.0	9.0	0.5	3.0	2.0	9.0	0.5	5.0
7	Min Gap	2.0	3.0	0.5	3.0	2.0	3.0	0.5	2.0
8	Max Limit	20	50	17	35	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.0	1.0	0.0	0.0	1.0	1.0	1.0
E	Yellow Change	3.2	4.3	3.0	3.6	3.2	4.3	3.0	4.0
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: El Camino and Mission

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **1/22/2018 12:17**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **24**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	18	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	24	<C+0+3>
QuicNet Channel	Serial:COM40:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	37	0	48	0	37	0	10
2	Min Green	10	10	10	10	10	10	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	1.2
5	Veh Extension	3.0	7.0	3.0	3.0	3.0	7.0	0.5	3.5
6	Max Gap	3.0	9.0	3.0	3.0	3.0	9.0	0.5	5.0
7	Min Gap	3.0	5.0	3.0	3.0	3.0	5.0	0.5	2.0
8	Max Limit	30	50	35	35	35	50	17	40
9	Max Limit 2	30	70	30	70	40	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
E	Yellow Change	4.3	4.8	4.8	4.3	4.3	4.8	3.0	4.0
F	Red Clear	3.0	2.0	2.0	2.0	3.0	2.0	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	123456
Red Lock	1__5__
Yellow Lock	_____
Min Recall	__2__6__
Ped Recall	_____
View Set Peds	-----
Rest In Walk	_____
Red Rest	_____
Dual Entry	__2__6__
Max Recall	_____
Soft Recall	_____
Max 2	_____
Cond. Service	_____
Man Cntrl Calls	_____
Yellow Start	1__5__
First Phases	__2__6__

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
Row										Row
0	Cycle Length	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	D
E	Hold Release	255	255	255	255	255	255	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2_6	1
Plan 2 - Sync	2_6	2
Plan 3 - Sync	2_6	3
Plan 4 - Sync	2_6	4
Plan 5 - Sync	2_6	5
Plan 6 - Sync	2_6	6
Plan 7 - Sync	2_6	7
Plan 8 - Sync	2_6	8
Plan 9 - Sync	2_6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	2_4
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2_5
B	EV-B Phases	4_7
C	EV-C Phases	1_6
D	EV-D Phases	3_8
E	Extra 1 Config. Bits	1_4
F	IC Select (Interconnect)	2

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	6
Ped 4P	4
Ped 8P	
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	1_3
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 0
Coord Force-Off Adjust
for Ped Service <C+D+F>

Transition Type 0
TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	1_4_6_8	0
Plan 1 - Lag	2_4_6_8	1
Plan 2 - Lag	2_4_6_8	2
Plan 3 - Lag	2_4_6_8	3
Plan 4 - Lag	2_4_6_8	4
Plan 5 - Lag	2_4_6_8	5
Plan 6 - Lag	2_4_6_8	6
Plan 7 - Lag	2_4_6_8	7
Plan 8 - Lag	2_4_6_8	8
Plan 9 - Lag	2_4_6_8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	7
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: El Camino and Mission

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service	0	0	---	---	---	---	---	---	---
A	Int. ---->	---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: Mission & Douglas

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **10/18/2018 9:41**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **76**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	12	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	76	<C+0+3>
QuicNet Channel	Serial:COM40:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	20	0	28	0	22	0	26
2	Min Green	5	8	5	8	5	8	5	8
3	Type 3 Limit	0	99	0	0	0	99	0	99
4	Added Initial	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0
5	Veh Extension	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
6	Max Gap	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
7	Min Gap	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8	Max Limit	20	10	20	40	20	20	40	40
9	Max Limit 2	30	30	50	70	30	30	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
D	Reduce Every	0.0	1.0	0.0	1.5	0.0	1.0	0.0	0.0
E	Yellow Change	4.1	4.8	4.1	4.4	4.1	4.8	4.1	4.4
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12345678
Red Lock	
Yellow Lock	
Min Recall	4 8
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2 4 6 8
Max Recall	
Soft Recall	
Max 2	
Cond. Service	3
Man Cntrl Calls	
Yellow Start	3 7
First Phases	4 8

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

		Plan								
Column Numbers ---->		1	2	3	4	5	6	7	8	9
Row	Plan Name ---->									
0	Cycle Length	80	80	75	100	100	100	80	100	100
1	Phase 1 - ForceOff	65	65	60	65	65	65	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	25	25	23	25	25	25	25	25	25
4	Phase 4 - ForceOff	50	50	45	40	40	40	50	40	40
5	Phase 5 - ForceOff	65	65	60	65	65	65	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	1	1	1	25	25	25	1	25	25
8	Phase 8 - ForceOff	1	1	1	40	40	40	1	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	48	14	20	0	0	0	48	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	70	70	70	255	255	255	70	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination

<C Page>

(* = Coordination Recall)

		E	Row
Plan 1 - Sync		<u>2</u> <u>6</u>	1
Plan 2 - Sync		<u>2</u> <u>6</u>	2
Plan 3 - Sync		<u>2</u> <u>6</u>	3
Plan 4 - Sync		<u>2</u> <u>6</u>	4
Plan 5 - Sync		<u>2</u> <u>6</u>	5
Plan 6 - Sync		<u>2</u> <u>6</u>	6
Plan 7 - Sync		<u>2</u> <u>6</u>	7
Plan 8 - Sync		<u>2</u> <u>6</u>	8
Plan 9 - Sync		<u>2</u> <u>6</u>	9
Coord Ped *			A
NEMA Hold			B
			C
			D
			E
			F

Sync Phases

<C Page>

Column Numbers ---->		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>4</u> <u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>3</u> <u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

		F
RR Overlap A - Phases		
RR Overlap B - Phases		
RR Overlap C - Phases		
RR Overlap D - Phases		
Ped 2P		<u>2</u>
Ped 6P		<u>6</u>
Ped 4P		<u>4</u>
Ped 8P		<u>8</u>
Yellow Flash Phases		
Overlap A - Phases		
Overlap B - Phases		
Overlap C - Phases		
Overlap D - Phases		
Restricted Phases		
Assign 5 Outputs		

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5
Coord Force-Off Adjust for Ped Service	<C+D+F>
Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

		F	Row
Free Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *			A
Coord Lag *			B
			C
			D
			E
			F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	06:00	7	A	
2	09:00	2	A	
3	14:00	3	A	
4	19:00	E	A	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service	0	0	---	---	---	---	---	---	---
A	Int. ---->	---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited
Service
Interval
(Set Dwell = 255)

INTERSECTION: Mission & Rancho Del Oro

Page 1 (of 5)

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **121**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **9/28/2017 16:58**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	32	<C+0+0>
Zone Number		<C+0+1>
Area Number	6	<C+0+2>
Area Address	32	<C+0+3>
QuicNet Channel	Serial:COM40:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
Phase Names ---->		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	10	0	11	0	10
2	Min Green	5	10	3	7	5	10	6	6
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	1.2	0.0	2.0	0.0	1.2
5	Veh Extension	2.0	6.7	0.5	3.5	2.0	6.7	3.0	3.0
6	Max Gap	2.0	8.1	0.5	5.0	2.0	8.0	3.0	3.0
7	Min Gap	2.0	3.0	0.5	2.0	2.0	3.0	3.0	3.0
8	Max Limit	20	45	17	40	20	45	30	30
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1
D	Reduce Every	0.0	0.5	1.0	1.0	0.0	0.5	0.0	1.0
E	Yellow Change	4.1	5.0	3.0	4.0	4.1	5.0	4.1	4.8
F	Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12_5678
Red Lock	1_5_
Yellow Lock	_____
Min Recall	2_6_
Ped Recall	_____
View Set Peds	-----
Rest In Walk	_____
Red Rest	_____
Dual Entry	2_6_
Max Recall	_____
Soft Recall	_____
Max 2	_____
Cond. Service	_____
Man Cntrl Calls	_____
Yellow Start	2_6_
First Phases	7_

Phase Functions

<F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
Row										
0	Cycle Length	100	100	100	100	100	100	100	100	100
1	Phase 1 - ForceOff	55	60	60	63	60	61	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	20	15	20	25	20	25	25	25	25
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40
5	Phase 5 - ForceOff	55	60	60	61	60	63	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	20	15	20	25	20	25	25	25	25
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2 6	1
Plan 2 - Sync	2 6	2
Plan 3 - Sync	2 6	3
Plan 4 - Sync	2 6	4
Plan 5 - Sync	2 6	5
Plan 6 - Sync	2 6	6
Plan 7 - Sync	2 6	7
Plan 8 - Sync	2 6	8
Plan 9 - Sync	2 6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1
F	IC Select (Interconnect)	

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	6
Ped 4P	
Ped 8P	8
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	0
Coord Force-Off Adjust for Ped Service	<C+D+F>
Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	3.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Rancho Del Oro

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Row	Phase Names ---->	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

Column Numbers ---->	Phase							
	1	2	3	4	5	6	7	8
Phase Names ---->								
Ped Walk	0	7	0	7	0	7	0	7
Ped FDW	0	10	0	10	0	10	0	10
Min Green	3	7	3	7	3	7	3	7
Type 3 Limit	0	0	0	0	0	0	0	0
Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
Max Limit	17	40	17	40	17	40	17	40
Max Limit 2	30	70	30	70	30	70	30	70
-----	0	0	0	0	0	0	0	0
Call To Phase	0	0	0	0	0	0	0	0
Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

Row	Delay Only ---->	7	8	9	A	B	C	D	E	F
		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: El Camino & Los Arbolitos

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **1/22/2018 12:28**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **25**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	20	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	25	<C+0+3>
QuicNet Channel	Serial:COM40:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	30	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	0	0	7	0	7	0	7
1	Ped FDW	0	0	0	18	0	18	0	10
2	Min Green	0	12	6	6	6	12	3	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	1.2
5	Veh Extension	4.0	6.0	3.0	3.0	4.0	6.0	0.5	3.5
6	Max Gap	3.0	7.0	3.0	3.0	4.0	7.0	0.5	5.0
7	Min Gap	3.0	4.0	3.0	3.0	4.0	4.0	0.5	2.0
8	Max Limit	20	40	15	24	20	40	17	40
9	Max Limit 2	0	40	15	24	0	40	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.5	0.0	0.0	0.0	1.5	1.0	1.0
E	Yellow Change	3.6	4.3	3.6	3.7	4.1	4.3	3.0	4.0
F	Red Clear	1.0	1.5	1.0	1.0	1.0	1.5	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	23456
Red Lock	
Yellow Lock	
Min Recall	2 6
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2 6
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	5
First Phases	2 6

Phase Functions

<F Page>

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
Row										Row
0	Cycle Length	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	D
E	Hold Release	255	255	255	255	255	255	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2 6	1
Plan 2 - Sync	2 6	2
Plan 3 - Sync	2 6	3
Plan 4 - Sync	2 6	4
Plan 5 - Sync	2 6	5
Plan 6 - Sync	2 6	6
Plan 7 - Sync	2 6	7
Plan 8 - Sync	2 6	8
Plan 9 - Sync	2 6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	6
D	EV-D Phases	
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	
Ped 6P	6
Ped 4P	4
Ped 8P	
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust	5
Coord Force-Off Adjust for Ped Service	<C+D+F>

Transition Type	0
TBC Transition	<C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	2.0	0.0		I-5	16
7	2.0	0.0		I-6U	3
8	2.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	7.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: El Camino & Los Arbolitos

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service	0	0	---	---	---	---	---	---	---
A	Int. ---->	---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: RDO & Via Rancho

Page 1 (of 9)

 Group Assignment: **NONE**
 Field Master Assignment: **NONE**
 System Reference Number: **120**

 N/S Street Name: **Not Assigned**
 E/W Street Name: **Not Assigned**

 Last Database Change: **8/21/2019 9:05**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Drop Number	20	<C/0+0+0>
Zone Number	20	<C/0+0+1>
Area Number	1	<C/0+0+2>
Area Address	120	<C/0+0+3>
QuicNet Channel	Serial:COM38:	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	5.0	<F/1+C+0>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase

 (Outputs specified in Assignable
 Outputs at E/127+A+E & F)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	5	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	2.0	2.0	1.0	2.0	2.0	2.0	1.0	1.0

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

	F	Row
Permit	12_456_	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	2_6_	3
Ped Recall	_____	4
View Set Peds	-----	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	2_6_	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	2_6_	E
First Phases	4	F

Phase Functions <C+0+F=1>

		Overlap							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments

<C+0+E=29>

Extra 1 Flags

- 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = Solid FDW on EV
 5 = Extended Status
 6 = International Ped
 7 = Flash - Clear Outputs
 8 = Split Ring

Extra 2 Flags

- 1 = AWB During Initial
 2 = LMU Installed
 3 = Disable Min Walk
 4 = QuicNet/4 System
 5 = Ignore P/P on EV
 6 =
 7 = Allow QuicNet PE
 8 =

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

Preempt Priority

<C+0+E=125>

(* RR-1 is always Highest,
 and RR-2 is always
 Second Highest)

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2_5
B	EV-B Phases	4
C	EV-C Phases	1_6
D	EV-D Phases	
E	Extra 1 Config. Bits	1_3
F	IC Select (Interconnect)	2

Configuration

<C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	
Ped for 4P Output	4
Ped for 8P Output	
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Configuration

<C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12_456
Sequential Timing	
Advance Walk Phases	4
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12_456
Start-up Ped Calls	2_4

Specials

<C+0+F=2>

Flash to PE &
PE Non-Lock

- 1 = EV A 5 = RR 1
 2 = EV B 6 = RR 2
 3 = EV C 7 = SE 1
 4 = EV D 8 = SE 2

IC Select Flags

- 1 =
 2 = Modern
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

Coordination
Transition
Minimums

<C+0+C=5>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length	100	100	100	100	100	100	100	100	100
1	Phase 1 - ForceOff	55	55	55	55	55	55	55	55	55
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	20	20	20	20	20	20	20	20	20
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40
5	Phase 5 - ForceOff	55	55	55	55	55	55	55	55	55
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	20	20	20	20	20	20	20	20	20
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Perm 1 - End	15	15	15	15	15	15	15	15	15
E	Hold Release	255	255	255	255	255	255	255	255	255
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination - Bank 1

<C+0+C=1>

0	Ped Adjustment	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0
2	Perm 2 - End	0	0	0	0	0	0	0	0	0
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0
4	Perm 3 - End	0	0	0	0	0	0	0	0	0
5	Reservice Time	0	0	0	0	0	0	0	0	0
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2

<C+0+C=2>

Coord Extra
 1 = Programmed WALK Time for Sync Phases
 2 = Always Terminate Sync Phase Peds

0		E	0
1	Plan 1 - Sync	2 6	1
2	Plan 2 - Sync	2 6	2
3	Plan 3 - Sync	2 6	3
4	Plan 4 - Sync	2 6	4
5	Plan 5 - Sync	2 6	5
6	Plan 6 - Sync	2 6	6
7	Plan 7 - Sync	2 6	7
8	Plan 8 - Sync	2 6	8
9	Plan 9 - Sync	2 6	9
A	NEMA Sync		A
B	NEMA Hold		B
C			C
D			D
E	Coord Extra		E
F			F

Sync Phases

<C+0+C=1>

0		F	0
1	Free Lag	2 4 6 8	1
2	Plan 1 - Lag	2 4 6 8	2
3	Plan 2 - Lag	2 4 6 8	3
4	Plan 3 - Lag	2 4 6 8	4
5	Plan 4 - Lag	2 4 6 8	5
6	Plan 5 - Lag	2 4 6 8	6
7	Plan 6 - Lag	2 4 6 8	7
8	Plan 7 - Lag	2 4 6 8	8
9	Plan 8 - Lag	2 4 6 8	9
A	Plan 9 - Lag	2 4 6 8	A
B	External Lag		B
C			C
D			D
E			E
F			F

Lag Phases

<C+0+C=1>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs

<C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs

<C+0+E=127>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

		1	2	3	4	5	6	7	8
Row									
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

	9	A	B	C	D
	---	---	---	---	---
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
 0.X = Shortway
 1.X = Lengthen
 X.1 thru X.4 =
 Number of
 cycles when
 lengthening

Transition Type | 0.3 <C/5+1+9>

TBC Transition

Lag Hold Phases | <C/5+1+A>

Coordinated Lag Hold Phases

Daylight Savings
 Date
 If set to all zeros,
 standard dates
 will be used.

Begin Month | 3 <C/5+2+A>

Begin Week | 2 <C/5+2+B>

End Month | 11 <C/5+2+C>

End Week | 1 <C/5+2+D>

Daylight Savings Time

Time B4 Yellow | 0.0 <F/1+C+E>

Phase Number | 0 <F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow | 0.0 <F/1+D+E>

Phase Number | 0 <F/1+D+F>

Advance Warning Beacon - Sign 2

Column Numbers ---->						1	3
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45_7_	2_	123_8	0.0	0.0
1		40	45_7_	6_	123_8	0.0	0.0
2		41	45_7_	4_	123_8	5.0	0.0
3		42	45_7_	8_	123_	0.0	0.0
4		43	45_7_	2_	123_	0.0	0.0
5		44	45_7_	6_	123_	0.0	0.0
6		45	45_7_	4_	123_8	8.0	0.0
7		46	45_7_	8_	123_	0.0	0.0
8		47	67_	2_	123_8	0.0	0.0
9		48	67_	6_	123_8	0.0	0.0
A		49	67_	4_	123_	0.0	0.0
B		50	67_	8_	123_	0.0	0.0
C		55	45_7_	5_	123_8	0.0	0.0
D		56	45_7_	1_	123_8	0.0	0.0
E		57	45_7_	7_	123_	0.0	0.0
F		58	45_7_	3_	123_	0.0	0.0

Column Numbers ---->						2	4
Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7_	5_	123_	0.0	0.0
1		60	45_7_	1_	123_	0.0	0.0
2		61	45_7_	7_	123_	0.0	0.0
3		62	45_7_	3_	123_	0.0	0.0
4		63	45_7_	2_	123_	0.0	0.0
5		64	45_7_	6_	123_	0.0	0.0
6		65	45_7_	4_	123_	0.0	0.0
7		66	45_7_	8_	123_	0.0	0.0
8		67	2_	2_	123_8	0.0	0.0
9		68	2_	6_	123_	0.0	0.0
A		69	2_	4_	123_8	0.0	0.0
B		70	2_	8_	123_	0.0	0.0
C		76	45_7_	2_	123_	0.0	0.0
D		77	45_7_	6_	123_	0.0	0.0
E		78	45_7_	4_	123_	0.0	0.0
F		79	45_7_	8_	123_	0.0	0.0

Detector Assignments <C+0+E=126>

<C+0+D=0>

Ped / Phase / Overlap									Row
Column Numbers ---->	1	2	3	4	5	6	7	8	
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type || 0 <E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes) || 255 <D/0+0+1>

Max ON (minutes) || 20 <D/0+0+2>

Detector Failure MonitorDetector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 =
- 4 = Count
- 5 = Extension
- 6 = Type 3
- 7 = Calling
- 8 = Alternate

Det. Assignments

- 1 = Det. Set 1
- 2 = Det. Set 2
- 3 = Det. Set 3
- 4 =
- 5 =
- 6 = Failure - Min Recall
- 7 = Failure - Max Recall
- 8 = Report on Failure

Disable Alarms

- 1 = Stop Time
- 2 = Flash Sense
- 3 = Keyboard Entry
- 4 = Manual Plan
- 5 = Police Control
- 6 = External Alarm
- 7 = Detector Failure
- 8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Omit Alarm || <C/5+F+0>

Disable Alarm Reporting

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
14 : 15	B	23456	4
14 : 50	B	23456	
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
 0 =
 1 = Red Lock
 2 = Yellow Lock
 3 = Veh Min Recall
 4 = Ped Recall
 5 =
 6 = Rest In Walk
 7 = Red Rest
 8 = Double Entry
 9 = Veh Max Recall
 A = Veh Soft Recall
 B = Maximum 2
 C = Conditional Service
 D = Free Lag Phases
 E = Bit 1 - Local Override
 Bit 4 - Disable Detector
 OFF Monitor
 Bit 5 - Disable Low
 Priority Preempt
 Bit 7 - Detector Count
 Monitor
 Bit 8 - Real Time Split
 Monitor
 F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		
00 : 00	0		

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	
00	00	0	

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	
00 : 00	0	0	

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
 1 thru 9 = Coordination
 Plan 1 thru 9
 14 or E = Free
 15 or F = Flash

Offset Select
 A = Offset A
 B = Offset B
 C = Offset C

Month Select
 1 = January
 2 = February
 3 = March
 4 = April
 5 = May
 6 = June
 7 = July
 8 = August
 9 = September
 A = October
 B = November
 C = December

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:

0 <E/27+5+F>

Limited Service Interval

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds) || 0 <F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes) || 255 <F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds) || 0 <F/1+0+A>

Min Time Between Same Preempts

(Does Not Apply To Railroad Preempt)

Low Pri. Channel || <E/125+C+8>

Disable Low Priority ChannelLow Priority

- 1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Delay Time (seconds) || 0 <F/1+A+D>

Bus Delay

Max Time (seconds) || 0 <F/1+A+E>

Max Early Green

Max Time (seconds) || 0 <F/1+A+F>

Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	
1	00 : 00	0	0	
2	00 : 00	0	0	
3	00 : 00	0	0	
4	00 : 00	0	0	
5	00 : 00	0	0	
6	00 : 00	0	0	
7	00 : 00	0	0	
8	00 : 00	0	0	
9	00 : 00	0	0	
A	00 : 00	0	0	
B	00 : 00	0	0	
C	00 : 00	0	0	
D	00 : 00	0	0	
E	00 : 00	0	0	
F	00 : 00	0	0	

Headway <C+0+9=2.1>Headway Time
(minutes)

1 thru 9 = 1 thru 9

A = 10

B = 11

C = 12

D = 13

E = 14

F = 15

Low Priority Preemption (Bus Priority)Only available with *Program 233RV2.B* (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: Mesa Dr & Rancho Del Oro

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **8/8/2017 10:55**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **119**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	18	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	119	<C+0+3>
QuicNet Channel	Serial:COM38:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

Column Numbers ---->		Phase							
Phase Names ---->		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	18	0	18	0	18	0	18
2	Min Green	5	8	5	8	5	8	5	8
3	Type 3 Limit	0	99	0	99	0	99	0	99
4	Added Initial	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
6	Max Gap	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
7	Min Gap	3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0
8	Max Limit	25	30	25	30	40	30	30	30
9	Max Limit 2	25	20	25	30	40	20	30	30
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
D	Reduce Every	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
E	Yellow Change	4.1	4.8	4.4	5.2	4.1	4.8	4.4	5.2
F	Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	12345678
Red Lock	
Yellow Lock	
Min Recall	2 6
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2 4 6 8
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	2 6
First Phases	3 7

Phase Functions

<F Page>

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
Row										Row
0	Cycle Length	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	D
E	Hold Release	255	255	255	255	255	255	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	F

Coordination

<C Page>

(* = Coordination Recall)

E		Row
Plan 1 - Sync	2 6	1
Plan 2 - Sync	2 6	2
Plan 3 - Sync	2 6	3
Plan 4 - Sync	2 6	4
Plan 5 - Sync	2 6	5
Plan 6 - Sync	2 6	6
Plan 7 - Sync	2 6	7
Plan 8 - Sync	2 6	8
Plan 9 - Sync	2 6	9
Coord Ped *		A
NEMA Hold		B
		C
		D
		E
		F

Sync Phases

<C Page>

Column Numbers ---->		E
Row		
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration

<E Page>

F	
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	6
Ped 4P	4
Ped 8P	8
Yellow Flash Phases	
Overlap A - Phases	
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	
Assign 5 Outputs	

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 0
Coord Force-Off Adjust
for Ped Service <C+D+F>

Transition Type 0
TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

F		Row
Free Lag	2 4 6 8	0
Plan 1 - Lag	2 4 6 8	1
Plan 2 - Lag	2 4 6 8	2
Plan 3 - Lag	2 4 6 8	3
Plan 4 - Lag	2 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
07:00	B	
07:45	B	
13:15	B	
14:05	B	
13:50	B	
14:45	B	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mesa Dr & Rancho Del Oro

Page 5 (of 5)

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	18	0	18	0	18	0	18
2	Min Green	4	8	4	8	4	8	4	8
3	Type 3 Limit	0	99	0	99	0	99	0	99
4	Added Initial	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0
5	Veh Extension	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
6	Max Gap	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
7	Min Gap	3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0
8	Max Limit	25	30	25	30	40	30	30	30
9	Max Limit 2	25	30	25	30	30	30	30	30
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
D	Reduce Every	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
E	Yellow Change	3.6	4.7	3.6	4.7	3.6	4.7	3.6	4.7
F	Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	18	0	18	0	18	0	18
2	Min Green	4	8	4	8	4	8	4	8
3	Type 3 Limit	0	99	0	99	0	99	0	99
4	Added Initial	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0
5	Veh Extension	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
6	Max Gap	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
7	Min Gap	3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0
8	Max Limit	25	30	25	30	40	30	30	30
9	Max Limit 2	25	30	25	30	30	30	30	30
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
D	Reduce Every	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
E	Yellow Change	3.6	4.7	3.6	4.7	3.6	4.7	3.6	4.7
F	Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service	0	0	---	---	---	---	---	---	---
A	Int. ---->	---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

INTERSECTION: El Camino & Mesa

Page 1 (of 5)

Group Assignment: **NONE**N/S Street Name: **Not Assigned**Last Database Change: **1/22/2018 12:17**Field Master Assignment: **NONE**E/W Street Name: **Not Assigned**System Reference Number: **22**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	5	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	22	<C+0+3>
QuicNet Channel	Serial:COM36:	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	2.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Start / Revert Times

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	7	0	0	7	0	7
1	Ped FDW	0	14	21	0	0	18	0	10
2	Min Green	5	10	8	8	5	10	4	7
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	1.2
5	Veh Extension	3.0	4.0	3.0	3.0	3.0	3.5	3.0	3.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	5.0
7	Min Gap	3.0	4.0	3.0	3.0	3.0	4.0	3.0	2.0
8	Max Limit	20	50	35	30	20	50	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1
D	Reduce Every	0.0	1.5	0.0	0.0	0.0	1.5	1.0	1.0
E	Yellow Change	4.4	5.0	4.8	4.4	4.4	5.0	3.0	4.0
F	Red Clear	1.0	2.0	1.0	1.0	1.0	2.0	0.0	1.0

Phase Timing - Bank 1

<F Page>

E	
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F	
Permit	123456
Red Lock	
Yellow Lock	
Min Recall	2 6
Ped Recall	
View Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	2 6
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	2 6
First Phases	3

Phase Functions

<F Page>

Row	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
A	
B	
C	
D	
E	
F	

Manual Plan
 0 = Automatic
 1-9 = Plan 1-9
 14 = Free
 15 = Flash

Manual Offset
 0 = Automatic
 1 = Offset A
 2 = Offset B
 3 = Offset C

		Plan								
Column Numbers ---->		1	2	3	4	5	6	7	8	9
Row	Plan Name ---->									
0	Cycle Length	100	100	100	100	100	100	100	100	100
1	Phase 1 - ForceOff	55	60	60	63	60	61	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	20	15	20	25	20	25	25	25	25
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40
5	Phase 5 - ForceOff	55	60	60	61	60	63	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	20	15	20	25	20	25	25	25	25
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination

<C Page>

(* = Coordination Recall)

		E	Row
Plan 1 - Sync		<u>2</u> <u>6</u>	1
Plan 2 - Sync		<u>2</u> <u>6</u>	2
Plan 3 - Sync		<u>2</u> <u>6</u>	3
Plan 4 - Sync		<u>2</u> <u>6</u>	4
Plan 5 - Sync		<u>2</u> <u>6</u>	5
Plan 6 - Sync		<u>2</u> <u>6</u>	6
Plan 7 - Sync		<u>2</u> <u>6</u>	7
Plan 8 - Sync		<u>2</u> <u>6</u>	8
Plan 9 - Sync		<u>2</u> <u>6</u>	9
Coord Ped *			A
NEMA Hold			B
			C
			D
			E
			F

Sync Phases

<C Page>

Column Numbers ---->		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u>2</u> <u>5</u>
B	EV-B Phases	<u>4</u> <u>7</u>
C	EV-C Phases	<u>1</u> <u>6</u>
D	EV-D Phases	<u>3</u> <u>8</u>
E	Extra 1 Config. Bits	<u>1</u> <u>4</u>
F	IC Select (Interconnect)	<u>2</u>

Configuration

<E Page>

		F
RR Overlap A - Phases		
RR Overlap B - Phases		
RR Overlap C - Phases		
RR Overlap D - Phases		
Ped 2P		<u>2</u>
Ped 6P		<u>6</u>
Ped 4P		
Ped 8P		<u>3</u>
Yellow Flash Phases		
Overlap A - Phases		
Overlap B - Phases		
Overlap C - Phases		
Overlap D - Phases		
Restricted Phases		
Assign 5 Outputs		

Configuration

<E Page>

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 =
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

Assign 5 Outputs
 (Ped Loadswitch Yellows)
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Force-Off Adjust 0
Coord Force-Off Adjust
for Ped Service <C+D+F>

Transition Type 0
TBC Transition <C+D+D>

Transition Type
 0 = Shortway
 Non-zero = Lengthen

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

		F	Row
Free Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	0
Plan 1 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	1
Plan 2 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	2
Plan 3 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	3
Plan 4 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	4
Plan 5 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	5
Plan 6 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	6
Plan 7 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	7
Plan 8 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	8
Plan 9 - Lag		<u>2</u> <u>4</u> <u>6</u> <u>8</u>	9
Coord Max *			A
Coord Lag *			B
			C
			D
			E
			F

Lag Phases

<C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct	Day of Week
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	
00:00	0	

TOD Function
<7 Key>

Column F
Phases/Bits

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	
00:00	0	0	

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week	Row
00:00	0	0		0
00:00	0	0		1
00:00	0	0		2
00:00	0	0		3
00:00	0	0		4
00:00	0	0		5
00:00	0	0		6
00:00	0	0		7
00:00	0	0		8
00:00	0	0		9
00:00	0	0		A
00:00	0	0		B
00:00	0	0		C
00:00	0	0		D
00:00	0	0		E
00:00	0	0		F

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector
OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Day	Year	Month	Day of Week
A				
B				
C				

Holiday # 1 Date	0	0	0
Holiday # 2 Date	0	0	0
Holiday # 3 Date	0	0	0

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	6.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	12.0	0.0		I-9L	20
E	---	---	---	---	---
F	---	---	---	---	---

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	---	---	---	---	---
F	---	---	---	---	---

Detector Delay & Carryover <D Page>

Row	9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	0.0	0.0	0.0	0
B	0.0	0.0	0.0	0
C	0.0	0.0	0.0	0
D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row	0 Detector Number
0	
1	System Det. # 1
2	System Det. # 2
3	System Det. # 3
4	System Det. # 4
5	System Det. # 5
6	System Det. # 6
7	System Det. # 7
8	System Det. # 8

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: El Camino & Mesa

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		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2

<F Page>

		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	-----	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3

<F Page>

		7	8	9	A	B	C	D	E	F
Delay Only ---->		Time	Dwell	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0	---	---	---	---	---	---	---	---
1		0	0	---	---	---	---	---	---	---
2		0	0	---	---	---	---	---	---	---
3		0	0	---	---	---	---	---	---	---
4		0	0	---	---	---	---	---	---	---
5		0	0	---	---	---	---	---	---	---
6		0	0	---	---	---	---	---	---	---
7		0	0	---	---	---	---	---	---	---
8		0	0	---	---	---	---	---	---	---
9	Limited Service Int. ---->	0	0	---	---	---	---	---	---	---
A		---	0	---	---	---	---	---	---	---
B		0	0	---	---	---	---	---	---	---
C		0	0	---	---	---	---	---	---	---
D		0	0	---	---	---	---	---	---	---
E		0	0	---	---	---	---	---	---	---
F		0	0	---	---	---	---	---	---	---

Special Event Schedule

<C Page with F+9+F=22>

<--- Limited Service Interval
(Set Dwell = 255)

APPENDIX B

CITY OF OCEANSIDE ROADWAY CLASSIFICATION TABLE



TABLE 3-3
CIRCULATION ELEMENT ROADWAY CLASSIFICATION LOS & CAPACITY

Class	Lanes	Cross Section ¹	Level of Service				
			A	B	C	D	E
Expressway	6	102/160 122/200	30,000	42,000	60,000	70,000	80,000
Expressway	4	102/160 122/200	25,000	35,000	50,000	55,000	60,000
Prime Arterial	6	104/124	25,000	35,000	50,000	55,000	60,000
6-Lane Major Arterial	6	104/124	20,000	28,000	40,000	45,000	50,000
5-Lane Major Arterial ²	5	102/122	17,500	24,500	35,000	40,000	45,000
4-Lane Major Arterial	4	80/100	15,000	21,000	30,000	35,000	40,000
Secondary Collector (4 lanes with 2-way left-turn lane)	4	64/84	10,000	14,000	20,000	25,000	30,000
Secondary Collector (4 lanes without 2-way left-turn lane, with left turn pockets)	4	54/74, 60/80	9,000	13,000	18,000	22,000	25,000
Collector (commercial fronting, 2-lanes with 2-way left-turn lane) ³	2	50/70	5,000	7,000	10,000	13,000	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	2	40/60, 50/70	4,000	5,500	7,500	9,000	10,000
Local Street (residential streets NOT in the Circulation Element)	2	36/56, 40/60	—	—	2,200	—	—

Footnotes:

1. Cross sections are listed as curb-to-curb width/total right-of-way width, in feet.
2. Vandegrift Boulevard and El Camino Real are the only Circulation Element roadways designated as a 5-lane Major Arterial. It is not intended that other roadways be built to 5-lane Major Arterial standards.
3. This capacity will also be assumed for a two-lane one-way collector.

APPENDIX C

INTERSECTION ANALYSIS WORKSHEETS – WEEKDAY EXISTING

Existing AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	294	226	1036	574	286
Future Volume (vph)	294	226	1036	574	286
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	23.5	23.5	34.0	57.5	22.5
Total Split (%)	29.4%	29.4%	42.5%	71.9%	28.1%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

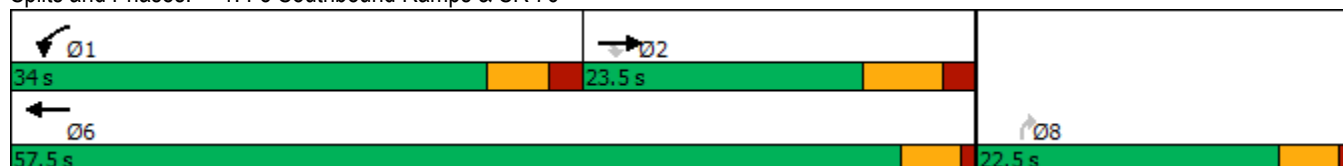
Cycle Length: 80

Actuated Cycle Length: 57.1

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	294	226	1036	574	0	286
Future Volume (vph)	294	226	1036	574	0	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1562	3433	3539		1611
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1562	3433	3539		1611
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	300	231	1057	586	0	292
RTOR Reduction (vph)	0	187	0	0	0	263
Lane Group Flow (vph)	300	44	1057	586	0	29
Confl. Peds. (#/hr)		1				
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	10.9	10.9	23.5	42.4		5.6
Effective Green, g (s)	10.9	10.9	23.5	42.4		5.6
Actuated g/C Ratio	0.19	0.19	0.41	0.74		0.10
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	676	298	1415	2632		158
v/s Ratio Prot	c0.08		c0.31	0.17		
v/s Ratio Perm		0.03				c0.02
v/c Ratio	0.44	0.15	0.75	0.22		0.18
Uniform Delay, d1	20.4	19.2	14.2	2.2		23.6
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.2	2.2	0.0		0.6
Delay (s)	20.8	19.4	16.4	2.3		24.2
Level of Service	C	B	B	A		C
Approach Delay (s)	20.2			11.4	24.2	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			57.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			53.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Existing AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	473	107	1046	1354	99	572
Future Volume (vph)	473	107	1046	1354	99	572
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	26.6	24.1	29.3	55.9	24.1	24.1
Total Split (%)	33.3%	30.1%	36.6%	69.9%	30.1%	30.1%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 68.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
29.3 s	26.6 s	
← Ø6	↘ Ø8	
55.9 s	24.1 s	

Existing AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	473	107	1046	1354	99	572
Future Volume (veh/h)	473	107	1046	1354	99	572
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	1870	1870
Adj Flow Rate, veh/h	488	110	1078	1396	102	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	719	441	1259	2380	135	
Arrive On Green	0.20	0.20	0.36	0.67	0.08	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	488	110	1078	1396	102	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	7.0	3.0	16.0	11.8	3.1	0.0
Cycle Q Clear(g_c), s	7.0	3.0	16.0	11.8	3.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	719	441	1259	2380	135	
V/C Ratio(X)	0.68	0.25	0.86	0.59	0.76	
Avail Cap(c_a), veh/h	1194	652	1473	3075	579	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.4	15.5	16.3	5.0	25.1	0.0
Incr Delay (d2), s/veh	1.1	0.3	4.6	0.2	8.4	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	2.4	1.0	5.3	1.3	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	15.8	20.9	5.2	33.5	0.0
LnGrp LOS	C	B	C	A	C	
Approach Vol, veh/h	598			2474	102	A
Approach Delay, s/veh	20.5			12.0	33.5	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	25.9	19.2			45.1	10.3
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 24	18.6			47.9	18.0
Max Q Clear Time (g_c+I1), s	18.0	9.0			13.8	5.1
Green Ext Time (p_c), s	2.2	2.2			11.5	0.2
Intersection Summary						
HCM 6th Ctrl Delay			14.3			
HCM 6th LOS			B			
Notes						

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

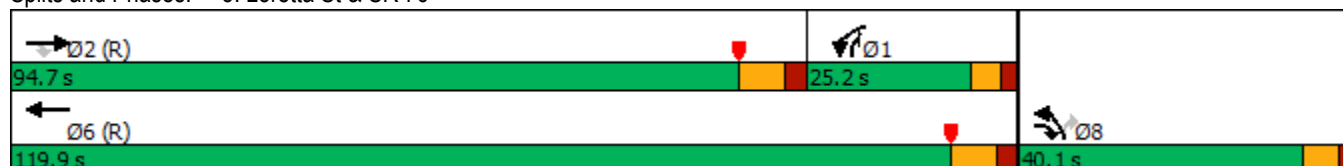
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	1028	17	14	2355	45	22
Future Volume (vph)	1028	17	14	2355	45	22
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	10.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	38.1	14.7	33.0	38.1	14.7
Total Split (s)	94.7	40.1	25.2	119.9	40.1	25.2
Total Split (%)	59.2%	25.1%	15.8%	74.9%	25.1%	15.8%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (veh/h)	1028	17	14	2355	45	22
Future Volume (veh/h)	1028	17	14	2355	45	22
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	1870	1870
Adj Flow Rate, veh/h	1060	18	14	2428	46	23
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1215	636	820	3029	106	824
Arrive On Green	0.34	0.34	0.46	0.85	0.06	0.06
Sat Flow, veh/h	3647	1583	1781	3647	1781	1585
Grp Volume(v), veh/h	1060	18	14	2428	46	23
Grp Sat Flow(s),veh/h/ln	1777	1583	1781	1777	1781	1585
Q Serve(g_s), s	44.8	1.1	0.7	51.0	4.0	0.0
Cycle Q Clear(g_c), s	44.8	1.1	0.7	51.0	4.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1215	636	820	3029	106	824
V/C Ratio(X)	0.87	0.03	0.02	0.80	0.43	0.03
Avail Cap(c_a), veh/h	1926	952	820	3029	379	1066
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	29.0	23.5	5.5	72.6	18.7
Incr Delay (d2), s/veh	5.5	0.0	0.0	2.3	2.8	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	20.0	0.5	0.3	10.8	1.9	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.9	29.0	23.5	7.9	75.4	18.7
LnGrp LOS	D	C	C	A	E	B
Approach Vol, veh/h	1078			2442	69	
Approach Delay, s/veh	54.5			7.9	56.5	
Approach LOS	D			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	81.7	62.7			144.4	15.6
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	19.5	* 87			111.9	34.0
Max Q Clear Time (g_c+I1), s	2.7	46.8			53.0	6.0
Green Ext Time (p_c), s	0.0	8.0			37.6	0.2
Intersection Summary						
HCM 6th Ctrl Delay			22.8			
HCM 6th LOS			C			
Notes						

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

Existing AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1039	11	109	2346	23	117
Future Volume (vph)	1039	11	109	2346	23	117
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	39.1	15.7	33.0	39.1	15.7
Total Split (s)	87.2	37.1	35.7	122.9	37.1	35.7
Total Split (%)	54.5%	23.2%	22.3%	76.8%	23.2%	22.3%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 141 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	1039	11	109	2346	23	117
Future Volume (veh/h)	1039	11	109	2346	23	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	1117	12	117	2523	25	126
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2527	1241	139	2931	301	262
Arrive On Green	0.71	0.71	0.08	0.82	0.09	0.09
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	1117	12	117	2523	25	126
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	21.2	0.3	10.4	68.6	1.1	11.5
Cycle Q Clear(g_c), s	21.2	0.3	10.4	68.6	1.1	11.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2527	1241	139	2931	301	262
V/C Ratio(X)	0.44	0.01	0.84	0.86	0.08	0.48
Avail Cap(c_a), veh/h	2527	1241	334	2931	670	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.15	0.15	1.00	1.00
Uniform Delay (d), s/veh	9.7	3.3	72.7	8.5	67.2	60.6
Incr Delay (d2), s/veh	0.6	0.0	2.1	0.6	0.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.1	4.7	16.8	0.5	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.3	3.3	74.9	9.0	67.3	61.9
LnGrp LOS	B	A	E	A	E	E
Approach Vol, veh/h	1129			2640	151	
Approach Delay, s/veh	10.2			11.9	62.8	
Approach LOS	B			B	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	18.2	121.8			140.0	20.0
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 30	79.2			114.9	31.0
Max Q Clear Time (g_c+I1), s	12.4	23.2			70.6	13.5
Green Ext Time (p_c), s	0.2	8.9			32.8	0.4

Intersection Summary

HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	966	111	43	1996	5	73	22	53	6	17	229
Future Volume (vph)	79	966	111	43	1996	5	73	22	53	6	17	229
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	23.7	50.1	50.1	20.7	21.1	20.7
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	14.8%	31.3%	31.3%	12.9%	13.2%	12.9%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

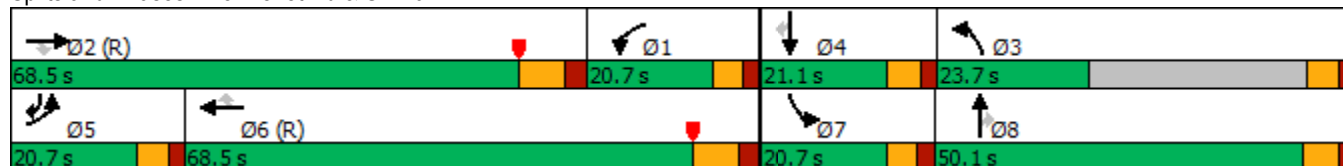
Actuated Cycle Length: 160

Offset: 69 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	966	111	43	1996	5	73	22	53	6	17	229
Future Volume (veh/h)	79	966	111	43	1996	5	73	22	53	6	17	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
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	86	1050	121	47	2170	5	79	24	58	7	18	249
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1171	517	584	2104	939	130	279	236	36	175	271
Arrive On Green	0.08	0.33	0.33	0.66	1.00	1.00	0.07	0.15	0.15	0.02	0.09	0.09
Sat Flow, veh/h	1781	3554	1568	1781	3554	1585	1781	1870	1585	1781	1870	1542
Grp Volume(v), veh/h	86	1050	121	47	2170	5	79	24	58	7	18	249
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1777	1585	1781	1870	1585	1781	1870	1542
Q Serve(g_s), s	7.5	45.0	9.0	1.5	0.0	0.0	6.9	1.8	2.6	0.6	1.4	15.0
Cycle Q Clear(g_c), s	7.5	45.0	9.0	1.5	0.0	0.0	6.9	1.8	2.6	0.6	1.4	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	1171	517	584	2104	939	130	279	236	36	175	271
V/C Ratio(X)	0.61	0.90	0.23	0.08	1.03	0.01	0.61	0.09	0.25	0.20	0.10	0.92
Avail Cap(c_a), veh/h	167	1344	593	584	2104	939	200	514	436	167	175	271
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	51.1	39.0	18.8	0.0	0.0	72.0	58.7	15.7	77.1	66.3	43.8
Incr Delay (d2), s/veh	4.1	9.8	0.9	0.0	18.5	0.0	4.6	0.1	0.5	2.6	0.3	34.3
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	3.5	20.8	3.7	0.6	5.4	0.0	3.3	0.9	2.1	0.3	0.7	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.3	60.9	39.9	18.8	18.5	0.0	76.5	58.8	16.3	79.8	66.6	78.1
LnGrp LOS	E	E	D	B	F	A	E	E	B	E	E	E
Approach Vol, veh/h		1257			2222			161			274	
Approach Delay, s/veh		59.8			18.5			52.2			77.4	
Approach LOS		E			B			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	60.4	60.7	17.7	21.1	18.4	102.7	8.9	29.9				
Change Period (Y+Rc), s	8.0	* 8	6.1	* 6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 61	18.0	* 15	* 15	60.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	3.5	47.0	8.9	17.0	9.5	2.0	2.6	4.6				
Green Ext Time (p_c), s	0.0	5.7	0.1	0.0	0.1	30.5	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			37.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	24	1296	37	30	2049	25	60	27	38	31	11
Future Volume (vph)	24	1296	37	30	2049	25	60	27	38	31	11
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	78.5	78.5	20.7	78.5	78.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	12.9%	49.1%	49.1%	12.9%	49.1%	49.1%	12.9%	28.2%	9.8%	13.2%	13.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160

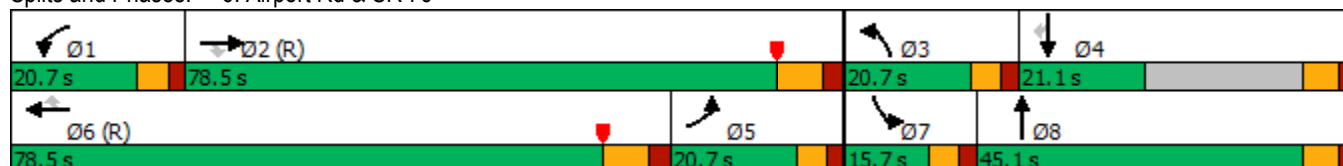
Actuated Cycle Length: 160

Offset: 83 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Existing AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1296	37	30	2049	25	60	27	86	38	31	11
Future Volume (veh/h)	24	1296	37	30	2049	25	60	27	86	38	31	11
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	25	1350	39	31	2134	26	62	28	90	40	32	11
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	439	2344	1045	75	1566	698	134	34	109	93	120	102
Arrive On Green	0.49	1.00	1.00	0.08	0.88	0.88	0.07	0.09	0.09	0.05	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	390	1254	1781	1870	1585
Grp Volume(v), veh/h	25	1350	39	31	2134	26	62	0	118	40	32	11
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1645	1781	1870	1585
Q Serve(g_s), s	1.2	0.0	0.0	2.6	70.5	0.2	5.3	0.0	11.3	3.5	2.6	0.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.6	70.5	0.2	5.3	0.0	11.3	3.5	2.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	439	2344	1045	75	1566	698	134	0	143	93	120	102
V/C Ratio(X)	0.06	0.58	0.04	0.41	1.36	0.04	0.46	0.00	0.82	0.43	0.27	0.11
Avail Cap(c_a), veh/h	439	2344	1045	167	1566	698	167	0	401	111	175	149
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.83	0.83	0.83	0.27	0.27	0.27	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	0.0	71.4	9.5	3.0	70.9	0.0	71.8	73.6	71.3	29.1
Incr Delay (d2), s/veh	0.0	0.9	0.1	1.0	164.4	0.0	2.4	0.0	10.9	3.2	1.2	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	0.5	0.3	0.0	1.2	39.6	0.1	2.5	0.0	5.2	1.7	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.9	0.1	72.4	173.9	3.1	73.4	0.0	82.7	76.7	72.5	29.6
LnGrp LOS	C	A	A	E	F	A	E	A	F	E	E	C
Approach Vol, veh/h		1414			2191			180			83	
Approach Delay, s/veh		1.4			170.5			79.5			68.8	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	113.5	17.7	16.4	47.5	78.5	14.0	20.0				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	70.5	* 15	15.0	15.0	* 71	* 10	39.0				
Max Q Clear Time (g_c+I1), s	4.6	2.0	7.3	4.6	3.2	72.5	5.5	13.3				
Green Ext Time (p_c), s	0.0	12.5	0.1	0.1	0.0	0.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	102.2
HCM 6th LOS	F

Notes

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1371	44	52	2038	34	37	26	51	52	20	38
Future Volume (vph)	29	1371	44	52	2038	34	37	26	51	52	20	38
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	48.0	48.0	18.7	52.1	52.1	18.7	19.1	19.1
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	13.6%	32.6%	32.6%	11.7%	12.6%	12.6%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

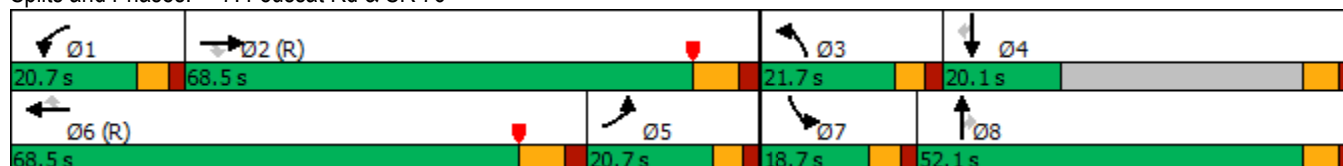
Actuated Cycle Length: 160

Offset: 53 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd & SR 76



Existing AM
7: Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1371	44	52	2038	34	37	26	51	52	20	38
Future Volume (veh/h)	29	1371	44	52	2038	34	37	26	51	52	20	38
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	29	1385	44	53	2059	34	37	26	52	53	20	38
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1035	2218	989	235	1344	599	227	266	119	254	295	231
Arrive On Green	0.60	1.00	1.00	0.07	0.38	0.38	0.07	0.07	0.07	0.07	0.08	0.08
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	29	1385	44	53	2059	34	37	26	52	53	20	38
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	0.5	0.0	0.0	2.3	60.5	1.6	1.6	1.1	5.0	2.3	0.8	1.2
Cycle Q Clear(g_c), s	0.5	0.0	0.0	2.3	60.5	1.6	1.6	1.1	5.0	2.3	0.8	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1035	2218	989	235	1344	599	227	266	119	254	295	231
V/C Ratio(X)	0.03	0.62	0.04	0.23	1.53	0.06	0.16	0.10	0.44	0.21	0.07	0.16
Avail Cap(c_a), veh/h	1035	2218	989	324	1344	599	346	1022	456	281	311	244
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	70.6	49.8	17.5	70.6	69.0	70.8	69.7	67.7	22.7
Incr Delay (d2), s/veh	0.0	1.0	0.1	0.5	243.3	0.2	0.3	0.2	2.5	0.4	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.0	1.0	70.9	0.9	0.7	0.5	2.1	1.0	0.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	1.0	0.1	71.1	293.1	17.7	70.9	69.1	73.2	70.1	67.8	23.1
LnGrp LOS	C	A	A	E	F	B	E	E	E	E	E	C
Approach Vol, veh/h	1458				2146				115			
Approach Delay, s/veh	1.4				283.2				71.6			
Approach LOS	A				F				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.6	107.9	16.2	19.4	55.9	68.5	17.5	18.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 16	14.0	15.0	* 61	* 13	46.0				
Max Q Clear Time (g_c+I1), s	4.3	2.0	3.6	3.2	2.5	62.5	4.3	7.0				
Green Ext Time (p_c), s	0.1	12.9	0.0	0.1	0.0	0.0	0.1	0.3				

Intersection Summary

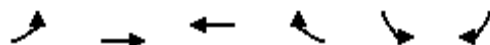
HCM 6th Ctrl Delay	162.9
HCM 6th LOS	F

Notes

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

Existing AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	275	824	1649	205	272	549	
Future Volume (vph)	275	824	1649	205	272	549	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	90.8	55.1	55.1	19.1	35.7	50.1
Total Split (%)	22.3%	56.8%	34.4%	34.4%	11.9%	22.3%	31%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 160

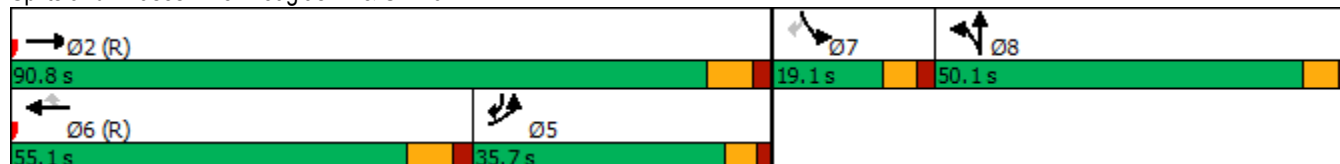
Actuated Cycle Length: 160

Offset: 131 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

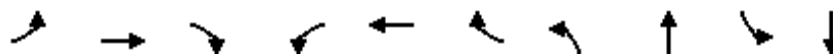
Splits and Phases: 8: Douglas Dr & SR 76



Existing AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	275	824	0	0	1649	205	0	0	0	272	0	549
Future Volume (veh/h)	275	824	0	0	1649	205	0	0	0	272	0	549
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	299	896	0	0	1792	223	0	0	0	296	0	597
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	2093	3376	0	0	1046	467	0	1	0	0	0	0
Arrive On Green	0.61	0.95	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	299	896	0	0	1792	223	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	6.0	2.7	0.0	0.0	47.1	18.5	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	6.0	2.7	0.0	0.0	47.1	18.5	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	2093	3376	0	0	1046	467	0	1	0			
V/C Ratio(X)	0.14	0.27	0.00	0.00	1.71	0.48	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	2093	3376	0	0	1046	467	0	514	0			
HCM Platoon Ratio	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	0.16	0.16	0.00	0.00	0.00			
Uniform Delay (d), s/veh	13.6	0.3	0.0	0.0	56.4	46.4	0.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	321.5	0.6	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			
%ile BackOfQ(50%),veh/ln	2.3	0.1	0.0	0.0	67.8	7.5	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.5	0.0	0.0	378.0	46.9	0.0	0.0	0.0			
LnGrp LOS	B	A	A	A	F	D	A	A	A			
Approach Vol, veh/h	1195			2015			0					
Approach Delay, s/veh	3.8			341.3			0.0					
Approach LOS	A			F								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	160.0			104.9			55.1			0.0		
Change Period (Y+Rc), s	8.0			8.0			* 8			6.1		
Max Green Setting (Gmax), s	82.8			30.0			* 47			44.0		
Max Q Clear Time (g_c+I1), s	4.7			8.0			49.1			0.0		
Green Ext Time (p_c), s	6.7			0.9			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay			215.7									
HCM 6th LOS			F									
Notes												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	49	814	210	346	1466	81	256	348	49	289
Future Volume (vph)	49	814	210	346	1466	81	256	348	49	289
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	26.5	26.5	60.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	16.6%	16.6%	37.9%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

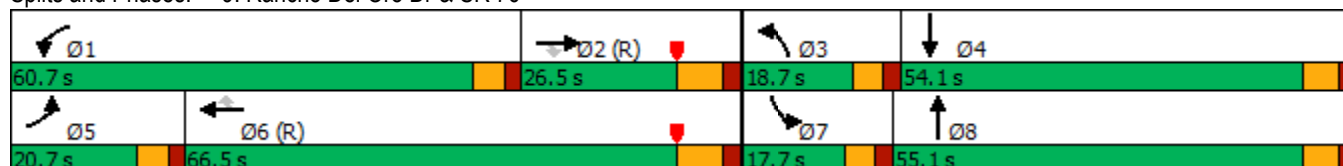
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing AM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	814	210	346	1466	81	256	348	346	49	289	64
Future Volume (veh/h)	49	814	210	346	1466	81	256	348	346	49	289	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	53	885	228	376	1593	88	278	378	364	53	314	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1355	596	439	1505	671	281	470	411	235	725	159
Arrive On Green	0.03	0.13	0.13	0.13	0.42	0.42	0.08	0.26	0.26	0.07	0.25	0.25
Sat Flow, veh/h	1781	3554	1564	3456	3554	1585	3456	1777	1553	3456	2887	634
Grp Volume(v), veh/h	53	885	228	376	1593	88	278	378	364	53	191	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1777	1585	1728	1777	1553	1728	1777	1744
Q Serve(g_s), s	4.7	38.0	21.4	17.1	67.7	5.4	12.9	31.8	36.0	2.3	14.5	14.9
Cycle Q Clear(g_c), s	4.7	38.0	21.4	17.1	67.7	5.4	12.9	31.8	36.0	2.3	14.5	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	151	1355	596	439	1505	671	281	470	411	235	446	438
V/C Ratio(X)	0.35	0.65	0.38	0.86	1.06	0.13	0.99	0.80	0.89	0.23	0.43	0.44
Avail Cap(c_a), veh/h	167	1355	596	1188	1505	671	281	544	476	259	533	523
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	73.4	59.9	52.6	68.4	46.1	28.2	73.4	55.0	56.5	70.6	50.3	50.4
Incr Delay (d2), s/veh	0.7	1.3	1.0	4.9	40.5	0.4	50.9	7.6	16.3	0.4	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	18.3	9.2	7.6	36.7	2.1	7.6	15.0	15.7	1.0	6.4	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.2	61.2	53.6	73.3	86.6	28.6	124.3	62.5	72.9	71.0	50.8	51.0
LnGrp LOS	E	E	D	E	F	C	F	E	E	E	D	D
Approach Vol, veh/h		1166			2057			1020			437	
Approach Delay, s/veh		60.3			81.7			83.0			53.4	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	69.0	18.7	46.3	19.3	75.7	16.6	48.4				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 55	18.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	19.1	40.0	14.9	16.9	6.7	69.7	4.3	38.0				
Green Ext Time (p_c), s	1.3	0.0	0.0	2.1	0.0	0.0	0.1	3.3				

Intersection Summary

HCM 6th Ctrl Delay	74.0
HCM 6th LOS	E

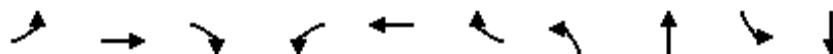
Notes

User approved pedestrian interval to be less than phase max green.

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

Existing AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	65	480	144	101	1018	146	278	96	143	149
Future Volume (vph)	65	480	144	101	1018	146	278	96	143	149
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	8.0	6.0	6.0	8.0	8.0	6.0	7.0	6.0	7.0
Minimum Split (s)	11.1	36.8	11.4	11.4	36.4	36.4	11.4	36.8	11.1	36.8
Total Split (s)	17.0	52.0	27.0	17.0	52.0	52.0	27.0	33.0	18.0	24.0
Total Split (%)	14.2%	43.3%	22.5%	14.2%	43.3%	43.3%	22.5%	27.5%	15.0%	20.0%
Yellow Time (s)	4.1	4.8	4.4	4.1	4.8	4.8	4.4	4.4	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.4	5.1	5.8	5.8	5.4	5.4	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø3
17 s	52 s	24 s	27 s
Ø5	Ø6 (R)	Ø7	Ø8
17 s	52 s	18 s	33 s

Existing AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	480	144	101	1018	146	278	96	59	143	149	45
Future Volume (veh/h)	65	480	144	101	1018	146	278	96	59	143	149	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.86	1.00		0.87	1.00		0.85
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	77	571	171	120	1212	174	331	114	70	170	177	54
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1616	902	146	1711	658	457	460	248	230	384	110
Arrive On Green	0.06	0.45	0.45	0.08	0.48	0.48	0.13	0.22	0.22	0.07	0.15	0.15
Sat Flow, veh/h	1781	3554	1522	1781	3554	1367	3456	2105	1137	3456	2611	748
Grp Volume(v), veh/h	77	571	171	120	1212	174	331	94	90	170	117	114
Grp Sat Flow(s),veh/h/ln	1781	1777	1522	1781	1777	1367	1728	1777	1465	1728	1777	1583
Q Serve(g_s), s	5.1	12.5	1.9	8.0	32.2	9.1	11.0	5.2	6.2	5.8	7.2	8.0
Cycle Q Clear(g_c), s	5.1	12.5	1.9	8.0	32.2	9.1	11.0	5.2	6.2	5.8	7.2	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		0.47
Lane Grp Cap(c), veh/h	98	1616	902	146	1711	658	457	388	320	230	261	233
V/C Ratio(X)	0.78	0.35	0.19	0.82	0.71	0.26	0.72	0.24	0.28	0.74	0.45	0.49
Avail Cap(c_a), veh/h	177	1616	902	177	1711	658	622	409	337	371	269	240
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	56.0	21.2	3.6	54.2	24.5	18.5	50.0	38.7	39.1	55.0	46.7	47.1
Incr Delay (d2), s/veh	12.6	0.6	0.5	22.3	2.5	1.0	2.7	0.3	0.5	4.6	1.2	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	2.6	5.2	0.9	4.4	13.4	3.0	4.9	2.3	2.3	2.7	3.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	21.9	4.1	76.5	27.0	19.5	52.7	39.0	39.5	59.6	47.9	48.7
LnGrp LOS	E	C	A	E	C	B	D	D	D	E	D	D
Approach Vol, veh/h		819			1506			515			401	
Approach Delay, s/veh		22.5			30.1			47.9			53.1	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	60.4	21.3	23.4	11.7	63.6	13.1	31.6				
Change Period (Y+Rc), s	5.1	5.8	5.4	5.8	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	11.9	46.2	21.6	18.2	11.9	46.2	12.9	27.6				
Max Q Clear Time (g_c+I1), s	10.0	14.5	13.0	10.0	7.1	34.2	7.8	8.2				
Green Ext Time (p_c), s	0.0	9.2	0.8	0.8	0.1	9.5	0.2	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.8									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved changes to right turn type.												

Existing AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø7
Lane Configurations									
Traffic Volume (vph)	3	391	122	45	969	0	0		
Future Volume (vph)	3	391	122	45	969	0	0		
Turn Type	Prot	NA	Perm	Prot	NA	NA	NA		
Protected Phases	5	2		1	6	8	4	3	7
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	4		
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	3.0	3.0
Minimum Split (s)	10.4	43.2	43.2	10.4	43.2	25.2	25.2	10.4	10.4
Total Split (s)	10.4	43.4	43.4	11.0	44.0	25.2	25.2	10.4	10.4
Total Split (%)	11.6%	48.2%	48.2%	12.2%	48.9%	28.0%	28.0%	12%	12%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	3.6	3.6	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.4	6.2	6.2	5.4	6.2	4.6	4.6		
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 59.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

11 s	43.4 s	10.4 s	25.2 s
10.4 s	44 s	10.4 s	25.2 s

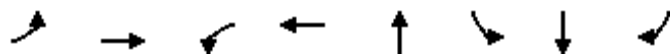
Existing AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	391	122	45	969	3	188	0	24	1	0	1
Future Volume (veh/h)	3	391	122	45	969	3	188	0	24	1	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
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	3	444	139	51	1101	3	214	0	27	1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	1512	658	95	1726	5	0	0	218	0	0	215
Arrive On Green	0.00	0.43	0.43	0.05	0.47	0.47	0.00	0.00	0.14	0.00	0.00	0.14
Sat Flow, veh/h	1781	3554	1546	1781	3635	10	0	0	1582	0	0	1560
Grp Volume(v), veh/h	3	444	139	51	538	566	0	0	27	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1777	1868	0	0	1582	0	0	1560
Q Serve(g_s), s	0.1	3.5	2.4	1.2	9.6	9.6	0.0	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.5	2.4	1.2	9.6	9.6	0.0	0.0	0.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	7	1512	658	95	844	887	0	0	218	0	0	215
V/C Ratio(X)	0.41	0.29	0.21	0.54	0.64	0.64	0.00	0.00	0.12	0.00	0.00	0.00
Avail Cap(c_a), veh/h	211	3131	1362	236	1591	1673	0	0	772	0	0	761
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	8.0	7.7	19.5	8.4	8.4	0.0	0.0	16.0	0.0	0.0	15.7
Incr Delay (d2), s/veh	33.1	0.1	0.2	4.6	0.8	0.8	0.0	0.0	0.3	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	0.1	0.9	0.5	0.5	2.4	2.5	0.0	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	8.1	7.8	24.1	9.2	9.1	0.0	0.0	16.2	0.0	0.0	15.7
LnGrp LOS	D	A	A	C	A	A	A	A	B	A	A	B
Approach Vol, veh/h		586			1155			27			1	
Approach Delay, s/veh		8.2			9.8			16.2			15.7	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	24.2	0.0	10.4	5.6	26.2	0.0	10.4				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	3.2	5.5	0.0	2.0	2.1	11.6	0.0	2.6				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	7.6	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Existing AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	25	549	7	1022	20	32	17	16
Future Volume (vph)	25	549	7	1022	20	32	17	16
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	5.0	5.0	5.0
Minimum Split (s)	10.4	30.8	10.4	30.8	25.0	23.4	23.4	23.4
Total Split (s)	20.0	30.0	20.0	30.0	25.0	25.0	25.0	25.0
Total Split (%)	20.0%	30.0%	20.0%	30.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	30 s	25 s	25 s
Ø5	Ø6 (R)		
20 s	30 s		

Existing AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	549	6	7	1022	69	13	20	19	32	17	16
Future Volume (veh/h)	25	549	6	7	1022	69	13	20	19	32	17	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	26	566	6	7	1054	71	13	21	20	26	28	16
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	46	2446	26	16	2238	151	26	42	40	76	80	68
Arrive On Green	0.03	0.68	0.68	0.01	0.88	0.88	0.06	0.06	0.06	0.04	0.04	0.04
Sat Flow, veh/h	1781	3602	38	1781	3379	228	417	674	642	1781	1870	1585
Grp Volume(v), veh/h	26	279	293	7	554	571	54	0	0	26	28	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1829	1734	0	0	1781	1870	1585
Q Serve(g_s), s	1.4	6.0	6.0	0.4	6.4	6.4	3.0	0.0	0.0	1.4	1.5	1.0
Cycle Q Clear(g_c), s	1.4	6.0	6.0	0.4	6.4	6.4	3.0	0.0	0.0	1.4	1.5	1.0
Prop In Lane	1.00		0.02	1.00		0.12	0.24		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	46	1207	1266	16	1177	1212	108	0	0	76	80	68
V/C Ratio(X)	0.57	0.23	0.23	0.44	0.47	0.47	0.50	0.00	0.00	0.34	0.35	0.24
Avail Cap(c_a), veh/h	260	1207	1266	260	1177	1212	354	0	0	365	383	325
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	0.00	0.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	48.2	6.1	6.1	49.2	2.4	2.4	45.4	0.0	0.0	46.5	46.5	46.3
Incr Delay (d2), s/veh	10.6	0.4	0.4	16.9	1.2	1.2	3.6	0.0	0.0	2.6	2.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.0	2.1	0.2	1.7	1.8	1.4	0.0	0.0	0.7	0.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	6.6	6.5	66.0	3.6	3.6	49.0	0.0	0.0	49.1	49.1	48.0
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	D	D
Approach Vol, veh/h		598			1132			54			70	
Approach Delay, s/veh		8.8			4.0			49.0			48.8	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	74.1		8.8	8.0	72.4		10.8				
Change Period (Y+Rc), s	5.4	6.2		4.5	5.4	6.2		4.6				
Max Green Setting (Gmax), s	14.6	23.8		20.5	14.6	23.8		20.4				
Max Q Clear Time (g_c+I1), s	2.4	8.0		3.5	3.4	8.4		5.0				
Green Ext Time (p_c), s	0.0	2.8		0.2	0.0	6.3		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			8.5									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

Existing AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	17	554	46	1070	22	0	46	19	0	10
Future Volume (vph)	17	554	46	1070	22	0	46	19	0	10
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	32.9	32.9	32.9	32.9	32.9	32.9
Total Split (s)	26.0	40.0	26.0	40.0	34.0	34.0	34.0	34.0	34.0	34.0
Total Split (%)	26.0%	40.0%	26.0%	40.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 72 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Existing AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	554	22	46	1070	19	22	0	46	19	0	10
Future Volume (veh/h)	17	554	22	46	1070	19	22	0	46	19	0	10
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	18	571	23	47	1103	20	23	0	47	20	0	10
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	35	2133	86	65	2248	41	78	0	309	78	0	309
Arrive On Green	0.04	1.00	1.00	0.07	1.00	1.00	0.19	0.00	0.19	0.19	0.00	0.19
Sat Flow, veh/h	1781	3482	140	1781	3571	65	29	0	1585	28	0	1585
Grp Volume(v), veh/h	18	291	303	47	549	574	23	0	47	20	0	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1845	1781	1777	1859	29	0	1585	28	0	1585
Q Serve(g_s), s	1.0	0.0	0.0	2.6	0.0	0.0	0.4	0.0	2.5	0.4	0.0	0.5
Cycle Q Clear(g_c), s	1.0	0.0	0.0	2.6	0.0	0.0	19.5	0.0	2.5	19.5	0.0	0.5
Prop In Lane	1.00		0.08	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	1089	1130	65	1118	1170	78	0	309	78	0	309
V/C Ratio(X)	0.51	0.27	0.27	0.72	0.49	0.49	0.30	0.00	0.15	0.26	0.00	0.03
Avail Cap(c_a), veh/h	372	1089	1130	372	1118	1170	216	0	464	211	0	464
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	0.0	0.0	45.9	0.0	0.0	49.9	0.0	33.4	49.9	0.0	32.6
Incr Delay (d2), s/veh	10.9	0.6	0.6	12.0	1.3	1.2	2.1	0.0	0.2	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	0.2	1.3	0.4	0.4	0.6	0.0	1.0	0.5	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	0.6	0.6	57.9	1.3	1.2	52.0	0.0	33.6	51.7	0.0	32.7
LnGrp LOS	E	A	A	E	A	A	D	A	C	D	A	C
Approach Vol, veh/h	612			1170			70			30		
Approach Delay, s/veh	2.3			3.5			39.7			45.3		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	66.7		24.6	7.1	68.4		24.6				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	20.9	34.2		* 29	20.9	34.2		* 29				
Max Q Clear Time (g_c+I1), s	4.6	2.0		21.5	3.0	2.0		21.5				
Green Ext Time (p_c), s	0.1	3.6		0.0	0.0	7.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	5.1
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	44	521	22	1036	30	37	79	32	70	65
Future Volume (vph)	44	521	22	1036	30	37	79	32	70	65
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	30.7	10.6	11.1	30.5	10.6	30.5	11.1
Total Split (s)	20.0	35.0	15.0	30.0	20.0	20.0	30.0	20.0	30.0	20.0
Total Split (%)	20.0%	35.0%	15.0%	30.0%	20.0%	20.0%	30.0%	20.0%	30.0%	20.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	Min	None

Intersection Summary

Cycle Length: 100

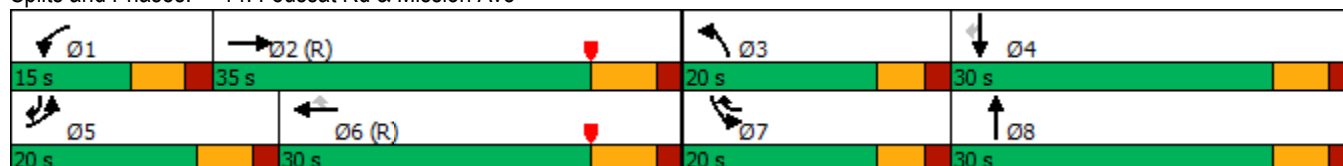
Actuated Cycle Length: 100

Offset: 52 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



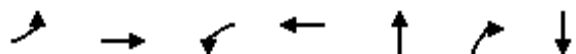
Existing AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	521	38	22	1036	30	37	79	35	32	70	65
Future Volume (veh/h)	44	521	38	22	1036	30	37	79	35	32	70	65
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	46	543	40	23	1079	31	39	82	36	33	73	68
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	64	2150	158	42	2233	1043	114	146	61	104	201	259
Arrive On Green	0.07	1.00	1.00	0.05	1.00	1.00	0.03	0.06	0.06	0.03	0.06	0.06
Sat Flow, veh/h	1781	3356	247	1781	3554	1585	3456	2448	1016	3456	3554	2790
Grp Volume(v), veh/h	46	287	296	23	1079	31	39	58	60	33	73	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1826	1781	1777	1585	1728	1777	1687	1728	1777	1395
Q Serve(g_s), s	2.5	0.0	0.0	1.3	0.0	0.0	1.1	3.2	3.5	0.9	2.0	2.3
Cycle Q Clear(g_c), s	2.5	0.0	0.0	1.3	0.0	0.0	1.1	3.2	3.5	0.9	2.0	2.3
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	64	1138	1170	42	2233	1043	114	106	101	104	201	259
V/C Ratio(X)	0.72	0.25	0.25	0.55	0.48	0.03	0.34	0.55	0.59	0.32	0.36	0.26
Avail Cap(c_a), veh/h	248	1138	1170	159	2233	1043	498	425	403	498	849	767
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	0.0	0.0	47.1	0.0	0.0	47.3	45.7	45.8	47.5	45.4	42.2
Incr Delay (d2), s/veh	13.5	0.5	0.5	9.8	0.7	0.0	1.8	4.4	5.5	1.7	1.1	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	1.3	0.2	0.2	0.6	0.2	0.0	0.5	1.5	1.6	0.4	0.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	0.5	0.5	56.9	0.7	0.0	49.0	50.1	51.3	49.2	46.5	42.7
LnGrp LOS	E	A	A	E	A	A	D	D	D	D	D	D
Approach Vol, veh/h		629			1133			157			174	
Approach Delay, s/veh		4.8			1.8			50.3			45.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	70.9	8.9	11.8	9.7	69.6	8.6	12.1				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.1	6.8	5.6	6.1				
Max Green Setting (Gmax), s	8.9	28.2	14.4	23.9	13.9	23.2	14.4	23.9				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.1	4.3	4.5	2.0	2.9	5.5				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.6	0.0	7.4	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			10.0									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	7	468	91	1016	6	41	0
Future Volume (vph)	7	468	91	1016	6	41	0
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	20.8	30.0	9.5	13.8
Total Split (s)	20.0	35.0	20.0	35.0	30.0	20.0	15.0
Total Split (%)	20.0%	35.0%	20.0%	35.0%	30.0%	20.0%	15.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 60 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	35 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	35 s		

Existing AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	468	90	91	1016	8	47	6	41	4	0	7
Future Volume (veh/h)	7	468	90	91	1016	8	47	6	41	4	0	7
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	7	482	93	94	1047	8	48	6	42	4	0	7
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	9	1964	377	119	2610	20	78	10	184	11	0	19
Arrive On Green	0.01	1.00	1.00	0.13	1.00	1.00	0.05	0.05	0.05	0.02	0.00	0.02
Sat Flow, veh/h	1781	2974	571	1781	3615	28	1592	199	1585	600	0	1051
Grp Volume(v), veh/h	7	287	288	94	515	540	54	0	42	11	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1768	1781	1777	1865	1791	0	1585	1651	0	0
Q Serve(g_s), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.01	0.89		1.00	0.36		0.64
Lane Grp Cap(c), veh/h	9	1174	1168	119	1283	1347	88	0	184	30	0	0
V/C Ratio(X)	0.74	0.24	0.25	0.79	0.40	0.40	0.61	0.00	0.23	0.36	0.00	0.00
Avail Cap(c_a), veh/h	265	1174	1168	265	1283	1347	455	0	509	165	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.97	0.97	0.97	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	42.6	0.0	0.0	46.6	0.0	40.1	48.5	0.0	0.0
Incr Delay (d2), s/veh	71.1	0.5	0.5	10.3	0.9	0.8	6.7	0.0	0.6	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.2	2.4	0.3	0.3	1.5	0.0	1.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.5	0.5	0.5	52.9	0.9	0.8	53.3	0.0	40.8	55.6	0.0	0.0
LnGrp LOS	F	A	A	D	A	A	D	A	D	E	A	A
Approach Vol, veh/h		582			1149			96			11	
Approach Delay, s/veh		1.9			5.1			47.8			55.6	
Approach LOS		A			A			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	71.9		6.8	5.6	78.0		9.5				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	29.2		10.0	14.9	29.2		25.4				
Max Q Clear Time (g_c+I1), s	7.1	2.0		2.7	2.4	2.0		5.0				
Green Ext Time (p_c), s	0.1	3.3		0.0	0.0	6.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑↑
Traffic Volume (vph)	460	63	1079	39
Future Volume (vph)	460	63	1079	39
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	40.0	30.0	70.0	30.0
Total Split (%)	40.0%	30.0%	70.0%	30.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



Existing AM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	460	45	63	1079	39	43
Future Volume (veh/h)	460	45	63	1079	39	43
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	1870	1870
Adj Flow Rate, veh/h	479	47	66	1124	41	45
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2387	233	86	2948	52	58
Arrive On Green	1.00	1.00	0.06	1.00	0.07	0.07
Sat Flow, veh/h	3363	320	1781	3647	789	866
Grp Volume(v), veh/h	260	266	66	1124	87	0
Grp Sat Flow(s),veh/h/ln	1777	1813	1781	1777	1675	0
Q Serve(g_s), s	0.0	0.0	3.6	0.0	5.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.6	0.0	5.1	0.0
Prop In Lane		0.18	1.00		0.47	0.52
Lane Grp Cap(c), veh/h	1297	1324	86	2948	111	0
V/C Ratio(X)	0.20	0.20	0.77	0.38	0.78	0.00
Avail Cap(c_a), veh/h	1297	1324	444	2948	425	0
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.92	0.92	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	46.2	0.0	46.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	12.2	0.3	11.2	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	0.1	0.1	1.8	0.1	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.3	0.3	58.4	0.3	57.2	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	526			1190	87	
Approach Delay, s/veh	0.3			3.6	57.2	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.9	78.8			88.8	11.2
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	34.2			64.2	25.4
Max Q Clear Time (g_c+I1), s	5.6	2.0			2.0	7.1
Green Ext Time (p_c), s	0.1	3.0			9.8	0.2
Intersection Summary						
HCM 6th Ctrl Delay			5.2			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing AM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBR
Lane Configurations				
Traffic Volume (vph)	6	492	1201	4
Future Volume (vph)	6	492	1201	4
Turn Type	Prot	NA	NA	Perm
Protected Phases	5	2	6	
Permitted Phases				4
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	3.0	10.0	10.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8
Total Split (s)	30.0	70.0	40.0	30.0
Total Split (%)	30.0%	70.0%	40.0%	30.0%
Yellow Time (s)	4.1	4.8	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None

Intersection Summary

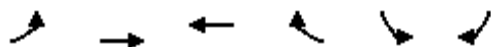
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing AM
17: Mission Ave & Ocean Punte

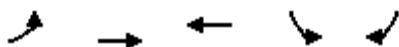
Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	492	1201	2	0	4
Future Volume (veh/h)	6	492	1201	2	0	4
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	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	1870	1870
Adj Flow Rate, veh/h	6	502	1226	2	0	4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	8	3165	3040	5	18	8
Arrive On Green	0.01	1.00	1.00	1.00	0.00	0.01
Sat Flow, veh/h	1781	3647	3733	6	3456	1585
Grp Volume(v), veh/h	6	502	598	630	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1869	1728	1585
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.0	0.0	0.3
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	8	3165	1484	1561	18	8
V/C Ratio(X)	0.73	0.16	0.40	0.40	0.00	0.48
Avail Cap(c_a), veh/h	444	3165	1484	1561	878	403
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.91	0.91	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	0.0	0.0	49.6
Incr Delay (d2), s/veh	77.8	0.1	0.7	0.7	0.0	37.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.3	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	127.2	0.1	0.7	0.7	0.0	86.8
LnGrp LOS	F	A	A	A	A	F
Approach Vol, veh/h		508	1228		4	
Approach Delay, s/veh		1.6	0.7		86.8	
Approach LOS		A	A		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		94.9		5.1	5.6	89.3
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		64.2		25.4	24.9	34.2
Max Q Clear Time (g_c+I1), s		2.0		2.3	2.3	2.0
Green Ext Time (p_c), s		3.4		0.0	0.0	9.0
Intersection Summary						
HCM 6th Ctrl Delay			1.2			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	17	510	1081	31	54	
Future Volume (vph)	17	510	1081	31	54	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	30.0	45.0	40.0	30.0	30.0	25.0
Total Split (%)	30.0%	45.0%	40.0%	30.0%	30.0%	25%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 8 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

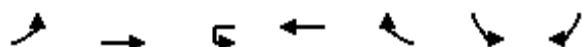
Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	17	510	0	1081	9	31	54
Future Volume (veh/h)	17	510	0	1081	9	31	54
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	1870	1870
Adj Flow Rate, veh/h	18	537		1138	9	33	57
Peak Hour Factor	0.95	0.95		0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	53	2997		2755	22	94	83
Arrive On Green	0.06	1.00		0.76	0.76	0.05	0.05
Sat Flow, veh/h	1781	3647		3707	29	1781	1585
Grp Volume(v), veh/h	18	537		560	587	33	57
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1865	1781	1585
Q Serve(g_s), s	1.0	0.0		10.9	10.9	1.8	3.5
Cycle Q Clear(g_c), s	1.0	0.0		10.9	10.9	1.8	3.5
Prop In Lane	1.00				0.02	1.00	1.00
Lane Grp Cap(c), veh/h	53	2997		1355	1422	94	83
V/C Ratio(X)	0.34	0.18		0.41	0.41	0.35	0.68
Avail Cap(c_a), veh/h	444	2997		1355	1422	452	403
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99		0.82	0.82	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0		4.1	4.1	45.7	46.5
Incr Delay (d2), s/veh	3.6	0.1		0.8	0.7	2.2	9.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1		2.8	2.9	0.8	3.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	49.7	0.1		4.9	4.9	48.0	56.0
LnGrp LOS	D	A		A	A	D	E
Approach Vol, veh/h		555		1147		90	
Approach Delay, s/veh		1.7		4.9		53.0	
Approach LOS		A		A		D	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		90.1		9.9	8.1	82.0	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		39.2		25.4	24.9	34.2	
Max Q Clear Time (g_c+I1), s		2.0		5.5	3.0	12.9	
Green Ext Time (p_c), s		3.5		0.2	0.0	7.1	

Intersection Summary

HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

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

Existing AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	142	264	111	148	473	142	212	89	86	730	406
Future Volume (vph)	142	264	111	148	473	142	212	89	86	730	406
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

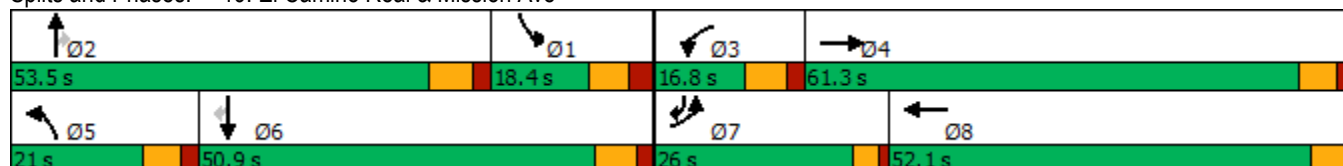
Cycle Length: 150

Actuated Cycle Length: 125

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	264	111	148	473	22	142	212	89	86	730	406
Future Volume (veh/h)	142	264	111	148	473	22	142	212	89	86	730	406
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	148	275	0	154	493	23	123	256	93	90	760	423
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	234	425		402	697	32	201	447	190	569	1180	634
Arrive On Green	0.07	0.12	0.00	0.12	0.20	0.20	0.11	0.12	0.12	0.32	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	3457	161	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	148	275	0	154	253	263	123	256	93	90	760	423
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1841	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	3.5	6.2	0.0	3.4	11.1	11.1	5.5	5.4	3.1	3.0	15.2	18.3
Cycle Q Clear(g_c), s	3.5	6.2	0.0	3.4	11.1	11.1	5.5	5.4	3.1	3.0	15.2	18.3
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	425		402	358	371	201	447	190	569	1180	634
V/C Ratio(X)	0.63	0.65		0.38	0.71	0.71	0.61	0.57	0.49	0.16	0.64	0.67
Avail Cap(c_a), veh/h	909	2338		413	1001	1037	313	2089	885	569	1874	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	35.1	0.0	34.2	31.1	31.1	35.4	34.8	16.1	20.4	23.7	20.5
Incr Delay (d2), s/veh	2.8	1.7	0.0	0.6	2.6	2.5	3.0	1.2	2.0	0.1	0.6	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	1.5	2.6	0.0	1.4	4.7	4.8	2.5	2.5	1.7	1.2	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	36.8	0.0	34.8	33.6	33.6	38.4	35.9	18.0	20.5	24.3	21.8
LnGrp LOS	D	D		C	C	C	D	D	B	C	C	C
Approach Vol, veh/h		423	A		670			472			1273	
Approach Delay, s/veh		38.2			33.9			33.0			23.2	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	16.8	16.5	16.3	15.7	35.1	9.7	23.1				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	5.0	7.4	5.4	8.2	7.5	20.3	5.5	13.1				
Green Ext Time (p_c), s	0.1	2.1	0.2	1.7	0.2	7.5	0.4	2.9				

Intersection Summary

HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	52	369	55	27	595	50	102	19	97
Future Volume (vph)	52	369	55	27	595	50	102	19	97
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 52.8

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Dr & Mission Ave

			
Ø1	Ø2	Ø3	Ø4
10.6 s	38.3 s	10.1 s	41 s
			
Ø5	Ø6	Ø7	Ø8
12 s	36.9 s	10.4 s	40.7 s

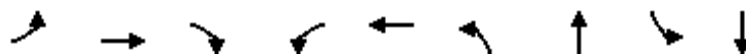
Existing AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	369	55	27	595	33	50	102	21	19	97	64
Future Volume (veh/h)	52	369	55	27	595	33	50	102	21	19	97	64
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	55	388	58	28	626	35	53	107	22	20	102	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1077	480	58	962	54	94	570	114	43	349	213
Arrive On Green	0.05	0.30	0.30	0.03	0.28	0.28	0.05	0.19	0.19	0.02	0.16	0.16
Sat Flow, veh/h	3456	3554	1585	1781	3422	191	1781	2950	591	1781	2121	1294
Grp Volume(v), veh/h	55	388	58	28	325	336	53	63	66	20	84	85
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1836	1781	1777	1764	1781	1777	1637
Q Serve(g_s), s	0.7	4.1	1.3	0.7	7.7	7.7	1.4	1.4	1.5	0.5	2.0	2.2
Cycle Q Clear(g_c), s	0.7	4.1	1.3	0.7	7.7	7.7	1.4	1.4	1.5	0.5	2.0	2.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.33	1.00		0.79
Lane Grp Cap(c), veh/h	187	1077	480	58	500	516	94	343	341	43	293	270
V/C Ratio(X)	0.29	0.36	0.12	0.48	0.65	0.65	0.56	0.18	0.19	0.46	0.29	0.31
Avail Cap(c_a), veh/h	383	2643	1179	186	1310	1354	257	1206	1198	205	1154	1064
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	21.8	13.1	12.1	22.8	15.1	15.1	22.1	16.2	16.2	23.0	17.5	17.6
Incr Delay (d2), s/veh	0.9	0.2	0.1	6.1	1.4	1.4	5.2	0.3	0.3	7.4	0.5	0.7
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	0.3	1.3	0.4	0.4	2.6	2.7	0.7	0.5	0.6	0.3	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	13.3	12.2	28.9	16.6	16.5	27.3	16.4	16.5	30.5	18.1	18.3
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		501			689			182			189	
Approach Delay, s/veh		14.2			17.0			19.6			19.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	15.0	6.7	19.9	7.6	13.7	7.7	18.9				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	2.5	3.5	2.7	6.1	3.4	4.2	2.7	9.7				
Green Ext Time (p_c), s	0.0	0.7	0.0	2.6	0.0	1.0	0.0	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			16.7									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←	→	→	←	→	←	→	←	→
Traffic Volume (vph)	40	461	234	164	579	295	34	2	4
Future Volume (vph)	40	461	234	164	579	295	34	2	4
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	3.0	6.0	6.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	10.1	28.0	23.1	24.0
Total Split (s)	11.1	33.1	33.1	15.8	37.8	26.8	28.0	23.1	24.3
Total Split (%)	11.1%	33.1%	33.1%	15.8%	37.8%	26.8%	28.0%	23.1%	24.3%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	3.0	4.8	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	4.0	5.8	5.1	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 78

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

← Ø1	→ Ø2	← Ø3	↓ Ø4
15.8 s	33.1 s	26.8 s	24.3 s
↑ Ø5	← Ø6	← Ø7	↑ Ø8
11.1 s	37.8 s	23.1 s	28 s

Existing AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	461	234	164	579	18	295	34	115	2	4	8
Future Volume (veh/h)	40	461	234	164	579	18	295	34	115	2	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.98
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	43	501	254	178	629	20	321	37	125	2	4	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	569	474	216	696	22	369	77	261	138	49	110
Arrive On Green	0.04	0.30	0.30	0.12	0.39	0.39	0.21	0.21	0.21	0.08	0.10	0.10
Sat Flow, veh/h	1781	1870	1558	1781	1800	57	1781	364	1230	1781	504	1133
Grp Volume(v), veh/h	43	501	254	178	0	649	321	0	162	2	0	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1558	1781	0	1858	1781	0	1594	1781	0	1637
Q Serve(g_s), s	1.8	19.7	10.5	7.5	0.0	25.5	13.5	0.0	6.9	0.1	0.0	0.6
Cycle Q Clear(g_c), s	1.8	19.7	10.5	7.5	0.0	25.5	13.5	0.0	6.9	0.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.77	1.00		0.69
Lane Grp Cap(c), veh/h	69	569	474	216	0	718	369	0	338	138	0	159
V/C Ratio(X)	0.62	0.88	0.54	0.82	0.00	0.90	0.87	0.00	0.48	0.01	0.00	0.08
Avail Cap(c_a), veh/h	138	655	546	246	0	764	525	0	458	415	0	408
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.6	25.6	22.4	33.2	0.0	22.4	29.6	0.0	26.7	32.9	0.0	31.8
Incr Delay (d2), s/veh	8.7	12.0	0.9	17.9	0.0	13.6	10.7	0.0	1.1	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.7	3.6	4.1	0.0	12.5	6.4	0.0	2.5	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	37.6	23.3	51.0	0.0	36.0	40.4	0.0	27.8	33.0	0.0	32.0
LnGrp LOS	D	D	C	D	A	D	D	A	C	C	A	C
Approach Vol, veh/h		798			827			483			15	
Approach Delay, s/veh		33.4			39.2			36.2			32.1	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	29.5	20.0	13.3	8.1	35.9	11.1	22.2				
Change Period (Y+Rc), s	5.1	6.0	4.0	* 5.8	5.1	6.0	5.1	5.8				
Max Green Setting (Gmax), s	10.7	27.1	22.8	* 19	6.0	31.8	18.0	22.2				
Max Q Clear Time (g_c+I1), s	9.5	21.7	15.5	2.6	3.8	27.5	2.1	8.9				
Green Ext Time (p_c), s	0.1	1.8	0.6	0.0	0.0	1.6	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			36.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SEL	SER
Lane Configurations							
Traffic Volume (vph)	65	230	74	334	1220	10	35
Future Volume (vph)	65	230	74	334	1220	10	35
Turn Type	Prot	Perm	Prot	NA	NA	Prot	Perm
Protected Phases	4		5	2	6	3	
Permitted Phases		4					3
Detector Phase	4	4	5	2	6	3	3
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	12.0	12.0	6.0	6.0
Minimum Split (s)	29.7	29.7	11.1	23.8	30.8	10.6	10.6
Total Split (s)	29.7	29.7	11.1	64.6	53.5	10.7	10.7
Total Split (%)	28.3%	28.3%	10.6%	61.5%	51.0%	10.2%	10.2%
Yellow Time (s)	3.7	3.7	4.1	4.3	4.3	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.5	1.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lag	Lag	Lead		Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 84.9

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ø2	Ø3	Ø4	
64.6 s	10.7 s	29.7 s	
Ø5	Ø6		
11.1 s	53.5 s		

Existing AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Traffic Volume (vph)	65	230	74	334	1220	29	10	35
Future Volume (vph)	65	230	74	334	1220	29	10	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.1	5.8	5.8		4.6	4.6
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95		1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	1549	1770	3539	3523		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	1549	1770	3539	3523		1770	1583
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	77	274	88	398	1452	35	12	42
RTOR Reduction (vph)	0	125	0	0	0	0	0	0
Lane Group Flow (vph)	77	149	88	398	1487	0	12	42
Confl. Peds. (#/hr)		7				14		
Confl. Bikes (#/hr)		2						
Turn Type	Prot	Perm	Prot	NA	NA		Prot	Perm
Protected Phases	4		5	2	6		3	
Permitted Phases		4						3
Actuated Green, G (s)	13.6	13.6	6.3	54.8	43.4		3.2	3.2
Effective Green, g (s)	13.6	13.6	6.3	54.8	43.4		3.2	3.2
Actuated g/C Ratio	0.16	0.16	0.07	0.63	0.50		0.04	0.04
Clearance Time (s)	4.7	4.7	5.1	5.8	5.8		4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	538	242	128	2236	1763		65	58
v/s Ratio Prot	0.02		c0.05	0.11	c0.42		0.01	
v/s Ratio Perm		c0.10						c0.03
v/c Ratio	0.14	0.62	0.69	0.18	0.84		0.18	0.72
Uniform Delay, d1	31.5	34.1	39.2	6.6	18.7		40.5	41.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	4.6	14.3	0.0	3.9		1.4	35.9
Delay (s)	31.6	38.7	53.5	6.7	22.6		41.9	77.2
Level of Service	C	D	D	A	C		D	E
Approach Delay (s)	37.2			15.1	22.6		69.4	
Approach LOS	D			B	C		E	
Intersection Summary								
HCM 2000 Control Delay			24.3			HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.78					
Actuated Cycle Length (s)			86.7			Sum of lost time (s)		20.2
Intersection Capacity Utilization			69.8%			ICU Level of Service		C
Analysis Period (min)			15					
c Critical Lane Group								

Intersection												
Int Delay, s/veh	8.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	90	1	6	1	8	90	6	18	0
Future Vol, veh/h	0	0	0	90	1	6	1	8	90	6	18	0
Conflicting Peds, #/hr	0	0	0	0	0	3	0	0	8	10	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	141	2	9	2	13	141	9	28	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	14	0	0	2	0	0	305	298	12	381	294	10
Stage 1	-	-	-	-	-	-	2	2	-	292	292	-
Stage 2	-	-	-	-	-	-	303	296	-	89	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1604	-	-	1620	-	-	647	614	1069	577	617	1071
Stage 1	-	-	-	-	-	-	1021	894	-	716	671	-
Stage 2	-	-	-	-	-	-	706	668	-	918	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1599	-	-	1620	-	-	580	558	1059	453	561	1068
Mov Cap-2 Maneuver	-	-	-	-	-	-	580	558	-	453	561	-
Stage 1	-	-	-	-	-	-	1021	894	-	714	610	-
Stage 2	-	-	-	-	-	-	614	607	-	777	894	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.9			9.4			12.3		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	980	1599	-	-	1620	-	-	529				
HCM Lane V/C Ratio	0.158	-	-	-	0.087	-	-	0.071				
HCM Control Delay (s)	9.4	0	-	-	7.4	0	-	12.3				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.6	0	-	-	0.3	-	-	0.2				

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	97	0	0	266	2	0
Future Vol, veh/h	97	0	0	266	2	0
Conflicting Peds, #/hr	0	1	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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	0	0	320	2	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	118	0	438	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	320	-
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	-	-	1470	-	576	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	736	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1469	-	575	933
Mov Cap-2 Maneuver	-	-	-	-	575	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	736	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		11.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	575	-	-	1469	-	
HCM Lane V/C Ratio	0.004	-	-	-	-	
HCM Control Delay (s)	11.3	-	-	0	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	13	34	97	266	2
Future Vol, veh/h	2	13	34	97	266	2
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	15	40	115	317	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	515	320	321
Stage 1	320	-	-
Stage 2	195	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	520	721	1239
Stage 1	736	-	-
Stage 2	838	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	501	720	1237
Mov Cap-2 Maneuver	501	-	-
Stage 1	711	-	-
Stage 2	836	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1237	-	680	-	-
HCM Lane V/C Ratio	0.033	-	0.026	-	-
HCM Control Delay (s)	8	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Existing AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations						
Traffic Volume (vph)	207	269	491	253	824	
Future Volume (vph)	207	269	491	253	824	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 72.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

Ø1	Ø2	Ø4
24 s	29 s	27 s
Ø5	Ø6	
17 s	36 s	

Existing AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	207	269	0	491	126	253	824
Future Volume (veh/h)	207	269	0	491	126	253	824
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.98	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	1870	1870
Adj Flow Rate, veh/h	296	384		701	180	361	1177
Peak Hour Factor	0.70	0.70		0.70	0.70	0.70	0.70
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	481	428		801	206	404	2068
Arrive On Green	0.27	0.27		0.29	0.29	0.23	0.58
Sat Flow, veh/h	1781	1585		2879	715	1781	3647
Grp Volume(v), veh/h	296	384		447	434	361	1177
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1723	1781	1777
Q Serve(g_s), s	10.8	17.3		17.8	17.8	14.6	15.4
Cycle Q Clear(g_c), s	10.8	17.3		17.8	17.8	14.6	15.4
Prop In Lane	1.00	1.00			0.41	1.00	
Lane Grp Cap(c), veh/h	481	428		511	496	404	2068
V/C Ratio(X)	0.62	0.90		0.88	0.88	0.89	0.57
Avail Cap(c_a), veh/h	527	469		550	533	455	2068
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	23.7	26.1		25.2	25.2	27.9	9.7
Incr Delay (d2), s/veh	1.8	18.6		14.0	14.4	18.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.2		8.6	8.4	7.6	4.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	25.6	44.8		39.2	39.6	46.0	10.1
LnGrp LOS	C	D		D	D	D	B
Approach Vol, veh/h	680			881			1538
Approach Delay, s/veh	36.4			39.4			18.5
Approach LOS	D			D			B
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	21.9	27.4		25.1		49.3	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	16.6	19.8		19.3		17.4	
Green Ext Time (p_c), s	0.3	1.6		0.7		6.2	
Intersection Summary							
HCM 6th Ctrl Delay			28.4				
HCM 6th LOS			C				
Notes							
User approved ignoring U-Turning movement.							

Existing AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	486	234	242	204	121	133	628	267	57	352	114
Future Volume (vph)	235	486	234	242	204	121	133	628	267	57	352	114
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.6	34.0	34.0	25.0	33.4	33.4	18.2	45.0	45.0	11.0	37.8	37.8
Total Split (%)	22.3%	29.6%	29.6%	21.7%	29.0%	29.0%	15.8%	39.1%	39.1%	9.6%	32.9%	32.9%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 96.4

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
11 s	45 s	25 s	34 s
			
Ø5	Ø6	Ø7	Ø8
18.2 s	37.8 s	25.6 s	33.4 s

Existing AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	486	234	242	204	121	133	628	267	57	352	114
Future Volume (veh/h)	235	486	234	242	204	121	133	628	267	57	352	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.94
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	261	540	260	269	227	134	148	698	297	63	391	127
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	301	844	368	308	858	368	182	959	416	81	757	316
Arrive On Green	0.17	0.24	0.24	0.17	0.24	0.24	0.10	0.27	0.27	0.05	0.21	0.21
Sat Flow, veh/h	1781	3554	1551	1781	3554	1526	1781	3554	1540	1781	3554	1485
Grp Volume(v), veh/h	261	540	260	269	227	134	148	698	297	63	391	127
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1526	1781	1777	1540	1781	1777	1485
Q Serve(g_s), s	12.7	12.2	13.7	13.1	4.6	6.5	7.3	15.9	15.6	3.1	8.7	6.6
Cycle Q Clear(g_c), s	12.7	12.2	13.7	13.1	4.6	6.5	7.3	15.9	15.6	3.1	8.7	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	301	844	368	308	858	368	182	959	416	81	757	316
V/C Ratio(X)	0.87	0.64	0.71	0.87	0.26	0.36	0.81	0.73	0.71	0.78	0.52	0.40
Avail Cap(c_a), veh/h	403	1067	466	391	1043	448	261	1521	659	118	1234	516
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	36.1	30.6	31.2	36.0	27.4	28.2	39.2	29.6	29.5	42.2	31.1	30.2
Incr Delay (d2), s/veh	14.2	0.9	3.5	16.1	0.2	0.6	11.9	1.1	2.3	18.0	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	5.0	5.1	6.7	1.9	2.3	3.6	6.5	5.6	1.7	3.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	31.5	34.7	52.1	27.6	28.8	51.1	30.7	31.8	60.1	31.6	31.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		1061			630			1143			581	
Approach Delay, s/veh		36.9			38.3			33.6			34.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	30.9	20.8	28.4	14.2	25.8	20.5	28.8				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.9	38.2	19.6	26.8	13.1	31.0	20.2	26.2				
Max Q Clear Time (g_c+I1), s	5.1	17.9	15.1	15.7	9.3	10.7	14.7	8.5				
Green Ext Time (p_c), s	0.0	5.4	0.3	3.2	0.1	2.7	0.3	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			35.7									
HCM 6th LOS			D									

Existing AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	195	141	587	206	87	81	382	238	141	1222	35
Future Volume (vph)	23	195	141	587	206	87	81	382	238	141	1222	35
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 120.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	195	141	587	206	87	81	382	238	141	1222	35
Future Volume (veh/h)	23	195	141	587	206	87	81	382	238	141	1222	35
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	25	212	153	638	224	95	88	415	259	153	1328	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	417	186	714	615	520	110	1330	919	183	1474	655
Arrive On Green	0.02	0.12	0.12	0.21	0.33	0.33	0.06	0.37	0.37	0.10	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	3456	1870	1582	1781	3554	1581	1781	3554	1579
Grp Volume(v), veh/h	25	212	153	638	224	95	88	415	259	153	1328	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1582	1781	1777	1581	1781	1777	1579
Q Serve(g_s), s	1.7	6.6	11.2	21.3	10.8	5.1	5.8	9.8	9.7	10.0	41.4	1.7
Cycle Q Clear(g_c), s	1.7	6.6	11.2	21.3	10.8	5.1	5.8	9.8	9.7	10.0	41.4	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	417	186	714	615	520	110	1330	919	183	1474	655
V/C Ratio(X)	0.74	0.51	0.82	0.89	0.36	0.18	0.80	0.31	0.28	0.84	0.90	0.06
Avail Cap(c_a), veh/h	98	540	241	831	682	577	117	1330	919	310	1563	695
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	57.8	49.1	51.1	45.7	30.3	28.4	54.8	26.3	12.4	52.2	32.4	20.8
Incr Delay (d2), s/veh	26.8	1.0	16.0	10.9	0.4	0.2	29.4	0.1	0.2	9.7	7.3	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	1.0	2.9	5.1	9.9	4.8	1.9	3.5	4.2	3.2	5.0	18.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.7	50.0	67.1	56.7	30.7	28.6	84.2	26.4	12.6	61.9	39.7	20.8
LnGrp LOS	F	D	E	E	C	C	F	C	B	E	D	C
Approach Vol, veh/h		390			957			762			1519	
Approach Delay, s/veh		59.0			47.8			28.4			41.4	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	51.3	30.3	19.3	12.7	56.1	5.2	44.3				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	12.0	11.8	23.3	13.2	7.8	43.4	3.7	12.8				
Green Ext Time (p_c), s	0.2	3.9	1.2	0.7	0.0	5.8	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			42.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Intersection Delay, s/veh 14.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	138	26	44	192	81	14	85	3	80	238	35
Future Vol, veh/h	28	138	26	44	192	81	14	85	3	80	238	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	145	27	46	202	85	15	89	3	84	251	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.9	14.6	10.7	16.4
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	15%	14%	23%
Vol Thru, %	83%	72%	61%	67%
Vol Right, %	3%	14%	26%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	192	317	353
LT Vol	14	28	44	80
Through Vol	85	138	192	238
RT Vol	3	26	81	35
Lane Flow Rate	107	202	334	372
Geometry Grp	1	1	1	1
Degree of Util (X)	0.185	0.331	0.518	0.583
Departure Headway (Hd)	6.194	5.889	5.586	5.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	574	606	641	635
Service Time	4.288	3.971	3.658	3.719
HCM Lane V/C Ratio	0.186	0.333	0.521	0.586
HCM Control Delay	10.7	11.9	14.6	16.4
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	0.7	1.4	3	3.8

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	150	4	11	232	9	7	16	6	18	18	44
Future Vol, veh/h	18	150	4	11	232	9	7	16	6	18	18	44
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	20	163	4	12	252	10	8	17	7	20	20	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	9.7	8.3	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	10%	4%	23%
Vol Thru, %	55%	87%	92%	22%
Vol Right, %	21%	2%	4%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	172	252	80
LT Vol	7	18	11	18
Through Vol	16	150	232	18
RT Vol	6	4	9	44
Lane Flow Rate	32	187	274	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.235	0.336	0.114
Departure Headway (Hd)	5.009	4.521	4.412	4.723
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	795	814	757
Service Time	3.054	2.552	2.441	2.762
HCM Lane V/C Ratio	0.045	0.235	0.337	0.115
HCM Control Delay	8.3	8.9	9.7	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.9	1.5	0.4

Existing PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	623	299	622	729	639
Future Volume (vph)	623	299	622	729	639
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	24.0	24.0	22.0	46.0	24.0
Total Split (%)	34.3%	34.3%	31.4%	65.7%	34.3%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 61.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	623	299	622	729	0	639
Future Volume (vph)	623	299	622	729	0	639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1583	3433	3539		1589
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1583	3433	3539		1589
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	656	315	655	767	0	673
RTOR Reduction (vph)	0	234	0	0	0	429
Lane Group Flow (vph)	656	81	655	767	0	244
Confl. Bikes (#/hr)						2
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	15.7	15.7	15.1	38.8		13.1
Effective Green, g (s)	15.7	15.7	15.1	38.8		13.1
Actuated g/C Ratio	0.26	0.26	0.25	0.64		0.22
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	912	408	851	2254		341
v/s Ratio Prot	c0.19		c0.19	0.22		
v/s Ratio Perm		0.05				c0.15
v/c Ratio	0.72	0.20	0.77	0.34		0.72
Uniform Delay, d1	20.6	17.7	21.3	5.1		22.2
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	2.7	0.2	4.2	0.1		7.0
Delay (s)	23.3	17.9	25.5	5.2		29.2
Level of Service	C	B	C	A		C
Approach Delay (s)	21.6			14.6	29.2	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			20.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.74			
Actuated Cycle Length (s)			60.9		Sum of lost time (s)	17.0
Intersection Capacity Utilization			66.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	623	299	622	729	0	639
Future Volume (vph)	623	299	622	729	0	639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1583	3433	3539		1589
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1583	3433	3539		1589
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	656	315	655	767	0	673
RTOR Reduction (vph)	0	234	0	0	0	429
Lane Group Flow (vph)	656	81	655	767	0	244
Confl. Bikes (#/hr)						2
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	15.7	15.7	15.1	38.8		13.1
Effective Green, g (s)	15.7	15.7	15.1	38.8		13.1
Actuated g/C Ratio	0.26	0.26	0.25	0.64		0.22
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	912	408	851	2254		341
v/s Ratio Prot	c0.19		c0.19	0.22		
v/s Ratio Perm		0.05				c0.15
v/c Ratio	0.72	0.20	0.77	0.34		0.72
Uniform Delay, d1	20.6	17.7	21.3	5.1		22.2
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	2.7	0.2	4.2	0.1		7.0
Delay (s)	23.3	17.9	25.5	5.2		29.2
Level of Service	C	B	C	A		C
Approach Delay (s)	21.6			14.6	29.2	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			20.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.74			
Actuated Cycle Length (s)			60.9		Sum of lost time (s)	17.0
Intersection Capacity Utilization			66.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	1163	99	275	1023	247	1009
Future Volume (vph)	1163	99	275	1023	247	1009
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	55.0	78.0	17.0	72.0	78.0	78.0
Total Split (%)	36.7%	52.0%	11.3%	48.0%	52.0%	52.0%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
17 s	55 s	
← Ø6		↘ Ø8
72 s		78 s

Existing PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	1163	99	275	1023	247	1009
Future Volume (veh/h)	1163	99	275	1023	247	1009
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	1870	1870
Adj Flow Rate, veh/h	1199	102	284	1055	255	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1551	970	385	2230	313	
Arrive On Green	0.44	0.44	0.11	0.63	0.18	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	1199	102	284	1055	255	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	20.5	1.9	5.7	11.3	9.9	0.0
Cycle Q Clear(g_c), s	20.5	1.9	5.7	11.3	9.9	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1551	970	385	2230	313	
V/C Ratio(X)	0.77	0.11	0.74	0.47	0.82	
Avail Cap(c_a), veh/h	2332	1319	545	3176	1789	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.2	5.8	30.8	7.1	28.4	0.0
Incr Delay (d2), s/veh	0.9	0.0	3.2	0.2	5.2	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	6.7	0.8	2.3	2.6	4.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.1	5.8	34.0	7.2	33.6	0.0
LnGrp LOS	B	A	C	A	C	
Approach Vol, veh/h	1301			1339	255	A
Approach Delay, s/veh	17.1			12.9	33.6	
Approach LOS	B			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.7	39.3			52.9	18.7
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 11	47.0			64.0	71.9
Max Q Clear Time (g_c+I1), s	7.7	22.5			13.3	11.9
Green Ext Time (p_c), s	0.3	8.7			8.0	0.8
Intersection Summary						
HCM 6th Ctrl Delay			16.6			
HCM 6th LOS			B			
Notes						

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Existing PM
3: Loretta St & SR 76

Ocean Kamp
02/16/2021

					
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	2018	30	1273	25	23
Future Volume (vph)	2018	30	1273	25	23
Turn Type	NA	Prot	NA	Prot	pm+ov
Protected Phases	2	1	6	8	1
Permitted Phases					8
Detector Phase	2	1	6	8	1
Switch Phase					
Minimum Initial (s)	25.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	14.7	33.0	38.1	14.7
Total Split (s)	114.7	25.2	139.9	40.1	25.2
Total Split (%)	63.7%	14.0%	77.7%	22.3%	14.0%
Yellow Time (s)	5.5	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.7	8.0	6.1	5.7
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Min	None	C-Min	None	None

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (veh/h)	2018	0	30	1273	25	23
Future Volume (veh/h)	2018	0	30	1273	25	23
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	1870	1870
Adj Flow Rate, veh/h	2124	0	32	1340	26	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2840	1267	71	3094	91	144
Arrive On Green	0.80	0.00	0.04	0.87	0.05	0.05
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	2124	0	32	1340	26	24
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	53.7	0.0	3.2	14.1	2.5	2.5
Cycle Q Clear(g_c), s	53.7	0.0	3.2	14.1	2.5	2.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2840	1267	71	3094	91	144
V/C Ratio(X)	0.75	0.00	0.45	0.43	0.29	0.17
Avail Cap(c_a), veh/h	2840	1267	193	3094	336	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	84.5	2.4	82.3	75.5
Incr Delay (d2), s/veh	0.2	0.0	4.4	0.4	1.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	0.0	1.5	2.8	1.2	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	0.0	88.9	2.9	84.0	76.1
LnGrp LOS	A	A	F	A	F	E
Approach Vol, veh/h	2124			1372	50	
Approach Delay, s/veh	9.2			4.9	80.2	
Approach LOS	A			A	F	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.9	151.8			164.7	15.3
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 20	106.7			131.9	34.0
Max Q Clear Time (g_c+I1), s	5.2	55.7			16.1	4.5
Green Ext Time (p_c), s	0.0	27.3			12.2	0.1
Intersection Summary						
HCM 6th Ctrl Delay			8.5			
HCM 6th LOS			A			
Notes						

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

Existing PM
4: Canyon Dr & SR 76

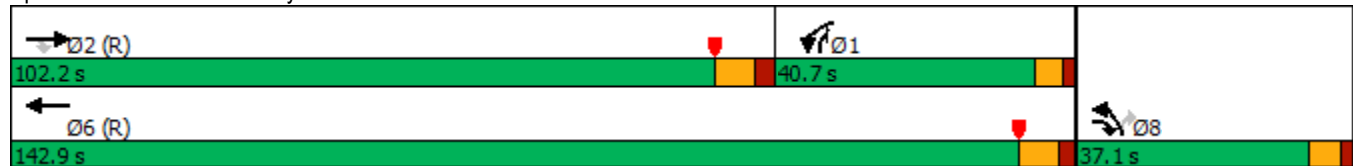
Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	2135	56	149	1295	8	85
Future Volume (vph)	2135	56	149	1295	8	85
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	37.1	15.7	33.0	37.1	15.7
Total Split (s)	102.2	37.1	40.7	142.9	37.1	40.7
Total Split (%)	56.8%	20.6%	22.6%	79.4%	20.6%	22.6%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 82 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing PM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (veh/h)	2135	56	149	1295	8	85
Future Volume (veh/h)	2135	56	149	1295	8	85
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	2296	60	160	1392	9	91
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1860	891	542	3099	172	561
Arrive On Green	0.52	0.52	0.30	0.87	0.05	0.05
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	2296	60	160	1392	9	91
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	94.2	3.1	12.4	14.8	0.4	0.0
Cycle Q Clear(g_c), s	94.2	3.1	12.4	14.8	0.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1860	891	542	3099	172	561
V/C Ratio(X)	1.23	0.07	0.30	0.45	0.05	0.16
Avail Cap(c_a), veh/h	1860	891	542	3099	595	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.57	0.57	1.00	1.00
Uniform Delay (d), s/veh	42.9	17.1	47.9	2.4	81.5	39.9
Incr Delay (d2), s/veh	110.4	0.1	0.2	0.3	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	67.2	1.3	5.4	2.9	0.2	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	153.3	17.2	48.0	2.7	81.6	40.0
LnGrp LOS	F	B	D	A	F	D
Approach Vol, veh/h	2356			1552	100	
Approach Delay, s/veh	149.9			7.4	43.7	
Approach LOS	F			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	62.8	102.2			165.0	15.0
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	35.0	* 94			134.9	31.0
Max Q Clear Time (g_c+I1), s	14.4	96.2			16.8	2.4
Green Ext Time (p_c), s	0.4	0.0			13.1	0.3
Intersection Summary						
HCM 6th Ctrl Delay			92.0			
HCM 6th LOS			F			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Existing PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	1687	101	38	1196	6	136	16	107	26	17	112
Future Volume (vph)	198	1687	101	38	1196	6	136	16	107	26	17	112
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	45.7	88.5	88.5	20.7	63.5	63.5	23.7	50.1	50.1	20.7	21.1	45.7
Total Split (%)	25.4%	49.2%	49.2%	11.5%	35.3%	35.3%	13.2%	27.8%	27.8%	11.5%	11.7%	25.4%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 47 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1687	101	38	1196	6	136	16	107	26	17	112
Future Volume (veh/h)	198	1687	101	38	1196	6	136	16	107	26	17	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	215	1834	110	41	1300	7	148	17	116	28	18	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	678	2287	994	103	1096	476	166	199	164	89	114	697
Arrive On Green	0.38	0.64	0.64	0.04	0.21	0.21	0.09	0.11	0.11	0.05	0.06	0.06
Sat Flow, veh/h	1781	3554	1544	1781	3554	1543	1781	1870	1538	1781	1870	1541
Grp Volume(v), veh/h	215	1834	110	41	1300	7	148	17	116	28	18	122
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1781	1777	1543	1781	1870	1538	1781	1870	1541
Q Serve(g_s), s	15.3	68.4	2.6	4.0	55.5	0.5	14.8	1.5	13.1	2.7	1.6	0.0
Cycle Q Clear(g_c), s	15.3	68.4	2.6	4.0	55.5	0.5	14.8	1.5	13.1	2.7	1.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	678	2287	994	103	1096	476	166	199	164	89	114	697
V/C Ratio(X)	0.32	0.80	0.11	0.40	1.19	0.01	0.89	0.09	0.71	0.31	0.16	0.17
Avail Cap(c_a), veh/h	678	2287	994	148	1096	476	178	457	376	148	156	731
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.22	0.22	0.22	0.74	0.74	0.74	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	23.6	3.3	83.4	71.4	33.2	80.7	72.5	77.7	82.5	80.1	30.4
Incr Delay (d2), s/veh	0.1	0.7	0.0	1.8	91.0	0.0	36.7	0.2	5.5	2.0	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	26.4	1.7	1.9	39.4	0.3	8.5	0.7	5.5	1.3	0.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	24.3	3.4	85.2	162.4	33.2	117.4	72.7	83.2	84.5	80.7	30.5
LnGrp LOS	D	C	A	F	F	C	F	E	F	F	F	C
Approach Vol, veh/h	2159			1348			281			168		
Approach Delay, s/veh	24.8			159.4			100.6			44.9		
Approach LOS	C			F			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	123.8	22.9	17.1	76.5	63.5	14.7	25.3				
Change Period (Y+Rc), s	* 5.7	8.0	6.1	* 6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	80.5	18.0	* 15	40.0	* 56	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.0	70.4	16.8	3.6	17.3	57.5	4.7	15.1				
Green Ext Time (p_c), s	0.0	7.7	0.0	0.3	0.5	0.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	76.9											
HCM 6th LOS	E											
Notes												

Existing PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	23	2068	46	74	1306	25	68	93	39	69	40
Future Volume (vph)	23	2068	46	74	1306	25	68	93	39	69	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	98.5	98.5	20.7	98.5	98.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	11.5%	54.7%	54.7%	11.5%	54.7%	54.7%	11.5%	25.1%	8.7%	11.7%	11.7%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180

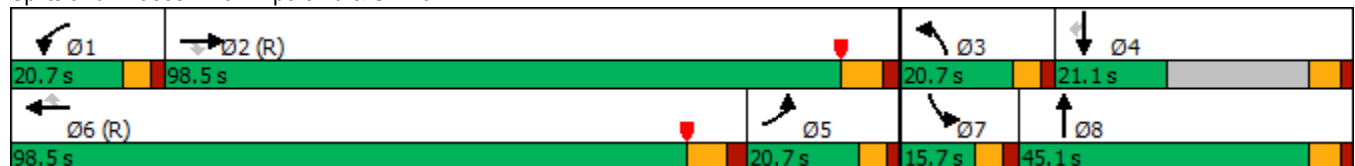
Actuated Cycle Length: 180

Offset: 87 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Existing PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	23	2068	46	74	1306	25	68	93	84	39	69	40
Future Volume (veh/h)	23	2068	46	74	1306	25	68	93	84	39	69	40
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	24	2154	48	77	1360	26	71	97	88	41	72	42
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	424	2255	1006	95	1554	693	119	110	100	86	194	164
Arrive On Green	0.32	0.84	0.84	0.02	0.14	0.14	0.07	0.12	0.12	0.05	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	903	820	1781	1870	1585
Grp Volume(v), veh/h	24	2154	48	77	1360	26	71	0	185	41	72	42
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1723	1781	1870	1585
Q Serve(g_s), s	1.7	87.8	0.9	7.8	67.5	2.0	7.0	0.0	19.0	4.0	6.5	2.8
Cycle Q Clear(g_c), s	1.7	87.8	0.9	7.8	67.5	2.0	7.0	0.0	19.0	4.0	6.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	424	2255	1006	95	1554	693	119	0	210	86	194	164
V/C Ratio(X)	0.06	0.96	0.05	0.81	0.88	0.04	0.60	0.00	0.88	0.48	0.37	0.26
Avail Cap(c_a), veh/h	424	2255	1006	148	1787	797	148	0	373	99	194	164
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	0.80	0.80	0.80	0.97	0.00	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	12.0	5.2	87.5	72.2	26.9	81.7	0.0	77.7	83.4	75.2	31.1
Incr Delay (d2), s/veh	0.0	6.4	0.0	13.7	5.9	0.1	4.6	0.0	11.0	4.0	1.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	15.8	0.3	4.0	33.5	1.0	3.4	0.0	9.1	2.0	3.2	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	18.4	5.2	101.2	78.1	27.0	86.3	0.0	88.7	87.4	76.4	31.9
LnGrp LOS	D	B	A	F	E	C	F	A	F	F	E	C
Approach Vol, veh/h		2226			1463			256			155	
Approach Delay, s/veh		18.4			78.4			88.0			67.3	
Approach LOS		B			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	122.2	17.7	24.8	50.8	86.7	14.4	28.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	90.5	* 15	15.0	15.0	* 91	* 10	39.0				
Max Q Clear Time (g_c+I1), s	9.8	89.8	9.0	8.5	3.7	69.5	6.0	21.0				
Green Ext Time (p_c), s	0.1	0.7	0.1	0.2	0.0	9.3	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

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

Existing PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	2013	84	109	1298	86	62	47	92	58	84	64
Future Volume (vph)	104	2013	84	109	1298	86	62	47	92	58	84	64
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	18.7	54.0	54.0	18.7	52.1	52.1	18.7	20.1	20.1
Total Split (s)	20.7	88.5	88.5	20.7	88.5	88.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	11.5%	49.2%	49.2%	11.5%	49.2%	49.2%	12.1%	28.9%	28.9%	10.4%	11.2%	11.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

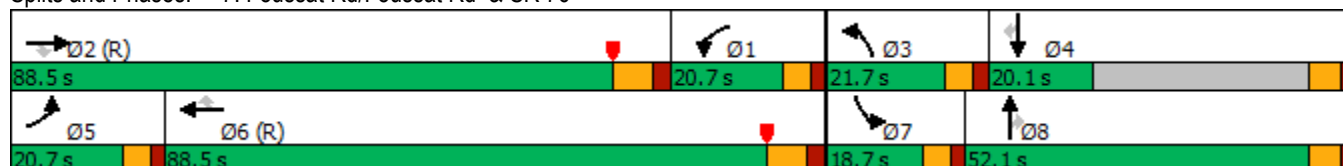
Actuated Cycle Length: 180

Offset: 151 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



Existing PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	2013	84	109	1298	86	62	47	92	58	84	64
Future Volume (veh/h)	104	2013	84	109	1298	86	62	47	92	58	84	64
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	108	2097	88	114	1352	90	65	49	96	60	88	67
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	248	1589	709	887	2291	1022	240	259	116	237	257	201
Arrive On Green	0.05	0.30	0.30	0.26	0.64	0.64	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	108	2097	88	114	1352	90	65	49	96	60	88	67
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	5.5	80.5	5.4	4.6	39.3	3.8	3.2	2.3	6.9	3.0	4.2	4.1
Cycle Q Clear(g_c), s	5.5	80.5	5.4	4.6	39.3	3.8	3.2	2.3	6.9	3.0	4.2	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	1589	709	887	2291	1022	240	259	116	237	257	201
V/C Ratio(X)	0.43	1.32	0.12	0.13	0.59	0.09	0.27	0.19	0.83	0.25	0.34	0.33
Avail Cap(c_a), veh/h	288	1589	709	887	2291	1022	307	908	405	250	276	217
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.1	63.0	20.3	51.4	18.3	12.0	79.4	78.4	33.6	79.5	79.4	79.4
Incr Delay (d2), s/veh	0.1	144.2	0.0	0.1	1.1	0.2	0.6	0.3	13.7	0.6	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	68.5	2.9	2.0	15.4	1.5	1.5	1.1	3.2	1.4	2.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	207.2	20.3	51.5	19.5	12.2	80.0	78.8	47.3	80.0	80.2	80.3
LnGrp LOS	F	F	C	D	B	B	F	E	D	F	F	F
Approach Vol, veh/h	2293				1556				210			
Approach Delay, s/veh	194.2				21.4				64.8			
Approach LOS	F				C				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	54.2	88.5	18.2	19.1	18.6	124.1	18.1	19.2				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 81	* 16	14.0	* 15	80.5	* 13	46.0				
Max Q Clear Time (g_c+I1), s	6.6	82.5	5.2	6.2	7.5	41.3	5.0	8.9				
Green Ext Time (p_c), s	0.2	0.0	0.1	0.4	0.1	11.8	0.1	0.6				

Intersection Summary

HCM 6th Ctrl Delay	119.2
HCM 6th LOS	F

Notes

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

Existing PM
8: SR 76 & Douglas Drive

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations	↰↰	↑↑	↑↑	↰	↰	↰↰	
Traffic Volume (vph)	559	1862	1259	232	237	342	
Future Volume (vph)	559	1862	1259	232	237	342	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	110.8	75.1	75.1	19.1	35.7	50.1
Total Split (%)	19.8%	61.6%	41.7%	41.7%	10.6%	19.8%	28%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lead		Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 95 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 76 & Douglas Drive



Existing PM
8: SR 76 & Douglas Drive

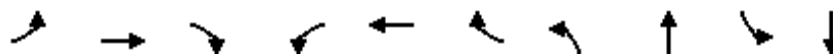
Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	559	1862	0	0	1259	232	0	0	0	237	0	342
Future Volume (veh/h)	559	1862	0	0	1259	232	0	0	0	237	0	342
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	608	2024	0	0	1368	252	0	0	0	258	0	372
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	576	3396	0	0	2691	1200	0	1	0	0	0	0
Arrive On Green	0.17	0.96	0.00	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	608	2024	0	0	1368	252	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	30.0	10.6	0.0	0.0	59.5	22.7	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	30.0	10.6	0.0	0.0	59.5	22.7	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	576	3396	0	0	2691	1200	0	1	0			
V/C Ratio(X)	1.06	0.60	0.00	0.00	0.51	0.21	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	576	3396	0	0	2691	1200	0	457	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.76	0.76	0.00	0.00	0.00			
Uniform Delay (d), s/veh	75.0	0.4	0.0	0.0	38.7	24.9	0.0	0.0	0.0			
Incr Delay (d2), s/veh	53.0	0.8	0.0	0.0	0.5	0.3	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			
%ile BackOfQ(50%),veh/ln	17.3	0.4	0.0	0.0	28.5	9.7	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.0	1.2	0.0	0.0	39.2	25.2	0.0	0.0	0.0			
LnGrp LOS	F	A	A	A	D	C	A	A	A			
Approach Vol, veh/h	2632			1620			0					
Approach Delay, s/veh	30.5			37.1			0.0					
Approach LOS	C			D								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	180.0			35.7			144.3			0.0		
Change Period (Y+Rc), s	8.0			* 5.7			8.0			6.1		
Max Green Setting (Gmax), s	102.8			* 30			67.1			44.0		
Max Q Clear Time (g_c+I1), s	12.6			32.0			61.5			0.0		
Green Ext Time (p_c), s	30.2			0.0			4.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									
Notes												

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

Existing PM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	69	1575	257	236	990	61	216	254	72	204
Future Volume (vph)	69	1575	257	236	990	61	216	254	72	204
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	25.0	25.0	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	54.1	54.1	21.7	55.1	55.1	18.7	55.1	17.7	54.1
Total Split (s)	20.7	80.5	80.5	26.7	86.5	86.5	18.7	55.1	17.7	54.1
Total Split (%)	11.5%	44.7%	44.7%	14.8%	48.1%	48.1%	10.4%	30.6%	9.8%	30.1%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 180

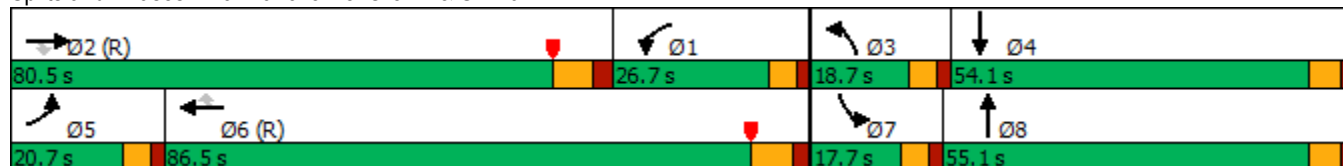
Actuated Cycle Length: 180

Offset: 73 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing PM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1575	257	236	990	61	216	254	288	72	204	63
Future Volume (veh/h)	69	1575	257	236	990	61	216	254	288	72	204	63
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		0.98	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	71	1624	265	243	1021	63	223	262	297	74	210	65
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	144	1431	637	533	1738	775	250	397	345	225	582	175
Arrive On Green	0.03	0.13	0.13	0.15	0.49	0.49	0.07	0.22	0.22	0.07	0.22	0.22
Sat Flow, veh/h	1781	3554	1582	3456	3554	1585	3456	1777	1546	3456	2690	810
Grp Volume(v), veh/h	71	1624	265	243	1021	63	223	262	297	74	137	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	1585	1728	1777	1546	1728	1777	1723
Q Serve(g_s), s	7.1	72.5	20.8	11.5	37.1	3.8	11.5	24.2	33.2	3.7	11.8	12.3
Cycle Q Clear(g_c), s	7.1	72.5	20.8	11.5	37.1	3.8	11.5	24.2	33.2	3.7	11.8	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	144	1431	637	533	1738	775	250	397	345	225	384	373
V/C Ratio(X)	0.49	1.13	0.42	0.46	0.59	0.08	0.89	0.66	0.86	0.33	0.36	0.37
Avail Cap(c_a), veh/h	148	1431	637	533	1738	775	250	484	421	230	474	460
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.28	0.28	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	83.9	78.0	33.1	69.2	33.0	24.5	82.8	63.7	67.2	80.4	59.9	60.1
Incr Delay (d2), s/veh	0.7	63.4	0.6	0.6	1.5	0.2	30.7	2.4	14.1	0.7	0.5	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	3.3	47.3	8.9	5.1	15.8	1.5	6.2	11.1	14.3	1.7	5.3	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.7	141.4	33.7	69.8	34.4	24.7	113.5	66.1	81.2	81.1	60.3	60.6
LnGrp LOS	F	F	C	E	C	C	F	E	F	F	E	E
Approach Vol, veh/h		1960			1327			782			349	
Approach Delay, s/veh		124.8			40.5			85.4			64.8	
Approach LOS		F			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.8	80.5	18.7	45.0	20.3	96.0	17.4	46.3				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	21.0	* 73	* 13	48.0	* 15	78.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	13.5	74.5	13.5	14.3	9.1	39.1	5.7	35.2				
Green Ext Time (p_c), s	0.4	0.0	0.0	1.5	0.1	7.7	0.1	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			87.8									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	84	891	225	115	591	64	253	137	189	194
Future Volume (vph)	84	891	225	115	591	64	253	137	189	194
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	8.0	8.0	6.0	7.0	6.0	7.0
Minimum Split (s)	11.1	34.8	11.4	11.4	34.8	34.8	11.4	36.4	11.1	36.8
Total Split (s)	24.0	34.0	38.0	24.0	34.0	34.0	38.0	42.0	20.0	24.0
Total Split (%)	20.0%	28.3%	31.7%	20.0%	28.3%	28.3%	31.7%	35.0%	16.7%	20.0%
Yellow Time (s)	4.1	4.8	4.4	4.1	4.8	4.8	4.4	4.4	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.4	5.1	5.8	5.8	5.4	5.4	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120

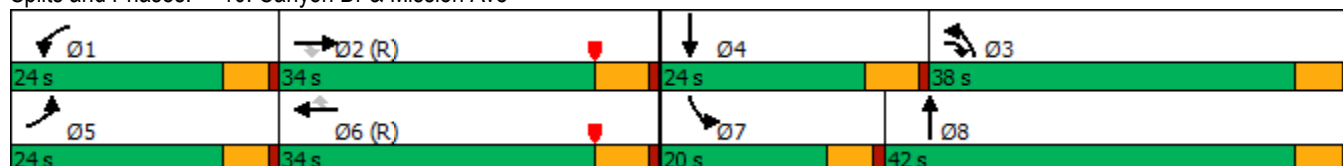
Actuated Cycle Length: 120

Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Existing PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	891	225	115	591	64	253	137	70	189	194	46
Future Volume (veh/h)	84	891	225	115	591	64	253	137	70	189	194	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.90
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	87	919	232	119	609	66	261	141	72	195	200	47
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	111	1719	941	146	1789	780	429	417	200	257	354	80
Arrive On Green	0.06	0.48	0.48	0.08	0.50	0.50	0.12	0.18	0.18	0.07	0.13	0.13
Sat Flow, veh/h	1781	3554	1538	1781	3554	1549	3456	2301	1103	3456	2811	635
Grp Volume(v), veh/h	87	919	232	119	609	66	261	107	106	195	124	123
Grp Sat Flow(s),veh/h/ln	1781	1777	1538	1781	1777	1549	1728	1777	1627	1728	1777	1669
Q Serve(g_s), s	5.8	21.6	2.7	7.9	12.3	2.7	8.6	6.3	6.9	6.6	7.8	8.4
Cycle Q Clear(g_c), s	5.8	21.6	2.7	7.9	12.3	2.7	8.6	6.3	6.9	6.6	7.8	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.38
Lane Grp Cap(c), veh/h	111	1719	941	146	1789	780	429	322	295	257	224	210
V/C Ratio(X)	0.79	0.53	0.25	0.81	0.34	0.08	0.61	0.33	0.36	0.76	0.55	0.59
Avail Cap(c_a), veh/h	281	1719	941	281	1789	780	939	542	496	429	269	253
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	55.5	21.6	3.2	54.2	17.8	15.4	49.8	42.8	43.0	54.5	49.3	49.5
Incr Delay (d2), s/veh	11.5	1.2	0.6	10.3	0.5	0.2	1.4	0.6	0.7	4.5	2.1	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	2.9	8.9	1.2	3.9	5.0	1.0	3.8	2.8	2.8	3.1	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	22.8	3.9	64.5	18.4	15.7	51.2	43.4	43.8	59.0	51.4	52.1
LnGrp LOS	E	C	A	E	B	B	D	D	D	E	D	D
Approach Vol, veh/h		1238			794			474			442	
Approach Delay, s/veh		22.3			25.0			47.7			55.0	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	63.8	20.3	20.9	12.6	66.2	14.0	27.2				
Change Period (Y+Rc), s	5.1	5.8	5.4	5.8	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	18.9	28.2	32.6	18.2	18.9	28.2	14.9	36.6				
Max Q Clear Time (g_c+I1), s	9.9	23.6	10.6	10.4	7.8	14.3	8.6	8.9				
Green Ext Time (p_c), s	0.2	3.5	0.9	0.8	0.1	5.8	0.3	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			32.0									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved changes to right turn type.												

	→	↘	↙	←	↑	↓			
Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø5	Ø7
Lane Configurations	↑↑	↑	↘	↑↑	↔	↔			
Traffic Volume (vph)	895	197	25	539	1	1			
Future Volume (vph)	895	197	25	539	1	1			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	2		1	6	8	4	3	5	7
Permitted Phases		2							
Detector Phase	2	2	1	6	8	4			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)	41.6	41.6	9.5	41.6	25.2	25.2	10.4	9.5	10.4
Total Split (s)	44.4	44.4	10.0	44.9	25.2	25.2	10.4	9.5	10.4
Total Split (%)	49.3%	49.3%	11.1%	49.9%	28.0%	28.0%	12%	11%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	3.0	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 57.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

↙ Ø1	→ Ø2	↘ Ø3	↓ Ø4
10 s	44.4 s	10.4 s	25.2 s
↗ Ø5	← Ø6	↙ Ø7	↑ Ø8
9.5 s	44.9 s	10.4 s	25.2 s

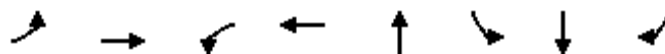
Existing PM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	895	197	25	539	0	145	1	58	0	1	0
Future Volume (veh/h)	0	895	197	25	539	0	145	1	58	0	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	0	923	203	26	556	0	149	1	60	0	1	0
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	4	1573	679	33	1953	0	0	6	331	0	397	0
Arrive On Green	0.00	0.44	0.44	0.02	0.55	0.00	0.00	0.21	0.21	0.00	0.21	0.00
Sat Flow, veh/h	1781	3554	1534	1781	3647	0	0	26	1559	0	1870	0
Grp Volume(v), veh/h	0	923	203	26	556	0	0	0	61	0	1	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1781	1777	0	0	0	1585	0	1870	0
Q Serve(g_s), s	0.0	8.9	3.8	0.7	3.8	0.0	0.0	0.0	1.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	8.9	3.8	0.7	3.8	0.0	0.0	0.0	1.4	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.00		0.98	0.00		0.00
Lane Grp Cap(c), veh/h	4	1573	679	33	1953	0	0	0	336	0	397	0
V/C Ratio(X)	0.00	0.59	0.30	0.79	0.28	0.00	0.00	0.00	0.18	0.00	0.00	0.00
Avail Cap(c_a), veh/h	216	3123	1349	236	3163	0	0	0	665	0	785	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)	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.5	8.1	22.1	5.4	0.0	0.0	0.0	14.6	0.0	14.1	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.2	32.9	0.1	0.0	0.0	0.0	0.3	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	0.0	2.4	0.8	0.5	0.8	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.9	8.4	55.1	5.5	0.0	0.0	0.0	14.9	0.0	14.1	0.0
LnGrp LOS	A	A	A	E	A	A	A	A	B	A	B	A
Approach Vol, veh/h		1126			582			61			1	
Approach Delay, s/veh		9.6			7.7			14.9			14.1	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.8	24.6	0.0	15.8	0.0	29.5	0.0	15.8				
Change Period (Y+Rc), s	4.0	4.6	5.4	6.2	4.0	4.6	5.4	6.2				
Max Green Setting (Gmax), s	6.0	39.8	5.0	19.0	5.5	40.3	5.0	19.0				
Max Q Clear Time (g_c+I1), s	2.7	10.9	0.0	2.0	0.0	5.8	0.0	3.4				
Green Ext Time (p_c), s	0.0	7.8	0.0	0.0	0.0	3.8	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.2									
HCM 6th LOS			A									

Existing PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	28	1229	15	832	10	33	11	35
Future Volume (vph)	28	1229	15	832	10	33	11	35
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.4	27.2	10.4	29.2	25.0	28.4	28.4	28.4
Total Split (s)	20.0	45.0	20.0	45.0	25.0	30.0	30.0	30.0
Total Split (%)	16.7%	37.5%	16.7%	37.5%	20.8%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	45 s	30 s	25 s
Ø5	Ø6 (R)		
20 s	45 s		

Existing PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1229	11	15	832	38	15	10	17	33	11	35
Future Volume (veh/h)	28	1229	11	15	832	38	15	10	17	33	11	35
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	30	1322	12	16	895	41	16	11	18	24	28	38
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	2508	23	31	2374	109	32	22	36	113	118	100
Arrive On Green	0.03	0.70	0.70	0.03	1.00	1.00	0.05	0.05	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1781	3609	33	1781	3460	159	610	420	687	1781	1870	1585
Grp Volume(v), veh/h	30	651	683	16	460	476	45	0	0	24	28	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1842	1716	0	0	1781	1870	1585
Q Serve(g_s), s	2.0	21.1	21.2	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	2.8
Cycle Q Clear(g_c), s	2.0	21.1	21.2	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	2.8
Prop In Lane	1.00		0.02	1.00		0.09	0.36		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	47	1235	1296	31	1219	1264	89	0	0	113	118	100
V/C Ratio(X)	0.64	0.53	0.53	0.52	0.38	0.38	0.51	0.00	0.00	0.21	0.24	0.38
Avail Cap(c_a), veh/h	217	1235	1296	217	1219	1264	292	0	0	379	397	337
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	0.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	57.9	8.8	8.8	57.4	0.0	0.0	55.4	0.0	0.0	53.4	53.4	53.9
Incr Delay (d2), s/veh	13.6	1.6	1.5	12.4	0.8	0.8	4.4	0.0	0.0	0.9	1.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.5	7.9	0.6	0.3	0.3	1.4	0.0	0.0	0.7	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.4	10.4	10.3	69.9	0.8	0.8	59.8	0.0	0.0	54.2	54.4	56.1
LnGrp LOS	E	B	B	E	A	A	E	A	A	D	D	E
Approach Vol, veh/h	1364		952				45		90			
Approach Delay, s/veh	11.7		2.0				59.8		55.1			
Approach LOS	B		A				E		E			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.5	89.6	12.1		8.6	88.5	10.8					
Change Period (Y+Rc), s	5.4	6.2	4.5		5.4	6.2	4.6					
Max Green Setting (Gmax), s	14.6	38.8	25.5		14.6	38.8	20.4					
Max Q Clear Time (g_c+I1), s	3.1	23.2	4.8		4.0	2.0	5.1					
Green Ext Time (p_c), s	0.0	7.7	0.3		0.0	6.5	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	10.4											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

Existing PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	21	1235	43	810	37	0	104	22	0	22
Future Volume (vph)	21	1235	43	810	37	0	104	22	0	22
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	30.9	30.9	30.9	30.9	30.9	30.9
Total Split (s)	28.0	65.0	23.0	60.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	23.3%	54.2%	19.2%	50.0%	26.7%	26.7%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 48 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Existing PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1235	33	43	810	17	37	0	104	22	0	22
Future Volume (veh/h)	21	1235	33	43	810	17	37	0	104	22	0	22
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	23	1328	35	46	871	18	40	0	112	24	0	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	2155	57	59	2208	46	60	0	361	60	0	361
Arrive On Green	0.04	1.00	1.00	0.07	1.00	1.00	0.23	0.00	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1781	3537	93	1781	3560	74	0	0	1585	0	0	1585
Grp Volume(v), veh/h	23	667	696	46	435	454	40	0	112	24	0	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1857	0	0	1585	0	0	1585
Q Serve(g_s), s	1.5	0.0	0.0	3.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	1.4
Cycle Q Clear(g_c), s	1.5	0.0	0.0	3.0	0.0	0.0	27.3	0.0	7.0	27.3	0.0	1.4
Prop In Lane	1.00		0.05	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	40	1082	1129	59	1102	1152	60	0	361	60	0	361
V/C Ratio(X)	0.58	0.62	0.62	0.77	0.39	0.39	0.67	0.00	0.31	0.40	0.00	0.07
Avail Cap(c_a), veh/h	340	1082	1129	266	1102	1152	60	0	361	60	0	361
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	0.0	0.0	55.6	0.0	0.0	60.0	0.0	38.5	60.0	0.0	36.4
Incr Delay (d2), s/veh	10.6	2.2	2.1	16.1	0.9	0.8	24.5	0.0	0.5	4.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.7	0.7	1.6	0.3	0.3	1.6	0.0	2.8	0.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	2.2	2.1	71.7	0.9	0.8	84.5	0.0	39.0	64.2	0.0	36.4
LnGrp LOS	E	A	A	E	A	A	F	A	D	E	A	D
Approach Vol, veh/h	1386				935				152			
Approach Delay, s/veh	3.2				4.3				51.0			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	78.9		32.0	7.8	80.2		32.0				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	17.9	59.2		* 27	22.9	54.2		* 27				
Max Q Clear Time (g_c+I1), s	5.0	2.0		29.3	3.5	2.0		29.3				
Green Ext Time (p_c), s	0.1	12.5		0.0	0.0	5.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	51	1267	30	731	39	40	94	61	121	80
Future Volume (vph)	51	1267	30	731	39	40	94	61	121	80
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	39.8	11.1	11.1	30.5	11.1	30.5	11.1
Total Split (s)	25.0	45.0	20.0	40.0	25.0	25.0	30.0	25.0	30.0	25.0
Total Split (%)	20.8%	37.5%	16.7%	33.3%	20.8%	20.8%	25.0%	20.8%	25.0%	20.8%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

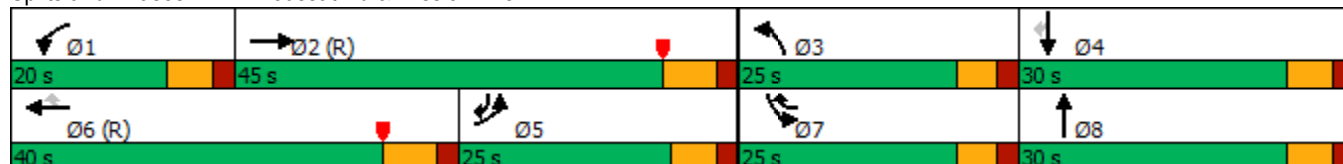
Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



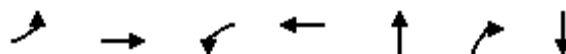
Existing PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	1267	57	30	731	39	40	94	29	61	121	80
Future Volume (veh/h)	51	1267	57	30	731	39	40	94	29	61	121	80
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	54	1348	61	32	778	41	43	100	31	65	129	85
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	743	2242	101	49	895	458	110	225	67	127	314	1411
Arrive On Green	0.42	0.65	0.65	0.01	0.08	0.08	0.03	0.08	0.08	0.04	0.09	0.09
Sat Flow, veh/h	1781	3463	156	1781	3554	1585	3456	2698	804	3456	3554	2790
Grp Volume(v), veh/h	54	691	718	32	778	41	43	65	66	65	129	85
Grp Sat Flow(s),veh/h/ln	1781	1777	1842	1781	1777	1585	1728	1777	1726	1728	1777	1395
Q Serve(g_s), s	2.2	26.9	27.0	2.1	26.0	0.5	1.5	4.1	4.4	2.2	4.1	0.3
Cycle Q Clear(g_c), s	2.2	26.9	27.0	2.1	26.0	0.5	1.5	4.1	4.4	2.2	4.1	0.3
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	743	1150	1193	49	895	458	110	148	144	127	314	1411
V/C Ratio(X)	0.07	0.60	0.60	0.66	0.87	0.09	0.39	0.44	0.46	0.51	0.41	0.06
Avail Cap(c_a), veh/h	743	1150	1193	206	983	497	559	354	344	559	708	1719
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.96	0.96	0.96	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	21.0	12.2	12.2	58.9	53.1	18.4	57.0	52.3	52.4	56.7	51.7	6.3
Incr Delay (d2), s/veh	0.0	1.9	1.9	13.5	10.8	0.4	2.3	2.0	2.3	3.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.9	10.3	1.1	13.7	0.7	0.7	1.9	2.0	1.0	1.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	14.1	14.1	72.4	63.9	18.8	59.2	54.3	54.7	59.7	52.6	6.3
LnGrp LOS	C	B	B	E	E	B	E	D	D	E	D	A
Approach Vol, veh/h		1463			851			174			279	
Approach Delay, s/veh		14.4			62.1			55.7			40.1	
Approach LOS		B			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	84.5	9.4	16.7	56.9	37.0	10.0	16.1				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.8	* 6.8	5.6	6.1				
Max Green Setting (Gmax), s	13.9	38.2	19.4	23.9	18.9	* 33	19.4	23.9				
Max Q Clear Time (g_c+I1), s	4.1	29.0	3.5	6.1	4.2	28.0	4.2	6.4				
Green Ext Time (p_c), s	0.0	5.6	0.1	1.0	0.1	2.3	0.1	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			34.2									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	4	1250	55	678	2	108	1
Future Volume (vph)	4	1250	55	678	2	108	1
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	32.8	30.0	9.5	13.8
Total Split (s)	20.0	55.0	20.0	55.0	30.0	20.0	15.0
Total Split (%)	16.7%	45.8%	16.7%	45.8%	25.0%	16.7%	12.5%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	55 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	55 s		

Existing PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1250	91	55	678	7	96	2	108	5	1	7
Future Volume (veh/h)	4	1250	91	55	678	7	96	2	108	5	1	7
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	4	1359	99	60	737	8	104	2	117	5	1	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	2257	164	77	2564	28	161	3	215	13	3	21
Arrive On Green	0.00	0.22	0.22	0.09	1.00	1.00	0.09	0.09	0.09	0.02	0.02	0.02
Sat Flow, veh/h	1781	3359	244	1781	3601	39	1749	34	1585	596	119	954
Grp Volume(v), veh/h	4	717	741	60	364	381	106	0	117	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1826	1781	1777	1863	1783	0	1585	1669	0	0
Q Serve(g_s), s	0.3	43.5	43.8	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	43.5	43.8	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.02	0.98		1.00	0.36		0.57
Lane Grp Cap(c), veh/h	6	1194	1227	77	1265	1327	164	0	215	36	0	0
V/C Ratio(X)	0.72	0.60	0.60	0.78	0.29	0.29	0.65	0.00	0.54	0.39	0.00	0.00
Avail Cap(c_a), veh/h	221	1194	1227	221	1265	1327	377	0	404	139	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.9	32.2	32.3	54.2	0.0	0.0	52.6	0.0	48.4	57.9	0.0	0.0
Incr Delay (d2), s/veh	75.3	1.5	1.5	15.0	0.6	0.5	4.2	0.0	2.1	6.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	21.0	21.7	2.0	0.2	0.2	3.3	0.0	3.4	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.2	33.7	33.8	69.2	0.6	0.5	56.8	0.0	50.6	64.5	0.0	0.0
LnGrp LOS	F	C	C	E	A	A	E	A	D	E	A	A
Approach Vol, veh/h	1462		805				223		14			
Approach Delay, s/veh	34.1		5.7				53.5		64.5			
Approach LOS	C		A				D		E			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.3	86.4	7.6		5.5	91.3	15.7					
Change Period (Y+Rc), s	5.1	5.8	5.0		5.1	5.8	4.6					
Max Green Setting (Gmax), s	14.9	49.2	10.0		14.9	49.2	25.4					
Max Q Clear Time (g_c+I1), s	6.0	45.8	3.0		2.3	2.0	10.3					
Green Ext Time (p_c), s	0.1	2.5	0.0		0.0	4.6	0.8					
Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			C									
Notes												

Existing PM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1215	45	725	28
Future Volume (vph)	1215	45	725	28
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	60.0	30.0	90.0	30.0
Total Split (%)	50.0%	25.0%	75.0%	25.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1215	45	45	725	28	41
Future Volume (veh/h)	1215	45	45	725	28	41
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	1870	1870
Adj Flow Rate, veh/h	1253	46	46	747	29	42
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2735	100	60	3050	37	53
Arrive On Green	1.00	1.00	0.07	1.00	0.06	0.06
Sat Flow, veh/h	3589	128	1781	3647	670	970
Grp Volume(v), veh/h	636	663	46	747	72	0
Grp Sat Flow(s),veh/h/ln	1777	1847	1781	1777	1662	0
Q Serve(g_s), s	0.0	0.0	3.0	0.0	5.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.0	0.0	5.1	0.0
Prop In Lane		0.07	1.00		0.40	0.58
Lane Grp Cap(c), veh/h	1390	1445	60	3050	92	0
V/C Ratio(X)	0.46	0.46	0.77	0.24	0.79	0.00
Avail Cap(c_a), veh/h	1390	1445	370	3050	352	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.98	0.98	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	55.5	0.0	56.0	0.0
Incr Delay (d2), s/veh	0.8	0.7	18.4	0.2	13.6	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	0.3	0.3	1.6	0.1	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.8	0.7	73.9	0.2	69.6	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	1299			793	72	
Approach Delay, s/veh	0.8			4.5	69.6	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.1	99.7			108.8	11.2
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	54.2			84.2	25.4
Max Q Clear Time (g_c+I1), s	5.0	2.0			2.0	7.1
Green Ext Time (p_c), s	0.1	10.7			5.5	0.1
Intersection Summary						
HCM 6th Ctrl Delay			4.4			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing PM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBT	WBT	Ø4	Ø5
Lane Configurations	↑↑	↑↑		
Traffic Volume (vph)	1289	749		
Future Volume (vph)	1289	749		
Turn Type	NA	NA		
Protected Phases	2	6	4	5
Permitted Phases				
Detector Phase	2	6		
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	3.0
Minimum Split (s)	23.8	29.8	28.8	9.5
Total Split (s)	90.0	60.0	30.0	30.0
Total Split (%)	75.0%	50.0%	25%	25%
Yellow Time (s)	4.8	4.8	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	5.8	5.8		
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Min	C-Min	None	None

Intersection Summary

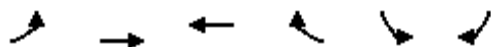
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing PM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1289	749	0	0	0
Future Volume (veh/h)	0	1289	749	0	0	0
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	1870	1870
Adj Flow Rate, veh/h	0	1357	788	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1	3382	3382	0	3	1
Arrive On Green	0.00	1.00	1.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	3741	0	3456	1585
Grp Volume(v), veh/h	0	1357	788	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	0	1728	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	1	3382	3382	0	3	1
V/C Ratio(X)	0.00	0.40	0.23	0.00	0.00	0.00
Avail Cap(c_a), veh/h	370	3382	3382	0	731	336
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.00	0.87	0.93	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.3	0.2	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		1357	788		0	
Approach Delay, s/veh		0.3	0.2		0.0	
Approach LOS		A	A			
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		120.0		0.0	0.0	120.0
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		84.2		25.4	24.9	54.2
Max Q Clear Time (g_c+I1), s		2.0		0.0	0.0	2.0
Green Ext Time (p_c), s		13.7		0.0	0.0	5.8
Intersection Summary						
HCM 6th Ctrl Delay			0.3			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	234	1010	642	50	113	
Future Volume (vph)	234	1010	642	50	113	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	35.0	65.0	55.0	30.0	30.0	25.0
Total Split (%)	29.2%	54.2%	45.8%	25.0%	25.0%	21%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

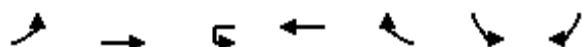
Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	234	1010	0	642	97	50	113
Future Volume (veh/h)	234	1010	0	642	97	50	113
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	1870	1870
Adj Flow Rate, veh/h	241	1041		662	100	52	116
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	268	2921		1947	294	163	145
Arrive On Green	0.30	1.00		0.63	0.63	0.09	0.09
Sat Flow, veh/h	1781	3647		3190	467	1781	1585
Grp Volume(v), veh/h	241	1041		380	382	52	116
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1786	1781	1585
Q Serve(g_s), s	15.6	0.0		12.1	12.1	3.3	8.6
Cycle Q Clear(g_c), s	15.6	0.0		12.1	12.1	3.3	8.6
Prop In Lane	1.00				0.26	1.00	1.00
Lane Grp Cap(c), veh/h	268	2921		1117	1123	163	145
V/C Ratio(X)	0.90	0.36		0.34	0.34	0.32	0.80
Avail Cap(c_a), veh/h	444	2921		1117	1123	377	336
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90		0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0		10.5	10.5	51.0	53.4
Incr Delay (d2), s/veh	12.0	0.3		0.6	0.6	1.1	9.7
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.1		4.4	4.5	1.5	7.8
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	53.1	0.3		11.2	11.2	52.1	63.2
LnGrp LOS	D	A		B	B	D	E
Approach Vol, veh/h		1282		762		168	
Approach Delay, s/veh		10.2		11.2		59.8	
Approach LOS		B		B		E	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		104.4		15.6	23.2	81.3	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		59.2		25.4	29.9	49.2	
Max Q Clear Time (g_c+I1), s		2.0		10.6	17.6	14.1	
Green Ext Time (p_c), s		8.6		0.4	0.5	4.8	

Intersection Summary

HCM 6th Ctrl Delay	14.3
HCM 6th LOS	B

Notes

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

Existing PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	367	579	141	118	264	215	693	243	165	414	288
Future Volume (vph)	367	579	141	118	264	215	693	243	165	414	288
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

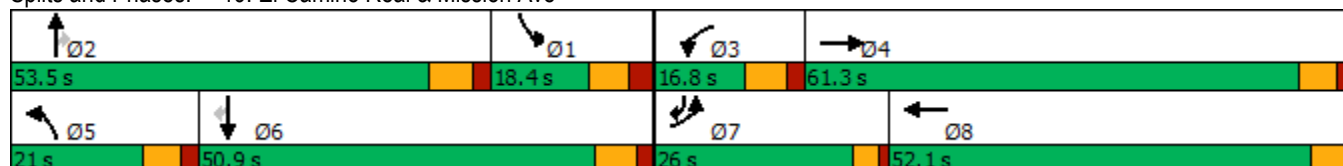
Cycle Length: 150

Actuated Cycle Length: 131.6

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	579	141	118	264	101	215	693	243	165	414	288
Future Volume (veh/h)	367	579	141	118	264	101	215	693	243	165	414	288
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	399	629	0	128	287	110	234	753	264	179	450	313
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	492	818		345	548	205	266	1027	435	204	871	614
Arrive On Green	0.14	0.23	0.00	0.10	0.22	0.22	0.15	0.27	0.27	0.11	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	2529	948	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	399	629	0	128	200	197	234	753	264	179	450	313
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1700	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	10.8	16.0	0.0	3.4	9.6	10.0	12.5	17.7	9.4	9.6	10.6	14.6
Cycle Q Clear(g_c), s	10.8	16.0	0.0	3.4	9.6	10.0	12.5	17.7	9.4	9.6	10.6	14.6
Prop In Lane	1.00		1.00	1.00		0.56	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	492	818		345	385	368	266	1027	435	204	871	614
V/C Ratio(X)	0.81	0.77		0.37	0.52	0.54	0.88	0.73	0.61	0.88	0.52	0.51
Avail Cap(c_a), veh/h	785	2017		357	864	826	270	1803	764	204	1617	947
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	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	34.9	0.0	40.8	33.5	33.6	40.4	31.9	13.7	42.2	31.6	22.6
Incr Delay (d2), s/veh	3.4	1.6	0.0	0.7	1.1	1.2	26.4	1.0	1.4	32.2	0.5	0.7
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	4.6	6.7	0.0	1.4	4.1	4.0	7.3	8.0	3.2	6.0	4.6	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	36.4	0.0	41.4	34.6	34.9	66.8	33.0	15.1	74.4	32.1	23.3
LnGrp LOS	D	D		D	C	C	E	C	B	E	C	C
Approach Vol, veh/h		1028	A		525			1251			942	
Approach Delay, s/veh		39.3			36.4			35.5			37.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	33.4	16.5	28.6	20.8	31.0	17.8	27.3				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	11.6	19.7	5.4	18.0	14.5	16.6	12.8	12.0				
Green Ext Time (p_c), s	0.0	6.9	0.1	4.3	0.0	4.4	1.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

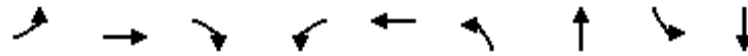
User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	65	955	50	31	415	58	89	22	101
Future Volume (vph)	65	955	50	31	415	58	89	22	101
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 58.8

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Drive /Douglas Dr & Mission Ave

10.6 s	38.3 s	10.1 s	41 s
12 s	36.9 s	10.4 s	40.7 s

Existing PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	65	955	50	31	415	32	58	89	23	22	101	79
Future Volume (veh/h)	65	955	50	31	415	32	58	89	23	22	101	79
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	66	974	51	32	423	33	59	91	23	22	103	81
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1370	611	62	1214	94	96	482	118	46	280	202
Arrive On Green	0.06	0.39	0.39	0.04	0.36	0.36	0.05	0.17	0.17	0.03	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	1781	3341	260	1781	2831	692	1781	1969	1422
Grp Volume(v), veh/h	66	974	51	32	224	232	59	56	58	22	92	92
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1824	1781	1777	1746	1781	1777	1614
Q Serve(g_s), s	1.0	12.9	1.1	1.0	5.1	5.2	1.8	1.5	1.6	0.7	2.6	2.9
Cycle Q Clear(g_c), s	1.0	12.9	1.1	1.0	5.1	5.2	1.8	1.5	1.6	0.7	2.6	2.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.40	1.00		0.88
Lane Grp Cap(c), veh/h	198	1370	611	62	645	662	96	302	297	46	253	230
V/C Ratio(X)	0.33	0.71	0.08	0.51	0.35	0.35	0.62	0.19	0.20	0.48	0.36	0.40
Avail Cap(c_a), veh/h	328	2266	1011	160	1124	1153	220	1034	1016	176	990	899
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(l)	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	25.3	14.5	10.9	26.5	13.0	13.0	25.9	19.8	19.9	26.8	21.7	21.8
Incr Delay (d2), s/veh	1.0	0.7	0.1	6.4	0.3	0.3	6.3	0.3	0.3	7.5	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.1	0.3	0.5	1.7	1.7	0.9	0.6	0.6	0.4	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	15.2	10.9	32.8	13.3	13.3	32.2	20.1	20.2	34.3	22.5	22.9
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1091			488			173			206	
Approach Delay, s/veh		15.7			14.6			24.3			23.9	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	15.3	7.1	26.9	8.1	13.7	8.3	25.7				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	2.7	3.6	3.0	14.9	3.8	4.9	3.0	7.2				
Green Ext Time (p_c), s	0.0	0.6	0.0	6.6	0.0	1.1	0.0	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			17.0									
HCM 6th LOS			B									

Existing PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	8	756	358	126	473	252	9	10	19
Future Volume (vph)	8	756	358	126	473	252	9	10	19
Turn Type	Prot	NA	Perm	Prot	NA	Split	NA	Split	NA
Protected Phases	5	2		1	6	8	8	4	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	7.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	28.0	28.0	24.0	24.0
Total Split (s)	11.1	58.0	58.0	15.0	61.9	28.0	28.0	24.0	24.0
Total Split (%)	8.9%	46.4%	46.4%	12.0%	49.5%	22.4%	22.4%	19.2%	19.2%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	4.8	4.8	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	5.8	5.8	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 125

Actuated Cycle Length: 108.5

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

 Ø1	 Ø2	 Ø4	 Ø8
15 s	58 s	24 s	28 s
 Ø5	 Ø6		
11.1 s	61.9 s		

Existing PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	756	358	126	473	1	252	9	102	10	19	7
Future Volume (veh/h)	8	756	358	126	473	1	252	9	102	10	19	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	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	9	822	389	137	514	1	274	10	111	11	21	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	882	736	166	1033	2	313	22	249	83	60	23
Arrive On Green	0.01	0.47	0.47	0.09	0.55	0.55	0.18	0.18	0.18	0.05	0.05	0.05
Sat Flow, veh/h	1781	1870	1560	1781	1866	4	1781	128	1416	1781	1290	492
Grp Volume(v), veh/h	9	822	389	137	0	515	274	0	121	11	0	29
Grp Sat Flow(s),veh/h/ln	1781	1870	1560	1781	0	1870	1781	0	1543	1781	0	1782
Q Serve(g_s), s	0.5	42.6	18.0	7.8	0.0	17.4	15.4	0.0	7.2	0.6	0.0	1.6
Cycle Q Clear(g_c), s	0.5	42.6	18.0	7.8	0.0	17.4	15.4	0.0	7.2	0.6	0.0	1.6
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.92	1.00		0.28
Lane Grp Cap(c), veh/h	20	882	736	166	0	1035	313	0	271	83	0	83
V/C Ratio(X)	0.46	0.93	0.53	0.83	0.00	0.50	0.88	0.00	0.45	0.13	0.00	0.35
Avail Cap(c_a), veh/h	104	946	789	172	0	1035	385	0	333	329	0	329
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(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.5	25.6	19.1	45.8	0.0	14.1	41.3	0.0	37.9	47.0	0.0	47.5
Incr Delay (d2), s/veh	15.7	14.9	0.6	26.3	0.0	0.4	17.0	0.0	1.1	0.7	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	20.6	6.1	4.6	0.0	6.8	7.9	0.0	2.7	0.3	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.3	40.5	19.7	72.1	0.0	14.5	58.3	0.0	39.0	47.8	0.0	50.1
LnGrp LOS	E	D	B	E	A	B	E	A	D	D	A	D
Approach Vol, veh/h		1220			652			395			40	
Approach Delay, s/veh		34.1			26.6			52.4			49.4	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	54.5		9.8	6.2	62.9		23.9				
Change Period (Y+Rc), s	5.1	6.0		5.0	5.1	6.0		5.8				
Max Green Setting (Gmax), s	9.9	52.0		19.0	6.0	55.9		22.2				
Max Q Clear Time (g_c+I1), s	9.8	44.6		3.6	2.5	19.4		17.4				
Green Ext Time (p_c), s	0.0	3.9		0.1	0.0	3.4		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			35.4									
HCM 6th LOS			D									

Existing PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3	Ø5
Lane Configurations	LT	RT	LT	TH	TH		
Traffic Volume (vph)	202	154	210	930	605		
Future Volume (vph)	202	154	210	930	605		
Turn Type	Prot	Perm	Perm	NA	NA		
Protected Phases	4			2	6	3	5
Permitted Phases		4	2				
Detector Phase	4	4	2	2	6		
Switch Phase							
Minimum Initial (s)	6.0	6.0	12.0	12.0	12.0	6.0	6.0
Minimum Split (s)	29.7	29.7	23.8	23.8	30.8	29.7	11.1
Total Split (s)	29.7	29.7	85.6	85.6	74.5	29.7	11.1
Total Split (%)	20.5%	20.5%	59.0%	59.0%	51.4%	20%	8%
Yellow Time (s)	3.7	3.7	4.3	4.3	4.3	3.7	4.1
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.7	4.7	5.8	5.8	5.8		
Lead/Lag	Lag	Lag			Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 145

Actuated Cycle Length: 77.6

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ø2 Ø5 Ø6	Ø3 Ø4
85.6 s	29.7 s
11.1 s	74.5 s

Existing PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	LT	LT	LT	TH	TH	TH	LT	LT
Traffic Volume (vph)	202	154	210	930	605	91	0	0
Future Volume (vph)	202	154	210	930	605	91	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.8	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	0.98			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1538	1770	3539	3460			
Flt Permitted	0.95	1.00	0.36	1.00	1.00			
Satd. Flow (perm)	3433	1538	664	3539	3460			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	210	160	219	969	630	95	0	0
RTOR Reduction (vph)	0	134	0	0	0	0	0	0
Lane Group Flow (vph)	210	26	219	969	725	0	0	0
Confl. Peds. (#/hr)		15						
Confl. Bikes (#/hr)		2				3		
Turn Type	Prot	Perm	Perm	NA	NA		Prot	Perm
Protected Phases	4			2	6		3	
Permitted Phases		4	2					3
Actuated Green, G (s)	13.2	13.2	48.9	48.9	48.9			
Effective Green, g (s)	13.2	13.2	48.9	48.9	48.9			
Actuated g/C Ratio	0.16	0.16	0.61	0.61	0.61			
Clearance Time (s)	4.7	4.7	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	566	253	405	2163	2114			
v/s Ratio Prot	c0.06			0.27	0.21			
v/s Ratio Perm		0.02	c0.33					
v/c Ratio	0.37	0.10	0.54	0.45	0.34			
Uniform Delay, d1	29.7	28.4	9.0	8.3	7.6			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.2	1.5	0.1	0.1			
Delay (s)	30.1	28.6	10.5	8.5	7.7			
Level of Service	C	C	B	A	A			
Approach Delay (s)	29.4			8.8	7.7		0.0	
Approach LOS	C			A	A		A	
Intersection Summary								
HCM 2000 Control Delay			11.8		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.52					
Actuated Cycle Length (s)			80.0		Sum of lost time (s)		20.3	
Intersection Capacity Utilization			72.3%		ICU Level of Service		C	
Analysis Period (min)			15					
c Critical Lane Group								

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	44	1	4	2	27	56	2	14	1
Future Vol, veh/h	0	1	1	44	1	4	2	27	56	2	14	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	89	92	89	92	89	89	89	89	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	49	1	4	2	30	63	2	16	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	2	0	0	112	105	2	149	103	3
Stage 1	-	-	-	-	-	-	2	2	-	101	101	-
Stage 2	-	-	-	-	-	-	110	103	-	48	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1616	-	-	1620	-	-	866	785	1082	819	787	1081
Stage 1	-	-	-	-	-	-	1021	894	-	905	811	-
Stage 2	-	-	-	-	-	-	895	810	-	965	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1616	-	-	1620	-	-	832	761	1082	731	763	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	832	761	-	731	763	-
Stage 1	-	-	-	-	-	-	1021	894	-	905	787	-
Stage 2	-	-	-	-	-	-	850	786	-	878	894	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.6			9.2			9.8		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	948	1616	-	-	1620	-	-	772				
HCM Lane V/C Ratio	0.101	-	-	-	0.031	-	-	0.025				
HCM Control Delay (s)	9.2	0	-	-	7.3	0	-	9.8				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.1				

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	230	0	0	159	0	0
Future Vol, veh/h	230	0	0	159	0	0
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	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	261	0	0	181	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	261
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1303
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1303
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1303	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	48	21	227	146	1
Future Vol, veh/h	1	48	21	227	146	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	51	22	239	154	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	438	155	155
Stage 1	155	-	-
Stage 2	283	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	576	891	1425
Stage 1	873	-	-
Stage 2	765	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	567	891	1425
Mov Cap-2 Maneuver	567	-	-
Stage 1	860	-	-
Stage 2	765	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1425	-	881	-	-
HCM Lane V/C Ratio	0.016	-	0.059	-	-
HCM Control Delay (s)	7.6	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Existing PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations						
Traffic Volume (vph)	42	66	774	77	584	
Future Volume (vph)	42	66	774	77	584	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 45.6

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

Ø1	Ø2	Ø4
24 s	29 s	27 s
Ø5	Ø6	
17 s	36 s	

Existing PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	42	66	0	774	86	77	584
Future Volume (veh/h)	42	66	0	774	86	77	584
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	1870	1870
Adj Flow Rate, veh/h	43	68		798	89	79	602
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	136	121		1257	140	110	2129
Arrive On Green	0.08	0.08		0.39	0.39	0.06	0.60
Sat Flow, veh/h	1781	1585		3317	359	1781	3647
Grp Volume(v), veh/h	43	68		440	447	79	602
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1806	1781	1777
Q Serve(g_s), s	0.8	1.4		6.8	6.8	1.5	2.8
Cycle Q Clear(g_c), s	0.8	1.4		6.8	6.8	1.5	2.8
Prop In Lane	1.00	1.00			0.20	1.00	
Lane Grp Cap(c), veh/h	136	121		693	704	110	2129
V/C Ratio(X)	0.32	0.56		0.63	0.64	0.72	0.28
Avail Cap(c_a), veh/h	1155	1028		1205	1224	998	3143
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	14.8	15.1		8.4	8.4	15.6	3.3
Incr Delay (d2), s/veh	1.3	4.0		1.0	1.0	8.4	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	0.3	0.1		1.4	1.5	0.7	0.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	16.1	19.1		9.4	9.3	24.0	3.4
LnGrp LOS	B	B		A	A	C	A
Approach Vol, veh/h	111			887			681
Approach Delay, s/veh	18.0			9.4			5.7
Approach LOS	B			A			A
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	7.1	19.2		7.6		26.3	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	3.5	8.8		3.4		4.8	
Green Ext Time (p_c), s	0.1	4.4		0.3		3.8	
Intersection Summary							
HCM 6th Ctrl Delay			8.5				
HCM 6th LOS			A				
Notes							
User approved ignoring U-Turning movement.							

Existing PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	318	56	242	596	63	72	330	161	84	594	161
Future Volume (vph)	80	318	56	242	596	63	72	330	161	84	594	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.3	35.0	35.0	25.0	34.7	34.7	19.4	44.3	44.3	10.7	35.6	35.6
Total Split (%)	22.0%	30.4%	30.4%	21.7%	30.2%	30.2%	16.9%	38.5%	38.5%	9.3%	31.0%	31.0%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 89.9

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
10.7 s	44.3 s	25 s	35 s
			
19.4 s	35.6 s	25.3 s	34.7 s

Existing PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	80	318	56	242	596	63	72	330	161	84	594	161
Future Volume (veh/h)	80	318	56	242	596	63	72	330	161	84	594	161
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	86	342	60	260	641	68	77	355	173	90	639	173
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	535	239	313	935	417	101	872	389	115	901	402
Arrive On Green	0.06	0.15	0.15	0.18	0.26	0.26	0.06	0.25	0.25	0.06	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	86	342	60	260	641	68	77	355	173	90	639	173
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.2	6.1	2.3	9.5	10.9	2.2	2.9	5.6	6.2	3.4	11.0	6.2
Cycle Q Clear(g_c), s	3.2	6.1	2.3	9.5	10.9	2.2	2.9	5.6	6.2	3.4	11.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	535	239	313	935	417	101	872	389	115	901	402
V/C Ratio(X)	0.76	0.64	0.25	0.83	0.69	0.16	0.76	0.41	0.44	0.78	0.71	0.43
Avail Cap(c_a), veh/h	526	1465	654	518	1449	647	378	1977	882	148	1518	677
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	31.1	26.9	25.3	26.8	22.3	19.1	31.4	21.3	21.5	31.1	22.9	21.1
Incr Delay (d2), s/veh	10.0	1.3	0.5	5.7	0.9	0.2	11.3	0.3	0.8	18.1	1.0	0.7
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	1.6	2.4	0.8	4.1	4.1	0.7	1.4	2.1	2.1	1.9	4.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	28.2	25.8	32.5	23.2	19.3	42.6	21.6	22.3	49.1	23.9	21.8
LnGrp LOS	D	C	C	C	C	B	D	C	C	D	C	C
Approach Vol, veh/h		488			969			605			902	
Approach Delay, s/veh		30.2			25.5			24.5			26.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	23.3	17.3	17.4	8.9	23.9	9.7	24.9				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.6	37.5	19.6	27.8	14.3	28.8	19.9	27.5				
Max Q Clear Time (g_c+I1), s	5.4	8.2	11.5	8.1	4.9	13.0	5.2	12.9				
Green Ext Time (p_c), s	0.0	2.7	0.5	2.1	0.1	4.1	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			C									

Existing PM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	214	101	374	121	77	171	1257	669	72	741	29
Future Volume (vph)	33	214	101	374	121	77	171	1257	669	72	741	29
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 103

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

 Ø1	 Ø2	 Ø3	 Ø4
26 s	46.3 s	34.3 s	23.4 s
 Ø5	 Ø6	 Ø7	 Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing PM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	214	101	374	121	77	171	1257	669	72	741	29
Future Volume (veh/h)	33	214	101	374	121	77	171	1257	669	72	741	29
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	35	230	109	402	130	83	184	1352	719	77	797	31
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	361	161	513	478	405	156	1524	915	101	1415	631
Arrive On Green	0.03	0.10	0.10	0.15	0.26	0.26	0.09	0.43	0.43	0.06	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	35	230	109	402	130	83	184	1352	719	77	797	31
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.7	5.5	5.9	10.0	5.0	3.7	7.8	31.3	31.3	3.8	15.5	1.1
Cycle Q Clear(g_c), s	1.7	5.5	5.9	10.0	5.0	3.7	7.8	31.3	31.3	3.8	15.5	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	361	161	513	478	405	156	1524	915	101	1415	631
V/C Ratio(X)	0.76	0.64	0.68	0.78	0.27	0.21	1.18	0.89	0.79	0.76	0.56	0.05
Avail Cap(c_a), veh/h	130	717	320	1103	905	767	156	1565	933	411	2074	925
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	43.2	38.5	38.7	36.6	26.6	26.1	40.7	23.5	14.6	41.5	20.8	16.5
Incr Delay (d2), s/veh	21.7	1.9	4.9	2.7	0.3	0.2	129.4	6.5	4.4	11.3	0.4	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	1.0	2.4	2.4	4.2	2.1	1.3	9.0	13.7	10.2	2.0	6.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.9	40.4	43.6	39.3	26.9	26.4	170.1	29.9	19.0	52.8	21.2	16.5
LnGrp LOS	E	D	D	D	C	C	F	C	B	D	C	B
Approach Vol, veh/h		374			615			2255			905	
Approach Delay, s/veh		43.6			34.9			37.9			23.7	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	45.3	19.0	14.5	13.2	42.5	5.3	28.2				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	5.8	33.3	12.0	7.9	9.8	17.5	3.7	7.0				
Green Ext Time (p_c), s	0.1	5.0	1.2	1.1	0.0	6.7	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			34.9									
HCM 6th LOS			C									
Notes												

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

Intersection

Intersection Delay, s/veh12.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	192	23	11	125	97	23	186	16	67	117	35
Future Vol, veh/h	51	192	23	11	125	97	23	186	16	67	117	35
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	196	23	11	128	99	23	190	16	68	119	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	11.7	12.2	12
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	19%	5%	31%
Vol Thru, %	83%	72%	54%	53%
Vol Right, %	7%	9%	42%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	266	233	219
LT Vol	23	51	11	67
Through Vol	186	192	125	117
RT Vol	16	23	97	35
Lane Flow Rate	230	271	238	223
Geometry Grp	1	1	1	1
Degree of Util (X)	0.367	0.426	0.363	0.357
Departure Headway (Hd)	5.752	5.644	5.49	5.753
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	622	635	651	621
Service Time	3.825	3.712	3.561	3.825
HCM Lane V/C Ratio	0.37	0.427	0.366	0.359
HCM Control Delay	12.2	12.9	11.7	12
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.7	2.1	1.7	1.6

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	245	4	13	132	10	5	22	12	13	20	23
Future Vol, veh/h	39	245	4	13	132	10	5	22	12	13	20	23
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	255	4	14	138	10	5	23	13	14	21	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	8.6	8.2	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	14%	8%	23%
Vol Thru, %	56%	85%	85%	36%
Vol Right, %	31%	1%	6%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	288	155	56
LT Vol	5	39	13	13
Through Vol	22	245	132	20
RT Vol	12	4	10	23
Lane Flow Rate	41	300	161	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.364	0.201	0.078
Departure Headway (Hd)	4.885	4.37	4.472	4.818
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	825	804	743
Service Time	2.92	2.39	2.495	2.852
HCM Lane V/C Ratio	0.056	0.364	0.2	0.078
HCM Control Delay	8.2	9.9	8.6	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.7	0.7	0.3

APPENDIX D

INTERSECTION ANALYSIS WORKSHEETS - WEEKEND

Existing Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	1486	101	55	1560	16	80	21	77	34	24	100
Future Volume (vph)	132	1486	101	55	1560	16	80	21	77	34	24	100
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	29.5	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	29.5
Total Split (s)	30.7	68.5	68.5	20.7	58.5	58.5	23.7	50.1	50.1	20.7	21.1	30.7
Total Split (%)	19.2%	42.8%	42.8%	12.9%	36.6%	36.6%	14.8%	31.3%	31.3%	12.9%	13.2%	19.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

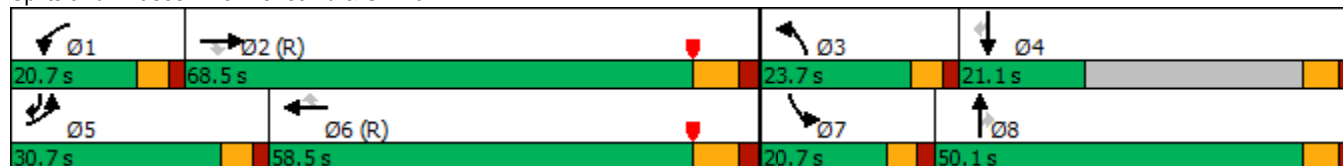
Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

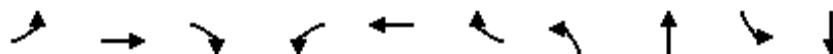
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1486	101	55	1560	16	80	21	77	34	24	100
Future Volume (veh/h)	132	1486	101	55	1560	16	80	21	77	34	24	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	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	138	1548	105	57	1625	17	83	22	80	35	25	104
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	160	2225	969	123	2150	928	130	161	137	105	135	257
Arrive On Green	0.09	0.63	0.63	0.07	0.61	0.61	0.07	0.09	0.09	0.06	0.07	0.07
Sat Flow, veh/h	1781	3554	1548	1781	3554	1534	1781	1870	1585	1781	1870	1578
Grp Volume(v), veh/h	138	1548	105	57	1625	17	83	22	80	35	25	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1548	1781	1777	1534	1781	1870	1585	1781	1870	1578
Q Serve(g_s), s	12.2	46.2	4.4	4.9	53.2	0.7	7.2	1.7	7.8	3.0	2.0	9.5
Cycle Q Clear(g_c), s	12.2	46.2	4.4	4.9	53.2	0.7	7.2	1.7	7.8	3.0	2.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	2225	969	123	2150	928	130	161	137	105	135	257
V/C Ratio(X)	0.86	0.70	0.11	0.46	0.76	0.02	0.64	0.14	0.59	0.33	0.18	0.40
Avail Cap(c_a), veh/h	278	2225	969	167	2150	928	200	514	436	167	175	291
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	71.8	19.8	12.0	71.6	23.0	12.6	72.1	67.6	70.3	72.2	69.8	60.1
Incr Delay (d2), s/veh	12.4	1.8	0.2	2.7	2.5	0.0	5.1	0.4	3.9	1.8	0.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	17.9	1.6	2.3	21.0	0.3	3.5	0.9	3.3	1.4	1.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	21.6	12.2	74.3	25.5	12.7	77.2	68.0	74.3	74.1	70.4	61.1
LnGrp LOS	F	C	B	E	C	B	E	E	E	E	E	E
Approach Vol, veh/h		1791			1699			185			164	
Approach Delay, s/veh		25.9			27.0			74.8			65.3	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	108.2	17.4	17.7	20.1	104.8	15.2	19.9				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 18	15.0	* 25	50.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.9	48.2	9.2	11.5	14.2	55.2	5.0	9.8				
Green Ext Time (p_c), s	0.0	7.9	0.1	0.1	0.2	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	57	1314	182	236	1406	84	154	131	84	176
Future Volume (vph)	57	1314	182	236	1406	84	154	131	84	176
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	56.5	56.5	30.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	35.3%	35.3%	19.2%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

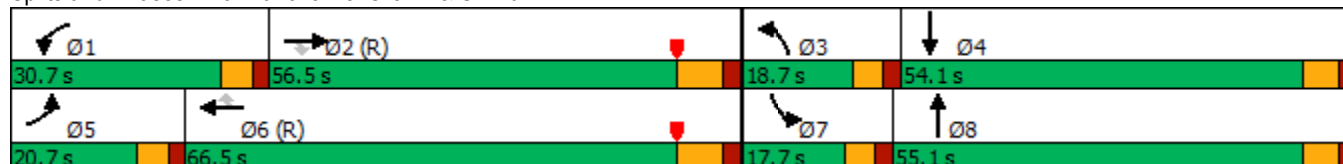
Actuated Cycle Length: 160

Offset: 57 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing Weekend
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1314	182	236	1406	84	154	131	166	84	176	40
Future Volume (veh/h)	57	1314	182	236	1406	84	154	131	166	84	176	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	61	1413	196	254	1512	90	166	141	178	90	189	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1841	810	346	1885	841	281	265	231	254	409	91
Arrive On Green	0.09	0.52	0.52	0.10	0.53	0.53	0.08	0.15	0.15	0.07	0.14	0.14
Sat Flow, veh/h	1781	3554	1565	3456	3554	1585	3456	1777	1551	3456	2889	643
Grp Volume(v), veh/h	61	1413	196	254	1512	90	166	141	178	90	115	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1565	1728	1777	1585	1728	1777	1551	1728	1777	1755
Q Serve(g_s), s	5.2	50.9	11.0	11.4	55.6	4.5	7.4	11.7	17.6	4.0	9.5	9.8
Cycle Q Clear(g_c), s	5.2	50.9	11.0	11.4	55.6	4.5	7.4	11.7	17.6	4.0	9.5	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	156	1841	810	346	1885	841	281	265	231	254	251	248
V/C Ratio(X)	0.39	0.77	0.24	0.74	0.80	0.11	0.59	0.53	0.77	0.35	0.46	0.47
Avail Cap(c_a), veh/h	167	1841	810	540	1885	841	281	544	475	259	533	526
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	69.0	30.9	21.3	69.9	30.7	18.7	70.9	62.9	65.4	70.5	63.0	63.2
Incr Delay (d2), s/veh	1.6	3.1	0.7	3.0	3.7	0.3	3.3	1.7	5.4	0.8	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	2.4	21.2	4.2	5.1	23.2	1.7	3.4	5.4	7.2	1.8	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	34.0	22.0	73.0	34.4	19.0	74.2	64.6	70.8	71.3	64.3	64.6
LnGrp LOS	E	C	C	E	C	B	E	E	E	E	E	E
Approach Vol, veh/h		1670			1856			485			322	
Approach Delay, s/veh		33.9			38.9			70.2			66.4	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.7	90.9	18.7	28.7	19.7	92.9	17.5	29.9				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 25	48.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	13.4	52.9	9.4	11.8	7.2	57.6	6.0	19.6				
Green Ext Time (p_c), s	0.6	0.0	0.2	1.2	0.1	0.7	0.1	1.8				

Intersection Summary

HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø1	Ø5	Ø7
Lane Configurations	↑↑	↑	↖	↑↑	↔	↔			
Traffic Volume (vph)	481	110	29	537	0	0			
Future Volume (vph)	481	110	29	537	0	0			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	4		3	8	2	6	1	5	7
Permitted Phases		4							
Detector Phase	4	4	3	8	2	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	25.2	25.2	10.4	25.2	43.2	43.2	10.4	10.4	10.4
Total Split (s)	25.2	25.2	10.4	25.2	43.4	44.0	11.0	10.4	10.4
Total Split (%)	28.0%	28.0%	11.6%	28.0%	48.2%	48.9%	12%	12%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	4.4	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 59.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

Ø1	Ø2	Ø3	Ø4
11 s	43.4 s	10.4 s	25.2 s
Ø5	Ø6	Ø7	Ø8
10.4 s	44 s	10.4 s	25.2 s

Existing Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	481	110	29	537	3	102	0	36	1	0	2
Future Volume (veh/h)	0	481	110	29	537	3	102	0	36	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	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	0	506	116	31	565	3	107	0	38	1	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	1018	442	40	1570	8	0	0	367	0	0	366
Arrive On Green	0.00	0.29	0.29	0.02	0.43	0.43	0.00	0.00	0.23	0.00	0.00	0.23
Sat Flow, veh/h	1781	3554	1543	1781	3624	19	0	0	1585	0	0	1584
Grp Volume(v), veh/h	0	506	116	31	277	291	0	0	38	0	0	2
Grp Sat Flow(s),veh/h/ln	1781	1777	1543	1781	1777	1866	0	0	1585	0	0	1584
Q Serve(g_s), s	0.0	3.8	1.9	0.6	3.4	3.4	0.0	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.8	1.9	0.6	3.4	3.4	0.0	0.0	0.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	6	1018	442	40	770	808	0	0	367	0	0	366
V/C Ratio(X)	0.00	0.50	0.26	0.77	0.36	0.36	0.00	0.00	0.10	0.00	0.00	0.01
Avail Cap(c_a), veh/h	354	2274	987	354	1137	1194	0	0	1832	0	0	1859
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(l)	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.6	8.9	15.7	6.1	6.1	0.0	0.0	9.7	0.0	0.0	9.5
Incr Delay (d2), s/veh	0.0	0.4	0.3	26.1	0.3	0.3	0.0	0.0	0.1	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	0.0	1.0	0.4	0.5	0.6	0.7	0.0	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.9	9.2	41.7	6.4	6.4	0.0	0.0	9.9	0.0	0.0	9.5
LnGrp LOS	A	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		622			599			38			2	
Approach Delay, s/veh		9.8			8.2			9.9			9.5	
Approach LOS		A			A			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	13.6	4.7	13.8	0.0	13.6	0.0	18.5				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	0.0	2.6	2.6	5.8	0.0	2.0	0.0	5.4				
Green Ext Time (p_c), s	0.0	0.2	0.0	3.1	0.0	0.0	0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			A									

Existing Weekend
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBT	WBT	Ø4	Ø5
Lane Configurations	↑↑	↑↑		
Traffic Volume (vph)	814	812		
Future Volume (vph)	814	812		
Turn Type	NA	NA		
Protected Phases	2	6	4	5
Permitted Phases				
Detector Phase	2	6		
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	3.0
Minimum Split (s)	23.8	29.8	28.8	9.5
Total Split (s)	71.2	40.7	28.8	30.5
Total Split (%)	71.2%	40.7%	29%	31%
Yellow Time (s)	4.8	4.8	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	5.8	5.8		
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Min	C-Min	Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 70

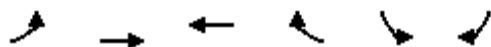
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing Weekend
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	814	812	0	0	0
Future Volume (veh/h)	0	814	812	0	0	0
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	1870	1870
Adj Flow Rate, veh/h	0	885	883	0	0	0
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	2	3348	3348	0	3	2
Arrive On Green	0.00	0.94	0.94	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	3741	0	3456	1585
Grp Volume(v), veh/h	0	885	883	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	0	1728	1585
Q Serve(g_s), s	0.0	1.9	1.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.9	1.9	0.0	0.0	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	2	3348	3348	0	3	2
V/C Ratio(X)	0.00	0.26	0.26	0.00	0.00	0.00
Avail Cap(c_a), veh/h	452	3348	3348	0	836	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.2	0.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.4	0.4	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		885	883		0	
Approach Delay, s/veh		0.4	0.4		0.0	
Approach LOS		A	A			
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		100.0		0.0	0.0	100.0
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		65.4		24.2	25.4	34.9
Max Q Clear Time (g_c+I1), s		3.9		0.0	0.0	3.9
Green Ext Time (p_c), s		8.0		0.0	0.0	7.3
Intersection Summary						
HCM 6th Ctrl Delay			0.4			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	44	0	3	1	15	29	3	18	0
Future Vol, veh/h	0	0	0	44	0	3	1	15	29	3	18	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	2	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	51	0	3	1	17	34	3	21	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	2	0	0	116	107	4	133	106	2
Stage 1	-	-	-	-	-	-	2	2	-	104	104	-
Stage 2	-	-	-	-	-	-	114	105	-	29	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1620	-	-	861	783	1080	839	784	1082
Stage 1	-	-	-	-	-	-	1021	894	-	902	809	-
Stage 2	-	-	-	-	-	-	891	808	-	988	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1619	-	-	1618	-	-	821	757	1077	778	758	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	821	757	-	778	758	-
Stage 1	-	-	-	-	-	-	1020	893	-	902	783	-
Stage 2	-	-	-	-	-	-	839	782	-	937	893	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.8			9.1			9.9		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	938	1619	-	-	1618	-	-	761				
HCM Lane V/C Ratio	0.056	-	-	-	0.032	-	-	0.032				
HCM Control Delay (s)	9.1	0	-	-	7.3	0	-	9.9				
HCM Lane LOS	A	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1				

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	184	0	192	0	0
Future Vol, veh/h	0	184	0	192	0	0
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	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	209	0	218	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	209
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1362
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1362
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1362	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	20	183	190	2
Future Vol, veh/h	0	25	20	183	190	2
Conflicting Peds, #/hr	0	6	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	22	203	211	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	459	218	213
Stage 1	212	-	-
Stage 2	247	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	560	822	1357
Stage 1	823	-	-
Stage 2	794	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	551	817	1357
Mov Cap-2 Maneuver	551	-	-
Stage 1	810	-	-
Stage 2	794	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1357	-	817	-	-
HCM Lane V/C Ratio	0.016	-	0.034	-	-
HCM Control Delay (s)	7.7	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Existing Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	29	73	365	88	57	109	804	388	62	871
Future Volume (vph)	29	73	365	88	57	109	804	388	62	871
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	4.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0
Minimum Split (s)	9.5	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0
Total Split (s)	9.5	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1
Total Split (%)	7.3%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%
Yellow Time (s)	3.0	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 90.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

26 s	46.3 s	34.3 s	23.4 s
13.2 s	59.1 s	9.5 s	48.2 s

Existing Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	73	74	365	88	57	109	804	388	62	871	33
Future Volume (veh/h)	29	73	74	365	88	57	109	804	388	62	871	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.99
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	30	76	77	380	92	59	114	838	404	65	907	34
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	44	189	167	514	475	394	145	1358	841	88	1222	46
Arrive On Green	0.02	0.11	0.11	0.15	0.25	0.25	0.08	0.38	0.38	0.05	0.35	0.35
Sat Flow, veh/h	1781	1777	1576	3456	1870	1551	1781	3554	1585	1781	3491	131
Grp Volume(v), veh/h	30	76	77	380	92	59	114	838	404	65	462	479
Grp Sat Flow(s),veh/h/ln	1781	1777	1576	1728	1870	1551	1781	1777	1585	1781	1777	1845
Q Serve(g_s), s	1.3	3.0	3.5	7.9	2.9	2.2	4.7	14.3	12.1	2.7	17.2	17.2
Cycle Q Clear(g_c), s	1.3	3.0	3.5	7.9	2.9	2.2	4.7	14.3	12.1	2.7	17.2	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	44	189	167	514	475	394	145	1358	841	88	622	646
V/C Ratio(X)	0.68	0.40	0.46	0.74	0.19	0.15	0.79	0.62	0.48	0.74	0.74	0.74
Avail Cap(c_a), veh/h	130	425	377	1309	1074	891	185	1856	1064	488	1231	1278
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	36.4	31.4	31.6	30.6	22.0	21.8	33.9	18.8	11.1	35.3	21.5	21.5
Incr Delay (d2), s/veh	16.8	1.4	2.0	2.1	0.2	0.2	15.7	0.5	0.4	11.4	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.3	1.4	3.3	1.3	0.8	2.6	5.6	3.8	1.4	7.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	32.8	33.6	32.7	22.2	21.9	49.6	19.3	11.5	46.7	23.2	23.2
LnGrp LOS	D	C	C	C	C	C	D	B	B	D	C	C
Approach Vol, veh/h		183			531			1356			1006	
Approach Delay, s/veh		36.4			29.7			19.5			24.7	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	35.7	17.0	13.4	11.5	33.3	5.9	24.5				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	4.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	5.5	* 43				
Max Q Clear Time (g_c+I1), s	4.7	16.3	9.9	5.5	6.7	19.2	3.3	4.9				
Green Ext Time (p_c), s	0.1	8.0	1.3	0.6	0.0	7.2	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.0									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Intersection Delay, s/veh 9.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	94	23	7	90	49	10	123	6	41	126	40
Future Vol, veh/h	37	94	23	7	90	49	10	123	6	41	126	40
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	98	24	7	94	51	10	128	6	43	131	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	9.2	9.3	9.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	24%	5%	20%
Vol Thru, %	88%	61%	62%	61%
Vol Right, %	4%	15%	34%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	154	146	207
LT Vol	10	37	7	41
Through Vol	123	94	90	126
RT Vol	6	23	49	40
Lane Flow Rate	145	160	152	216
Geometry Grp	1	1	1	1
Degree of Util (X)	0.199	0.221	0.204	0.288
Departure Headway (Hd)	4.955	4.959	4.825	4.803
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	718	717	738	742
Service Time	3.03	3.032	2.899	2.87
HCM Lane V/C Ratio	0.202	0.223	0.206	0.291
HCM Control Delay	9.3	9.5	9.2	9.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.8	0.8	1.2

Existing + Project Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	1671	101	55	1731	22	80	21	77	41	24	100
Future Volume (vph)	132	1671	101	55	1731	22	80	21	77	41	24	100
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	29.5	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	29.5
Total Split (s)	30.7	68.5	68.5	20.7	58.5	58.5	23.7	50.1	50.1	20.7	21.1	30.7
Total Split (%)	19.2%	42.8%	42.8%	12.9%	36.6%	36.6%	14.8%	31.3%	31.3%	12.9%	13.2%	19.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

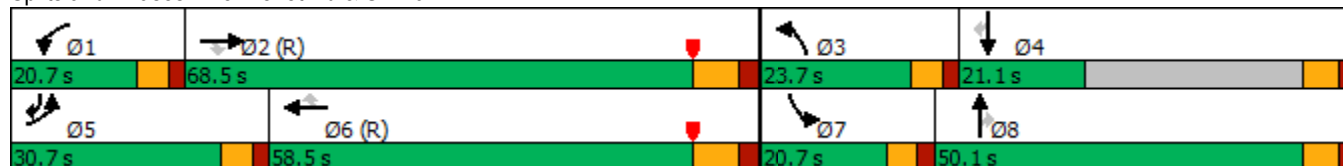
Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

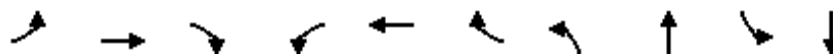
Splits and Phases: 5: Benet Rd & SR 76



Existing + Project Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1671	101	55	1731	22	80	21	77	41	24	100
Future Volume (veh/h)	132	1671	101	55	1731	22	80	21	77	41	24	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	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	138	1741	105	57	1803	23	83	22	80	43	25	104
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	160	2225	969	123	2150	928	130	152	129	114	135	257
Arrive On Green	0.09	0.63	0.63	0.07	0.61	0.61	0.07	0.08	0.08	0.06	0.07	0.07
Sat Flow, veh/h	1781	3554	1548	1781	3554	1534	1781	1870	1585	1781	1870	1578
Grp Volume(v), veh/h	138	1741	105	57	1803	23	83	22	80	43	25	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1548	1781	1777	1534	1781	1870	1585	1781	1870	1578
Q Serve(g_s), s	12.2	57.5	4.4	4.9	65.1	1.0	7.2	1.7	7.8	3.7	2.0	9.5
Cycle Q Clear(g_c), s	12.2	57.5	4.4	4.9	65.1	1.0	7.2	1.7	7.8	3.7	2.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	2225	969	123	2150	928	130	152	129	114	135	257
V/C Ratio(X)	0.86	0.78	0.11	0.46	0.84	0.02	0.64	0.14	0.62	0.38	0.18	0.40
Avail Cap(c_a), veh/h	278	2225	969	167	2150	928	200	514	436	167	175	291
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	71.8	21.9	12.0	71.6	25.3	12.7	72.1	68.3	71.1	71.8	69.8	60.1
Incr Delay (d2), s/veh	12.4	2.8	0.2	2.7	4.1	0.0	5.1	0.4	4.8	2.1	0.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	22.4	1.6	2.3	26.0	0.4	3.5	0.9	3.4	1.8	1.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	24.7	12.2	74.3	29.4	12.7	77.2	68.7	75.8	73.9	70.4	61.1
LnGrp LOS	F	C	B	E	C	B	E	E	E	E	E	E
Approach Vol, veh/h		1984			1883			185			172	
Approach Delay, s/veh		28.2			30.6			75.6			65.7	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	108.2	17.4	17.7	20.1	104.8	15.9	19.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 18	15.0	* 25	50.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.9	59.5	9.2	11.5	14.2	67.1	5.7	9.8				
Green Ext Time (p_c), s	0.0	0.9	0.1	0.1	0.2	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			32.9									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↗↗	↗	↰↰	↗↗	↗	↰↰	↗↗	↰↰	↗↗
Traffic Volume (vph)	57	1358	207	236	1454	84	181	186	84	227
Future Volume (vph)	57	1358	207	236	1454	84	181	186	84	227
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	56.5	56.5	30.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	35.3%	35.3%	19.2%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

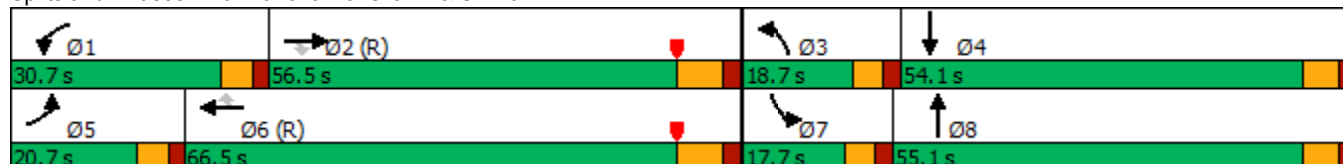
Actuated Cycle Length: 160

Offset: 57 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing + Project Weekend
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1358	207	236	1454	84	181	186	166	84	227	40
Future Volume (veh/h)	57	1358	207	236	1454	84	181	186	166	84	227	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	61	1460	223	254	1563	90	195	200	178	90	244	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1827	804	346	1871	835	281	278	232	254	440	76
Arrive On Green	0.09	0.51	0.51	0.10	0.53	0.53	0.08	0.15	0.15	0.07	0.15	0.15
Sat Flow, veh/h	1781	3554	1565	3456	3554	1585	3456	1817	1518	3456	3027	526
Grp Volume(v), veh/h	61	1460	223	254	1563	90	195	195	183	90	142	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1565	1728	1777	1585	1728	1777	1558	1728	1777	1776
Q Serve(g_s), s	5.2	54.2	12.9	11.4	59.5	4.6	8.8	16.7	18.0	4.0	11.9	12.2
Cycle Q Clear(g_c), s	5.2	54.2	12.9	11.4	59.5	4.6	8.8	16.7	18.0	4.0	11.9	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.30
Lane Grp Cap(c), veh/h	156	1827	804	346	1871	835	281	272	238	254	258	258
V/C Ratio(X)	0.39	0.80	0.28	0.74	0.84	0.11	0.69	0.72	0.77	0.35	0.55	0.56
Avail Cap(c_a), veh/h	167	1827	804	540	1871	835	281	544	477	259	533	533
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	69.0	32.1	22.0	69.9	32.0	19.0	71.6	64.5	65.0	70.5	63.5	63.6
Incr Delay (d2), s/veh	1.6	3.8	0.9	3.0	4.6	0.3	7.2	3.6	5.1	0.8	1.8	1.9
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	2.4	22.8	4.9	5.1	25.0	1.7	4.1	7.7	7.4	1.8	5.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	35.8	22.9	73.0	36.6	19.3	78.8	68.0	70.1	71.3	65.3	65.6
LnGrp LOS	E	D	C	E	D	B	E	E	E	E	E	E
Approach Vol, veh/h		1744			1907			573			377	
Approach Delay, s/veh		35.4			40.6			72.4			66.8	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.7	90.2	18.7	29.4	19.7	92.2	17.5	30.6				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 25	48.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	13.4	56.2	10.8	14.2	7.2	61.5	6.0	20.0				
Green Ext Time (p_c), s	0.6	0.0	0.1	1.5	0.1	0.0	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			44.8									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø1	Ø5	Ø7
Lane Configurations	↑↑	↑	↖	↑↑	↔	↔			
Traffic Volume (vph)	590	110	29	639	0	0			
Future Volume (vph)	590	110	29	639	0	0			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	4		3	8	2	6	1	5	7
Permitted Phases		4							
Detector Phase	4	4	3	8	2	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	25.2	25.2	10.4	25.2	43.2	43.2	10.4	10.4	10.4
Total Split (s)	25.2	25.2	10.4	25.2	43.4	44.0	11.0	10.4	10.4
Total Split (%)	28.0%	28.0%	11.6%	28.0%	48.2%	48.9%	12%	12%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	4.4	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 62

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

Ø1	Ø2	Ø3	Ø4
11 s	43.4 s	10.4 s	25.2 s
Ø5	Ø6	Ø7	Ø8
10.4 s	44 s	10.4 s	25.2 s

Existing + Project Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	590	110	29	639	3	102	0	36	1	0	2
Future Volume (veh/h)	0	590	110	29	639	3	102	0	36	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	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	0	621	116	31	673	3	107	0	38	1	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1132	492	40	1663	7	0	0	356	0	0	356
Arrive On Green	0.00	0.32	0.32	0.02	0.46	0.46	0.00	0.00	0.22	0.00	0.00	0.22
Sat Flow, veh/h	1781	3554	1544	1781	3628	16	0	0	1585	0	0	1583
Grp Volume(v), veh/h	0	621	116	31	330	346	0	0	38	0	0	2
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1781	1777	1867	0	0	1585	0	0	1583
Q Serve(g_s), s	0.0	4.9	1.9	0.6	4.2	4.2	0.0	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.9	1.9	0.6	4.2	4.2	0.0	0.0	0.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	5	1132	492	40	814	856	0	0	356	0	0	356
V/C Ratio(X)	0.00	0.55	0.24	0.78	0.40	0.40	0.00	0.00	0.11	0.00	0.00	0.01
Avail Cap(c_a), veh/h	335	2148	934	335	1074	1129	0	0	1731	0	0	1757
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)	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.6	8.6	16.6	6.1	6.1	0.0	0.0	10.5	0.0	0.0	10.3
Incr Delay (d2), s/veh	0.0	0.4	0.2	26.8	0.3	0.3	0.0	0.0	0.1	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	0.0	1.2	0.4	0.5	0.8	0.8	0.0	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.0	8.8	43.4	6.5	6.4	0.0	0.0	10.6	0.0	0.0	10.3
LnGrp LOS	A	B	A	D	A	A	A	A	B	A	A	B
Approach Vol, veh/h		737			707			38			2	
Approach Delay, s/veh		9.8			8.1			10.6			10.3	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	13.9	4.8	15.5	0.0	13.9	0.0	20.2				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	0.0	2.6	2.6	6.9	0.0	2.0	0.0	6.2				
Green Ext Time (p_c), s	0.0	0.2	0.0	3.7	0.0	0.0	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.0									
HCM 6th LOS			A									

Existing + Project Weekend
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	96	814	812	197	89
Future Volume (vph)	96	814	812	197	89
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases					4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8	28.8
Total Split (s)	30.5	71.2	40.7	28.8	28.8
Total Split (%)	30.5%	71.2%	40.7%	28.8%	28.8%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing + Project Weekend
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	814	812	212	197	89
Future Volume (veh/h)	96	814	812	212	197	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1870	1870
Adj Flow Rate, veh/h	104	885	883	230	214	97
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	134	2866	1889	492	309	142
Arrive On Green	0.08	0.81	0.68	0.68	0.09	0.09
Sat Flow, veh/h	1781	3647	2870	722	3456	1585
Grp Volume(v), veh/h	104	885	565	548	214	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1722	1728	1585
Q Serve(g_s), s	5.7	6.4	14.9	14.9	6.0	5.9
Cycle Q Clear(g_c), s	5.7	6.4	14.9	14.9	6.0	5.9
Prop In Lane	1.00			0.42	1.00	1.00
Lane Grp Cap(c), veh/h	134	2866	1209	1172	309	142
V/C Ratio(X)	0.78	0.31	0.47	0.47	0.69	0.68
Avail Cap(c_a), veh/h	452	2866	1209	1172	836	384
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	45.4	2.5	7.5	7.5	44.2	44.2
Incr Delay (d2), s/veh	9.3	0.3	1.3	1.3	2.8	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.6	5.4	5.2	2.7	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.7	2.8	8.8	8.8	47.0	49.9
LnGrp LOS	D	A	A	A	D	D
Approach Vol, veh/h		989	1113		311	
Approach Delay, s/veh		8.2	8.8		47.9	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.5		13.5	12.6	73.8
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		65.4		24.2	25.4	34.9
Max Q Clear Time (g_c+I1), s		8.4		8.0	7.7	16.9
Green Ext Time (p_c), s		8.0		0.9	0.2	7.4
Intersection Summary						
HCM 6th Ctrl Delay			13.6			
HCM 6th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	58	0	3	1	15	42	3	18	0
Future Vol, veh/h	0	0	0	58	0	3	1	15	42	3	18	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	2	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	67	0	3	1	17	49	3	21	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	2	0	0	148	139	4	172	138	2
Stage 1	-	-	-	-	-	-	2	2	-	136	136	-
Stage 2	-	-	-	-	-	-	146	137	-	36	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1620	-	-	820	752	1080	791	753	1082
Stage 1	-	-	-	-	-	-	1021	894	-	867	784	-
Stage 2	-	-	-	-	-	-	857	783	-	980	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1619	-	-	1618	-	-	776	720	1077	716	721	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	776	720	-	716	721	-
Stage 1	-	-	-	-	-	-	1020	893	-	867	751	-
Stage 2	-	-	-	-	-	-	798	750	-	916	893	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			7			9.1			10.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	949	1619	-	-	1618	-	-	720				
HCM Lane V/C Ratio	0.071	-	-	-	0.042	-	-	0.034				
HCM Control Delay (s)	9.1	0	-	-	7.3	0	-	10.2				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1				

Intersection												
Int Delay, s/veh	31.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	197	100	137	34	98	0	127	13	32	0	14	205
Future Vol, veh/h	197	100	137	34	98	0	127	13	32	0	14	205
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	88	88	92	92	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	224	109	156	37	107	0	144	15	35	0	16	233

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	265	0	0	941	816	187	841	894	107
Stage 1	-	-	-	-	-	-	635	635	-	181	181	-
Stage 2	-	-	-	-	-	-	306	181	-	660	713	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1299	-	-	243	311	855	284	280	947
Stage 1	-	-	-	-	-	-	467	472	-	821	750	-
Stage 2	-	-	-	-	-	-	704	750	-	452	435	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1484	-	-	1299	-	-	146	247	855	219	222	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	247	-	219	222	-
Stage 1	-	-	-	-	-	-	382	387	-	672	728	-
Stage 2	-	-	-	-	-	-	504	728	-	342	356	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	2	146.9	11.7
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	178	1484	-	-	1299	-	-	783
HCM Lane V/C Ratio	1.089	0.151	-	-	0.028	-	-	0.318
HCM Control Delay (s)	146.9	7.9	0	-	7.9	0	-	11.7
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	9.6	0.5	-	-	0.1	-	-	1.4

Intersection												
Int Delay, s/veh	16.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	0	6	25	127	7	44	20	389	137	48	381	2
Future Vol, veh/h	0	6	25	127	7	44	20	389	137	48	381	2
Conflicting Peds, #/hr	0	0	6	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	92	90	92	92	92	90	90	92	92	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	28	138	8	48	22	432	149	52	423	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1107	1153	430	1103	1080	507	425	0	0	581	0	0
Stage 1	528	528	-	551	551	-	-	-	-	-	-	-
Stage 2	579	625	-	552	529	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	188	197	625	189	218	566	1134	-	-	993	-	-
Stage 1	534	528	-	519	515	-	-	-	-	-	-	-
Stage 2	501	477	-	518	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	156	180	621	163	199	566	1134	-	-	993	-	-
Mov Cap-2 Maneuver	156	180	-	163	199	-	-	-	-	-	-	-
Stage 1	524	492	-	509	505	-	-	-	-	-	-	-
Stage 2	443	468	-	452	491	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.2		104.5		0.3		1					
HCM LOS	B		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1134	-	-	424	200	993	-	-				
HCM Lane V/C Ratio	0.02	-	-	0.081	0.967	0.053	-	-				
HCM Control Delay (s)	8.2	-	-	14.2	104.5	8.8	-	-				
HCM Lane LOS	A	-	-	B	F	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.3	8.1	0.2	-	-				

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	29	92	365	109	71	123	831	388	75	896
Future Volume (vph)	29	92	365	109	71	123	831	388	75	896
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	4.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0
Minimum Split (s)	9.5	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0
Total Split (s)	9.5	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1
Total Split (%)	7.3%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%
Yellow Time (s)	3.0	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 93

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Project Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	92	87	365	109	71	123	831	388	75	896	33
Future Volume (veh/h)	29	92	87	365	109	71	123	831	388	75	896	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.99
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	30	96	91	380	114	74	128	866	404	78	933	34
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	44	187	159	509	466	386	161	1380	849	102	1243	45
Arrive On Green	0.02	0.10	0.10	0.15	0.25	0.25	0.09	0.39	0.39	0.06	0.36	0.36
Sat Flow, veh/h	1781	1811	1547	3456	1870	1551	1781	3554	1585	1781	3495	127
Grp Volume(v), veh/h	30	94	93	380	114	74	128	866	404	78	474	493
Grp Sat Flow(s),veh/h/ln	1781	1777	1581	1728	1870	1551	1781	1777	1585	1781	1777	1846
Q Serve(g_s), s	1.3	3.9	4.4	8.2	3.8	2.9	5.5	15.3	12.3	3.4	18.2	18.2
Cycle Q Clear(g_c), s	1.3	3.9	4.4	8.2	3.8	2.9	5.5	15.3	12.3	3.4	18.2	18.2
Prop In Lane	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	44	183	163	509	466	386	161	1380	849	102	632	656
V/C Ratio(X)	0.69	0.51	0.57	0.75	0.24	0.19	0.80	0.63	0.48	0.76	0.75	0.75
Avail Cap(c_a), veh/h	126	412	366	1268	1040	863	179	1798	1036	472	1192	1238
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	37.6	33.0	33.2	31.7	23.3	23.0	34.6	19.2	11.2	36.1	22.0	22.0
Incr Delay (d2), s/veh	17.3	2.2	3.1	2.2	0.3	0.2	19.9	0.5	0.4	11.0	1.8	1.8
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	0.8	1.7	1.8	3.5	1.7	1.1	3.2	6.0	4.0	1.7	7.4	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	35.2	36.3	33.9	23.6	23.2	54.6	19.7	11.7	47.1	23.8	23.8
LnGrp LOS	D	D	D	C	C	C	D	B	B	D	C	C
Approach Vol, veh/h		217			568			1398			1045	
Approach Delay, s/veh		38.4			30.5			20.6			25.5	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	37.2	17.2	13.4	12.4	34.6	5.9	24.7				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	4.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	5.5	* 43				
Max Q Clear Time (g_c+I1), s	5.4	17.3	10.2	6.4	7.5	20.2	3.3	5.8				
Green Ext Time (p_c), s	0.1	8.1	1.3	0.7	0.0	7.4	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

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

Intersection

Intersection Delay, s/veh10.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	94	23	7	90	83	10	144	6	73	145	53
Future Vol, veh/h	51	94	23	7	90	83	10	144	6	73	145	53
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	98	24	7	94	86	10	150	6	76	151	55
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	10.1	10.1	11.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	30%	4%	27%
Vol Thru, %	90%	56%	50%	54%
Vol Right, %	4%	14%	46%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	168	180	271
LT Vol	10	51	7	73
Through Vol	144	94	90	145
RT Vol	6	23	83	53
Lane Flow Rate	167	175	188	282
Geometry Grp	1	1	1	1
Degree of Util (X)	0.247	0.263	0.268	0.401
Departure Headway (Hd)	5.336	5.402	5.146	5.112
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	665	698	706
Service Time	3.37	3.439	3.182	3.142
HCM Lane V/C Ratio	0.248	0.263	0.269	0.399
HCM Control Delay	10.1	10.4	10.1	11.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1	1.1	1.1	1.9

Existing + Cumulative Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	1521	101	55	1632	16	80	21	77	34	24	100
Future Volume (vph)	132	1521	101	55	1632	16	80	21	77	34	24	100
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	29.5	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	29.5
Total Split (s)	30.7	68.5	68.5	20.7	58.5	58.5	23.7	50.1	50.1	20.7	21.1	30.7
Total Split (%)	19.2%	42.8%	42.8%	12.9%	36.6%	36.6%	14.8%	31.3%	31.3%	12.9%	13.2%	19.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

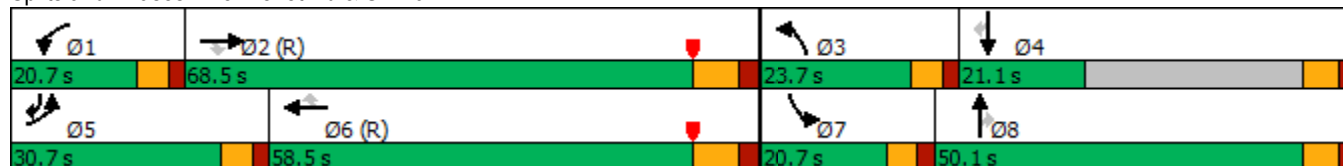
Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Cumulative Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1521	101	55	1632	16	80	21	77	34	24	100
Future Volume (veh/h)	132	1521	101	55	1632	16	80	21	77	34	24	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	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	138	1584	105	57	1700	17	83	22	80	35	25	104
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	160	2225	969	123	2150	928	130	161	137	105	135	257
Arrive On Green	0.09	0.63	0.63	0.07	0.61	0.61	0.07	0.09	0.09	0.06	0.07	0.07
Sat Flow, veh/h	1781	3554	1548	1781	3554	1534	1781	1870	1585	1781	1870	1578
Grp Volume(v), veh/h	138	1584	105	57	1700	17	83	22	80	35	25	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1548	1781	1777	1534	1781	1870	1585	1781	1870	1578
Q Serve(g_s), s	12.2	48.1	4.4	4.9	57.9	0.7	7.2	1.7	7.8	3.0	2.0	9.5
Cycle Q Clear(g_c), s	12.2	48.1	4.4	4.9	57.9	0.7	7.2	1.7	7.8	3.0	2.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	2225	969	123	2150	928	130	161	137	105	135	257
V/C Ratio(X)	0.86	0.71	0.11	0.46	0.79	0.02	0.64	0.14	0.59	0.33	0.18	0.40
Avail Cap(c_a), veh/h	278	2225	969	167	2150	928	200	514	436	167	175	291
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	71.8	20.2	12.0	71.6	23.9	12.6	72.1	67.6	70.3	72.2	69.8	60.1
Incr Delay (d2), s/veh	12.4	2.0	0.2	2.7	3.1	0.0	5.1	0.4	3.9	1.8	0.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	18.6	1.6	2.3	23.0	0.3	3.5	0.9	3.3	1.4	1.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	22.1	12.2	74.3	27.0	12.7	77.2	68.0	74.3	74.1	70.4	61.1
LnGrp LOS	F	C	B	E	C	B	E	E	E	E	E	E
Approach Vol, veh/h		1827			1774			185			164	
Approach Delay, s/veh		26.3			28.4			74.8			65.3	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	108.2	17.4	17.7	20.1	104.8	15.2	19.9				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 18	15.0	* 25	50.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.9	50.1	9.2	11.5	14.2	59.9	5.0	9.8				
Green Ext Time (p_c), s	0.0	7.1	0.1	0.1	0.2	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			31.1									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative Weekend
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	57	1349	208	277	1456	84	174	153	84	205
Future Volume (vph)	57	1349	208	277	1456	84	174	153	84	205
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	56.5	56.5	30.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	35.3%	35.3%	19.2%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 57 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76

				
Ø1	Ø2 (R)	Ø3	Ø4	
30.7 s	56.5 s	18.7 s	54.1 s	
				
Ø5	Ø6 (R)	Ø7	Ø8	
20.7 s	66.5 s	17.7 s	55.1 s	

Timings

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Synchro 10 Report

Existing + Cumulative Weekend
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1349	208	277	1456	84	174	153	199	84	205	40
Future Volume (veh/h)	57	1349	208	277	1456	84	174	153	199	84	205	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	61	1451	224	298	1566	90	187	165	214	90	220	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1757	773	351	1806	806	281	304	266	254	486	93
Arrive On Green	0.09	0.49	0.49	0.10	0.51	0.51	0.08	0.17	0.17	0.07	0.16	0.16
Sat Flow, veh/h	1781	3554	1565	3456	3554	1585	3456	1777	1553	3456	2973	571
Grp Volume(v), veh/h	61	1451	224	298	1566	90	187	165	214	90	130	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1565	1728	1777	1585	1728	1777	1553	1728	1777	1768
Q Serve(g_s), s	5.2	55.8	13.5	13.6	62.0	4.7	8.4	13.6	21.2	4.0	10.6	10.9
Cycle Q Clear(g_c), s	5.2	55.8	13.5	13.6	62.0	4.7	8.4	13.6	21.2	4.0	10.6	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	156	1757	773	351	1806	806	281	304	266	254	291	289
V/C Ratio(X)	0.39	0.83	0.29	0.85	0.87	0.11	0.67	0.54	0.80	0.35	0.45	0.46
Avail Cap(c_a), veh/h	167	1757	773	540	1806	806	281	544	476	259	533	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(l)	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	69.0	34.6	23.9	70.7	34.6	20.5	71.4	60.6	63.7	70.5	60.4	60.5
Incr Delay (d2), s/veh	1.6	4.6	0.9	7.8	5.9	0.3	5.9	1.5	5.7	0.8	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	23.8	5.1	6.2	26.5	1.8	3.9	6.2	8.7	1.8	4.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	39.2	24.8	78.5	40.5	20.8	77.3	62.1	69.4	71.3	61.5	61.7
LnGrp LOS	E	D	C	E	D	C	E	E	E	E	E	E
Approach Vol, veh/h		1736			1954			566			353	
Approach Delay, s/veh		38.4			45.4			69.9			64.1	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.9	87.1	18.7	32.3	19.7	89.3	17.5	33.5				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 25	48.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	15.6	57.8	10.4	12.9	7.2	64.0	6.0	23.2				
Green Ext Time (p_c), s	0.7	0.0	0.1	1.4	0.1	0.0	0.1	2.1				

Intersection Summary

HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

	→	↘	↙	←	↑	↓			
Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø1	Ø5	Ø7
Lane Configurations	↑↑	↑	↘	↑↑	↔	↔			
Traffic Volume (vph)	509	122	29	577	0	0			
Future Volume (vph)	509	122	29	577	0	0			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	4		3	8	2	6	1	5	7
Permitted Phases		4							
Detector Phase	4	4	3	8	2	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	25.2	25.2	10.4	25.2	43.2	43.2	10.4	10.4	10.4
Total Split (s)	25.2	25.2	10.4	25.2	43.4	44.0	11.0	10.4	10.4
Total Split (%)	28.0%	28.0%	11.6%	28.0%	48.2%	48.9%	12%	12%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	4.4	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 69.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

↘ Ø1	↑ Ø2	↙ Ø3	→ Ø4
11 s	43.4 s	10.4 s	25.2 s
↙ Ø5	↓ Ø6	↘ Ø7	← Ø8
10.4 s	44 s	10.4 s	25.2 s

Existing + Cumulative Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	509	122	29	577	3	122	0	36	1	0	2
Future Volume (veh/h)	0	509	122	29	577	3	122	0	36	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	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	0	536	128	31	607	3	128	0	38	1	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1041	452	40	1579	8	0	0	382	0	0	381
Arrive On Green	0.00	0.29	0.29	0.02	0.44	0.44	0.00	0.00	0.24	0.00	0.00	0.24
Sat Flow, veh/h	1781	3554	1543	1781	3625	18	0	0	1585	0	0	1583
Grp Volume(v), veh/h	0	536	128	31	297	313	0	0	38	0	0	2
Grp Sat Flow(s),veh/h/ln	1781	1777	1543	1781	1777	1866	0	0	1585	0	0	1583
Q Serve(g_s), s	0.0	4.2	2.1	0.6	3.8	3.8	0.0	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.2	2.1	0.6	3.8	3.8	0.0	0.0	0.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	5	1041	452	40	774	813	0	0	382	0	0	381
V/C Ratio(X)	0.00	0.51	0.28	0.78	0.38	0.38	0.00	0.00	0.10	0.00	0.00	0.01
Avail Cap(c_a), veh/h	342	2195	953	342	1098	1153	0	0	1768	0	0	1795
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)	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	9.1	16.2	6.4	6.4	0.0	0.0	9.8	0.0	0.0	9.6
Incr Delay (d2), s/veh	0.0	0.4	0.3	26.5	0.3	0.3	0.0	0.0	0.1	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	0.0	1.1	0.5	0.5	0.7	0.8	0.0	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	9.4	42.8	6.7	6.7	0.0	0.0	10.0	0.0	0.0	9.6
LnGrp LOS	A	B	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		664			641			38				2
Approach Delay, s/veh		10.1			8.4			10.0				9.6
Approach LOS		B			A			A				A
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	14.2	4.7	14.4	0.0	14.2	0.0	19.1				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	0.0	2.6	2.6	6.2	0.0	2.0	0.0	5.8				
Green Ext Time (p_c), s	0.0	0.2	0.0	3.3	0.0	0.0	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

Existing + Cumulative Weekend
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Lane Group	EBT	WBT	Ø4	Ø5
Lane Configurations	↑↑	↑↑		
Traffic Volume (vph)	841	862		
Future Volume (vph)	841	862		
Turn Type	NA	NA		
Protected Phases	2	6	4	5
Permitted Phases				
Detector Phase	2	6		
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	3.0
Minimum Split (s)	23.8	29.8	28.8	9.5
Total Split (s)	71.2	40.7	28.8	30.5
Total Split (%)	71.2%	40.7%	29%	31%
Yellow Time (s)	4.8	4.8	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	5.8	5.8		
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Min	C-Min	Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 70

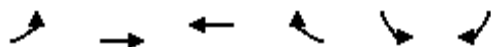
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Puente



Existing + Cumulative Weekend
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	841	862	0	0	0
Future Volume (veh/h)	0	841	862	0	0	0
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	1870	1870
Adj Flow Rate, veh/h	0	914	937	0	0	0
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	2	3348	3348	0	3	2
Arrive On Green	0.00	0.94	0.94	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	3741	0	3456	1585
Grp Volume(v), veh/h	0	914	937	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	0	1728	1585
Q Serve(g_s), s	0.0	2.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	2.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	2	3348	3348	0	3	2
V/C Ratio(X)	0.00	0.27	0.28	0.00	0.00	0.00
Avail Cap(c_a), veh/h	452	3348	3348	0	836	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.2	0.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.4	0.4	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		914	937		0	
Approach Delay, s/veh		0.4	0.4		0.0	
Approach LOS		A	A			
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		100.0		0.0	0.0	100.0
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		65.4		24.2	25.4	34.9
Max Q Clear Time (g_c+I1), s		4.0		0.0	0.0	4.1
Green Ext Time (p_c), s		8.4		0.0	0.0	7.9
Intersection Summary						
HCM 6th Ctrl Delay			0.4			
HCM 6th LOS			A			

Notes

User approved pedestrian interval to be less than phase max green.

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	21	58	6	10	20	21	29	6	20	0
Future Vol, veh/h	0	2	21	58	6	10	20	21	29	6	20	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	2	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	24	67	7	12	23	24	34	7	23	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	27	0	0	174	168	17	192	174	13
Stage 1	-	-	-	-	-	-	15	15	-	147	147	-
Stage 2	-	-	-	-	-	-	159	153	-	45	27	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1597	-	-	1587	-	-	789	725	1062	768	719	1067
Stage 1	-	-	-	-	-	-	1005	883	-	856	775	-
Stage 2	-	-	-	-	-	-	843	771	-	969	873	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1597	-	-	1585	-	-	742	693	1059	699	687	1067
Mov Cap-2 Maneuver	-	-	-	-	-	-	742	693	-	699	687	-
Stage 1	-	-	-	-	-	-	1004	882	-	856	742	-
Stage 2	-	-	-	-	-	-	781	738	-	910	872	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			5.8			9.8			10.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	827	1597	-	-	1585	-	-	690				
HCM Lane V/C Ratio	0.098	-	-	-	0.043	-	-	0.044				
HCM Control Delay (s)	9.8	0	-	-	7.4	0	-	10.5				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.1				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	184	7	0	192	7	0
Future Vol, veh/h	184	7	0	192	7	0
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	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	209	8	0	218	8	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	217	0	431	213
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	218	-
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	-	-	1353	-	581	827
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1353	-	581	827
Mov Cap-2 Maneuver	-	-	-	-	581	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	818	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	581	-	-	1353	-
HCM Lane V/C Ratio	0.014	-	-	-	-
HCM Control Delay (s)	11.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Existing + Cumulative Weekend
25: Foussat Rd & Alex Rd

Ocean Kamp
02/16/2021

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	20	190	197	2
Future Vol, veh/h	0	25	20	190	197	2
Conflicting Peds, #/hr	0	6	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	22	211	219	2

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	475	226	221	0	-	0
Stage 1	220	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	548	813	1348	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	539	808	1348	-	-	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1348	-	808	-	-
HCM Lane V/C Ratio	0.016	-	0.034	-	-
HCM Control Delay (s)	7.7	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Existing + Cumulative Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	31	114	365	126	73	109	839	388	76	890
Future Volume (vph)	31	114	365	126	73	109	839	388	76	890
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	4.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0
Minimum Split (s)	9.5	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0
Total Split (s)	9.5	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1
Total Split (%)	7.3%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%
Yellow Time (s)	3.0	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 93.7

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

 Ø1	 Ø2	 Ø3	 Ø4
26 s	46.3 s	34.3 s	23.4 s
 Ø5	 Ø6	 Ø7	 Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Timings

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Synchro 10 Report

Existing + Cumulative Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	114	74	365	126	73	109	839	388	76	890	34
Future Volume (veh/h)	31	114	74	365	126	73	109	839	388	76	890	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.99
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	32	119	77	380	131	76	114	874	404	79	927	35
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	46	223	135	512	469	389	145	1347	835	104	1242	47
Arrive On Green	0.03	0.10	0.10	0.15	0.25	0.25	0.08	0.38	0.38	0.06	0.36	0.36
Sat Flow, veh/h	1781	2126	1282	3456	1870	1551	1781	3554	1585	1781	3490	132
Grp Volume(v), veh/h	32	98	98	380	131	76	114	874	404	79	472	490
Grp Sat Flow(s),veh/h/ln	1781	1777	1631	1728	1870	1551	1781	1777	1585	1781	1777	1845
Q Serve(g_s), s	1.4	4.0	4.4	8.0	4.3	2.9	4.8	15.4	12.3	3.3	17.8	17.8
Cycle Q Clear(g_c), s	1.4	4.0	4.4	8.0	4.3	2.9	4.8	15.4	12.3	3.3	17.8	17.8
Prop In Lane	1.00		0.79	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	46	187	171	512	469	389	145	1347	835	104	632	657
V/C Ratio(X)	0.70	0.53	0.57	0.74	0.28	0.20	0.79	0.65	0.48	0.76	0.75	0.75
Avail Cap(c_a), veh/h	129	420	385	1293	1060	879	182	1833	1052	482	1215	1262
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	36.8	32.3	32.5	31.1	23.0	22.5	34.3	19.5	11.4	35.4	21.5	21.5
Incr Delay (d2), s/veh	17.2	2.3	3.0	2.1	0.3	0.2	16.2	0.5	0.4	10.8	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.8	1.8	3.4	1.9	1.1	2.7	6.0	4.0	1.7	7.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	34.6	35.5	33.2	23.3	22.7	50.5	20.0	11.9	46.2	23.3	23.2
LnGrp LOS	D	C	D	C	C	C	D	C	B	D	C	C
Approach Vol, veh/h		228			587			1392			1041	
Approach Delay, s/veh		37.7			29.6			20.2			25.0	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	35.9	17.1	13.4	11.6	34.1	6.0	24.5				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	4.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	5.5	* 43				
Max Q Clear Time (g_c+I1), s	5.3	17.4	10.0	6.4	6.8	19.8	3.4	6.3				
Green Ext Time (p_c), s	0.1	8.2	1.3	0.8	0.0	7.4	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									
Notes												

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

Intersection

Intersection Delay, s/veh 9.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	94	23	7	127	49	10	130	6	41	133	40
Future Vol, veh/h	37	94	23	7	127	49	10	130	6	41	133	40
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	98	24	7	132	51	10	135	6	43	139	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	9.8	9.6	10.2
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	24%	4%	19%
Vol Thru, %	89%	61%	69%	62%
Vol Right, %	4%	15%	27%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	154	183	214
LT Vol	10	37	7	41
Through Vol	130	94	127	133
RT Vol	6	23	49	40
Lane Flow Rate	152	160	191	223
Geometry Grp	1	1	1	1
Degree of Util (X)	0.214	0.226	0.26	0.305
Departure Headway (Hd)	5.076	5.065	4.917	4.921
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	698	701	722	722
Service Time	3.171	3.156	3.005	3.007
HCM Lane V/C Ratio	0.218	0.228	0.265	0.309
HCM Control Delay	9.6	9.7	9.8	10.2
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.8	0.9	1	1.3

Existing + Cumulative + Project Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	1706	101	55	1803	22	80	21	77	41	24	100
Future Volume (vph)	132	1706	101	55	1803	22	80	21	77	41	24	100
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	29.5	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	29.5
Total Split (s)	30.7	68.5	68.5	20.7	58.5	58.5	23.7	50.1	50.1	20.7	21.1	30.7
Total Split (%)	19.2%	42.8%	42.8%	12.9%	36.6%	36.6%	14.8%	31.3%	31.3%	12.9%	13.2%	19.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 37 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76

			
Ø1	Ø2 (R)	Ø3	Ø4
20.7 s	68.5 s	23.7 s	21.1 s
			
Ø5	Ø6 (R)	Ø7	Ø8
30.7 s	58.5 s	20.7 s	50.1 s

Timings

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Synchro 10 Report

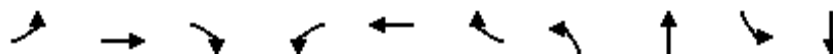
Existing + Cumulative + Project Weekend
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1706	101	55	1803	22	80	21	77	41	24	100
Future Volume (veh/h)	132	1706	101	55	1803	22	80	21	77	41	24	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	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	138	1777	105	57	1878	23	83	22	80	43	25	104
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	160	2225	969	123	2150	928	130	152	129	114	135	257
Arrive On Green	0.09	0.63	0.63	0.07	0.61	0.61	0.07	0.08	0.08	0.06	0.07	0.07
Sat Flow, veh/h	1781	3554	1548	1781	3554	1534	1781	1870	1585	1781	1870	1578
Grp Volume(v), veh/h	138	1777	105	57	1878	23	83	22	80	43	25	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1548	1781	1777	1534	1781	1870	1585	1781	1870	1578
Q Serve(g_s), s	12.2	59.8	4.4	4.9	70.8	1.0	7.2	1.7	7.8	3.7	2.0	9.5
Cycle Q Clear(g_c), s	12.2	59.8	4.4	4.9	70.8	1.0	7.2	1.7	7.8	3.7	2.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	2225	969	123	2150	928	130	152	129	114	135	257
V/C Ratio(X)	0.86	0.80	0.11	0.46	0.87	0.02	0.64	0.14	0.62	0.38	0.18	0.40
Avail Cap(c_a), veh/h	278	2225	969	167	2150	928	200	514	436	167	175	291
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	71.8	22.4	12.0	71.6	26.5	12.7	72.1	68.3	71.1	71.8	69.8	60.1
Incr Delay (d2), s/veh	12.4	3.1	0.2	2.7	5.3	0.0	5.1	0.4	4.8	2.1	0.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	23.4	1.6	2.3	28.5	0.4	3.5	0.9	3.4	1.8	1.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	25.5	12.2	74.3	31.7	12.7	77.2	68.7	75.8	73.9	70.4	61.1
LnGrp LOS	F	C	B	E	C	B	E	E	E	E	E	E
Approach Vol, veh/h	2020			1958			185			172		
Approach Delay, s/veh	28.8			32.8			75.6			65.7		
Approach LOS	C			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	108.2	17.4	17.7	20.1	104.8	15.9	19.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 18	15.0	* 25	50.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.9	61.8	9.2	11.5	14.2	72.8	5.7	9.8				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	34.0											
HCM 6th LOS	C											
Notes												

Existing + Cumulative + Project Weekend
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	57	1393	233	277	1504	84	201	208	84	256
Future Volume (vph)	57	1393	233	277	1504	84	201	208	84	256
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	56.5	56.5	30.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	35.3%	35.3%	19.2%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

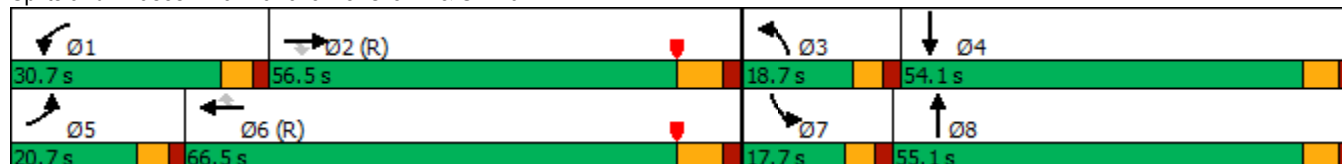
Actuated Cycle Length: 160

Offset: 57 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing + Cumulative + Project Weekend
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1393	233	277	1504	84	201	208	199	84	256	40
Future Volume (veh/h)	57	1393	233	277	1504	84	201	208	199	84	256	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	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	61	1498	251	298	1617	90	216	224	214	90	275	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1751	771	351	1800	803	281	307	269	254	510	79
Arrive On Green	0.09	0.49	0.49	0.10	0.51	0.51	0.08	0.17	0.17	0.07	0.17	0.17
Sat Flow, veh/h	1781	3554	1565	3456	3554	1585	3456	1777	1553	3456	3085	477
Grp Volume(v), veh/h	61	1498	251	298	1617	90	216	224	214	90	157	161
Grp Sat Flow(s),veh/h/ln	1781	1777	1565	1728	1777	1585	1728	1777	1553	1728	1777	1785
Q Serve(g_s), s	5.2	59.2	15.5	13.6	65.9	4.8	9.8	19.1	21.1	4.0	12.9	13.2
Cycle Q Clear(g_c), s	5.2	59.2	15.5	13.6	65.9	4.8	9.8	19.1	21.1	4.0	12.9	13.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	156	1751	771	351	1800	803	281	307	269	254	294	295
V/C Ratio(X)	0.39	0.86	0.33	0.85	0.90	0.11	0.77	0.73	0.80	0.35	0.53	0.55
Avail Cap(c_a), veh/h	167	1751	771	540	1800	803	281	544	476	259	533	535
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	69.0	35.6	24.5	70.7	35.7	20.7	72.0	62.6	63.5	70.5	61.1	61.3
Incr Delay (d2), s/veh	1.6	5.6	1.1	7.8	7.6	0.3	12.2	3.3	5.4	0.8	1.5	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	2.4	25.4	5.9	6.2	28.5	1.8	4.8	8.8	8.6	1.8	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	41.2	25.7	78.5	43.3	20.9	84.2	65.9	68.8	71.3	62.6	62.8
LnGrp LOS	E	D	C	E	D	C	F	E	E	E	E	E
Approach Vol, veh/h		1810			2005			654			408	
Approach Delay, s/veh		40.0			47.5			72.9			64.6	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.9	86.8	18.7	32.6	19.7	89.0	17.5	33.8				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 25	48.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	15.6	61.2	11.8	15.2	7.2	67.9	6.0	23.1				
Green Ext Time (p_c), s	0.7	0.0	0.1	1.7	0.1	0.0	0.1	2.5				

Intersection Summary

HCM 6th Ctrl Delay	49.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative + Project Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

	→	↘	↙	←	↑	↓			
Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø1	Ø5	Ø7
Lane Configurations	↑↑	↑	↘	↑↑	↔	↔			
Traffic Volume (vph)	618	122	29	679	0	0			
Future Volume (vph)	618	122	29	679	0	0			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	4		3	8	2	6	1	5	7
Permitted Phases		4							
Detector Phase	4	4	3	8	2	6			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	25.2	25.2	10.4	25.2	43.2	43.2	10.4	10.4	10.4
Total Split (s)	25.2	25.2	10.4	25.2	43.4	44.0	11.0	10.4	10.4
Total Split (%)	28.0%	28.0%	11.6%	28.0%	48.2%	48.9%	12%	12%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	4.4	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 71.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

↘ Ø1	↑ Ø2	↙ Ø3	→ Ø4
11 s	43.4 s	10.4 s	25.2 s
↙ Ø5	↓ Ø6	↘ Ø7	← Ø8
10.4 s	44 s	10.4 s	25.2 s

Existing + Cumulative + Project Weekend
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	618	122	29	679	3	122	0	36	1	0	2
Future Volume (veh/h)	0	618	122	29	679	3	122	0	36	1	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	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	0	651	128	31	715	3	128	0	38	1	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	5	1153	501	40	1670	7	0	0	370	0	0	369
Arrive On Green	0.00	0.32	0.32	0.02	0.46	0.46	0.00	0.00	0.23	0.00	0.00	0.23
Sat Flow, veh/h	1781	3554	1544	1781	3629	15	0	0	1585	0	0	1583
Grp Volume(v), veh/h	0	651	128	31	350	368	0	0	38	0	0	2
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1781	1777	1867	0	0	1585	0	0	1583
Q Serve(g_s), s	0.0	5.3	2.2	0.6	4.7	4.7	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.3	2.2	0.6	4.7	4.7	0.0	0.0	0.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	5	1153	501	40	818	859	0	0	370	0	0	369
V/C Ratio(X)	0.00	0.56	0.26	0.78	0.43	0.43	0.00	0.00	0.10	0.00	0.00	0.01
Avail Cap(c_a), veh/h	324	2079	903	324	1039	1092	0	0	1674	0	0	1699
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)	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	8.8	17.1	6.4	6.4	0.0	0.0	10.6	0.0	0.0	10.4
Incr Delay (d2), s/veh	0.0	0.4	0.3	27.3	0.4	0.3	0.0	0.0	0.1	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	0.0	1.4	0.5	0.5	0.9	1.0	0.0	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.3	9.0	44.5	6.7	6.7	0.0	0.0	10.7	0.0	0.0	10.4
LnGrp LOS	A	B	A	D	A	A	A	A	B	A	A	B
Approach Vol, veh/h		779			749			38			2	
Approach Delay, s/veh		10.1			8.3			10.7			10.4	
Approach LOS		B			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	14.4	4.8	16.0	0.0	14.4	0.0	20.8				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	0.0	2.7	2.6	7.3	0.0	2.0	0.0	6.7				
Green Ext Time (p_c), s	0.0	0.2	0.0	3.8	0.0	0.0	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			9.2									
HCM 6th LOS			A									

Existing + Cumulative + Project Weekend
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	96	841	862	197	89
Future Volume (vph)	96	841	862	197	89
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases					4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8	28.8
Total Split (s)	30.5	71.2	40.7	28.8	28.8
Total Split (%)	30.5%	71.2%	40.7%	28.8%	28.8%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 75

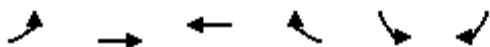
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Puente



Existing + Cumulative + Project Weekend
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	841	862	212	197	89
Future Volume (veh/h)	96	841	862	212	197	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1870	1870
Adj Flow Rate, veh/h	104	914	937	230	214	97
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	134	2866	1916	469	309	142
Arrive On Green	0.08	0.81	0.68	0.68	0.09	0.09
Sat Flow, veh/h	1781	3647	2909	690	3456	1585
Grp Volume(v), veh/h	104	914	591	576	214	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1729	1728	1585
Q Serve(g_s), s	5.7	6.7	15.9	16.0	6.0	5.9
Cycle Q Clear(g_c), s	5.7	6.7	15.9	16.0	6.0	5.9
Prop In Lane	1.00			0.40	1.00	1.00
Lane Grp Cap(c), veh/h	134	2866	1209	1176	309	142
V/C Ratio(X)	0.78	0.32	0.49	0.49	0.69	0.68
Avail Cap(c_a), veh/h	452	2866	1209	1176	836	384
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	45.4	2.5	7.6	7.7	44.2	44.2
Incr Delay (d2), s/veh	9.3	0.3	1.4	1.5	2.8	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.7	5.8	5.7	2.7	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.7	2.8	9.1	9.1	47.0	49.9
LnGrp LOS	D	A	A	A	D	D
Approach Vol, veh/h		1018	1167		311	
Approach Delay, s/veh		8.1	9.1		47.9	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.5		13.5	12.6	73.8
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		65.4		24.2	25.4	34.9
Max Q Clear Time (g_c+I1), s		8.7		8.0	7.7	18.0
Green Ext Time (p_c), s		8.3		0.9	0.2	7.6
Intersection Summary						
HCM 6th Ctrl Delay			13.5			
HCM 6th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	21	72	6	10	20	21	42	6	20	0
Future Vol, veh/h	0	2	21	72	6	10	20	21	42	6	20	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	2	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	24	84	7	12	23	24	49	7	23	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	27	0	0	208	202	17	234	208	13
Stage 1	-	-	-	-	-	-	15	15	-	181	181	-
Stage 2	-	-	-	-	-	-	193	187	-	53	27	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1597	-	-	1587	-	-	749	694	1062	721	689	1067
Stage 1	-	-	-	-	-	-	1005	883	-	821	750	-
Stage 2	-	-	-	-	-	-	809	745	-	960	873	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1597	-	-	1585	-	-	698	656	1059	640	651	1067
Mov Cap-2 Maneuver	-	-	-	-	-	-	698	656	-	640	651	-
Stage 1	-	-	-	-	-	-	1004	882	-	821	710	-
Stage 2	-	-	-	-	-	-	740	705	-	889	872	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.1			9.9			10.8		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	827	1597	-	-	1585	-	-	648				
HCM Lane V/C Ratio	0.117	-	-	-	0.053	-	-	0.047				
HCM Control Delay (s)	9.9	0	-	-	7.4	0	-	10.8				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-	-	0.1				

Existing + Cumulative + Project Weekend
24: N. Foussat Rd & Foussat Rd

Ocean Kamp
02/16/2021

Intersection												
Int Delay, s/veh	14.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↱	↕			↕	
Traffic Vol, veh/h	197	100	144	34	98	0	134	13	32	0	14	205
Future Vol, veh/h	197	100	144	34	98	0	134	13	32	0	14	205
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	88	88	92	92	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	224	109	164	37	107	0	152	15	35	0	16	233
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	273	0	0	945	820	191	845	902	107
Stage 1	-	-	-	-	-	-	639	639	-	181	181	-
Stage 2	-	-	-	-	-	-	306	181	-	664	721	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1290	-	-	242	310	851	283	277	947
Stage 1	-	-	-	-	-	-	464	470	-	821	750	-
Stage 2	-	-	-	-	-	-	704	750	-	450	432	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1290	-	-	~ 145	246	851	218	220	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 145	246	-	218	220	-
Stage 1	-	-	-	-	-	-	380	384	-	672	728	-
Stage 2	-	-	-	-	-	-	504	728	-	339	353	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.5			2			53.9			11.7		
HCM LOS							F			B		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	145 222		1484	-	-	1290	-	-	782			
HCM Lane V/C Ratio	0.7 0.452		0.151	-	-	0.029	-	-	0.318			
HCM Control Delay (s)	73.6 33.9		7.9	0	-	7.9	0	-	11.7			
HCM Lane LOS	F D		A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	4 2.2		0.5	-	-	0.1	-	-	1.4			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Existing + Cumulative + Project Weekend
25: Foussat Rd & Alex Rd/Proj. Dwy

Ocean Kamp
02/16/2021

Intersection												
Int Delay, s/veh	17.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	25	127	7	44	20	396	137	48	388	2
Future Vol, veh/h	0	6	25	127	7	44	20	396	137	48	388	2
Conflicting Peds, #/hr	0	0	6	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	92	90	92	92	92	90	90	92	92	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	28	138	8	48	22	440	149	52	431	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1123	1169	438	1119	1096	515	433	0	0	589	0	0
Stage 1	536	536	-	559	559	-	-	-	-	-	-	-
Stage 2	587	633	-	560	537	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	183	193	619	184	213	560	1127	-	-	986	-	-
Stage 1	529	523	-	513	511	-	-	-	-	-	-	-
Stage 2	496	473	-	513	523	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	152	176	615	158	194	560	1127	-	-	986	-	-
Mov Cap-2 Maneuver	152	176	-	158	194	-	-	-	-	-	-	-
Stage 1	518	487	-	503	501	-	-	-	-	-	-	-
Stage 2	438	464	-	447	487	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.4		114.2		0.3		1					
HCM LOS	B		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1127	-	-	417	194	986	-	-				
HCM Lane V/C Ratio	0.02	-	-	0.082	0.997	0.053	-	-				
HCM Control Delay (s)	8.3	-	-	14.4	114.2	8.9	-	-				
HCM Lane LOS	A	-	-	B	F	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.3	8.5	0.2	-	-				

Existing + Cumulative + Project Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	31	133	365	147	87	123	866	388	89	915
Future Volume (vph)	31	133	365	147	87	123	866	388	89	915
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	4.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0
Minimum Split (s)	9.5	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0
Total Split (s)	9.5	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1
Total Split (%)	7.3%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%
Yellow Time (s)	3.0	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 96.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

 Ø1	 Ø2	 Ø3	 Ø4
26 s	46.3 s	34.3 s	23.4 s
 Ø5	 Ø6	 Ø7	 Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Timings

N:\3145\Analysis\Synchro_Weekend\04 Ex+C+P.syn

Synchro 10 Report

Existing + Cumulative + Project Weekend
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	133	87	365	147	87	123	866	388	89	915	34
Future Volume (veh/h)	31	133	87	365	147	87	123	866	388	89	915	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		0.99
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	32	139	91	380	153	91	128	902	404	93	953	35
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	45	220	135	507	464	385	160	1358	838	122	1260	46
Arrive On Green	0.03	0.10	0.10	0.15	0.25	0.25	0.09	0.38	0.38	0.07	0.36	0.36
Sat Flow, veh/h	1781	2111	1294	3456	1870	1551	1781	3554	1585	1781	3494	128
Grp Volume(v), veh/h	32	116	114	380	153	91	128	902	404	93	485	503
Grp Sat Flow(s),veh/h/ln	1781	1777	1629	1728	1870	1551	1781	1777	1585	1781	1777	1846
Q Serve(g_s), s	1.4	4.9	5.4	8.3	5.3	3.7	5.6	16.6	12.8	4.1	19.0	19.0
Cycle Q Clear(g_c), s	1.4	4.9	5.4	8.3	5.3	3.7	5.6	16.6	12.8	4.1	19.0	19.0
Prop In Lane	1.00		0.79	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	45	185	170	507	464	385	160	1358	838	122	641	666
V/C Ratio(X)	0.70	0.62	0.67	0.75	0.33	0.24	0.80	0.66	0.48	0.76	0.76	0.76
Avail Cap(c_a), veh/h	124	404	370	1245	1021	846	176	1765	1020	464	1170	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	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	38.3	33.9	34.1	32.4	24.4	23.8	35.3	20.2	11.8	36.2	22.2	22.2
Incr Delay (d2), s/veh	17.9	3.4	4.6	2.3	0.4	0.3	20.7	0.6	0.4	9.4	1.9	1.8
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	0.8	2.3	2.3	3.5	2.3	1.3	3.3	6.6	4.1	2.0	7.8	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	37.3	38.7	34.6	24.8	24.1	56.0	20.8	12.2	45.6	24.1	24.0
LnGrp LOS	E	D	D	C	C	C	E	C	B	D	C	C
Approach Vol, veh/h		262			624			1434			1081	
Approach Delay, s/veh		40.2			30.7			21.6			25.9	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	37.2	17.4	13.7	12.5	35.5	6.0	25.0				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	4.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	5.5	* 43				
Max Q Clear Time (g_c+I1), s	6.1	18.6	10.3	7.4	7.6	21.0	3.4	7.3				
Green Ext Time (p_c), s	0.2	8.2	1.3	0.9	0.0	7.6	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

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

Intersection

Intersection Delay, s/veh11.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	94	23	7	127	83	10	151	6	73	152	53
Future Vol, veh/h	51	94	23	7	127	83	10	151	6	73	152	53
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	98	24	7	132	86	10	157	6	76	158	55
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	10.9	10.5	12.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	30%	3%	26%
Vol Thru, %	90%	56%	59%	55%
Vol Right, %	4%	14%	38%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	168	217	278
LT Vol	10	51	7	73
Through Vol	151	94	127	152
RT Vol	6	23	83	53
Lane Flow Rate	174	175	226	290
Geometry Grp	1	1	1	1
Degree of Util (X)	0.266	0.27	0.331	0.423
Departure Headway (Hd)	5.495	5.548	5.271	5.262
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	652	646	680	683
Service Time	3.54	3.596	3.316	3.302
HCM Lane V/C Ratio	0.267	0.271	0.332	0.425
HCM Control Delay	10.5	10.7	10.9	12.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.1	1.4	2.1

APPENDIX E

SUPPLEMENTARY WAVE LAGOON TRIP GENERATION INFORMATION

Wave Lagoon

Table A
Weekday Project Trip Generation

Land Use	Daily Visitors	Daily Trip Ends (ADT) ^b	AM Peak Hour Volumes ^c			PM Peak Hour Volumes ^e		
			In	Out	Total	In	Out	Total
Wave Lagoon Guests ^a	120	240	12	12	24	12	12	24
Wave Lagoon Employees ^c	10	20	1	1	2	1	1	2
Resport Pass Guests ^d	50	100	5	5	10	5	5	10
Total Vehicular Trips		360	18	18	36	18	18	36

Footnotes:

a. The Wave Lagoon will have a maximum capacity of 12 people per hour, and will operate ten-hours per day for a total of 120 visitors per day.

b. Average Daily Trips, assuming two trips per visitor (one inbound, one outbound) and a conservative vehicle occupancy rate of 1.0 visitors per car.

c. An estimated ten employees are expected per day, each assumed to drive their own vehicle.

d. An estimated 50 Resprt Pass Guests are expected per day, each assumed to drive their own vehicle.

e. Hours of operation estimated at 10 hours per day. Peak hour trips calculated assuming employee and guest trips to / from the site will occur consistently throughout the day (360 ADT / 10 hours of operation = 36 trips per hour; 18 inbound and 18 outbound).

Wave Lagoon

Table B
Weekend Project Trip Generation

Land Use	Daily Visitors	Daily Trip Ends (ADT) ^b	Weekend Peak Hour Volumes ^c		
			In	Out	Total
Wave Lagoon Guests ^a	120	240	12	12	24
Wave Lagoon Employees ^c	10	20	1	1	2
Resort Pass Guests ^d	100	200	10	10	20
Total Vehicular Trips		460	23	23	46

Footnotes:

- a. The Wave Lagoon will have a maximum capacity of 12 people per hour, and will operate ten-hours per day for a total of 120 visitors per day.
- b. Average Daily Trips, assuming two trips per visitor (one inbound, one outbound) and a conservative vehicle occupancy rate of 1.0 visitors per car.
- c. An estimated ten employees are expected per day, each assumed to drive their own vehicle.
- d. An estimated 50 Resort Pass Guests are expected per day, each assumed to drive their own vehicle.
- e. Hours of operation estimated at 10 hours per day. Peak hour trips calculated assuming employee and guest trips to / from the site will occur consistently throughout the day (460 ADT / 10 hours of operation = 46 trips per hour; 23 inbound and 23 outbound).

APPENDIX F

INTERSECTION ANALYSIS WORKSHEETS – WEEKDAY EXISTING + PROJECT

Existing + Project AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	312	226	1096	598	327
Future Volume (vph)	312	226	1096	598	327
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	23.5	23.5	34.0	57.5	22.5
Total Split (%)	29.4%	29.4%	42.5%	71.9%	28.1%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

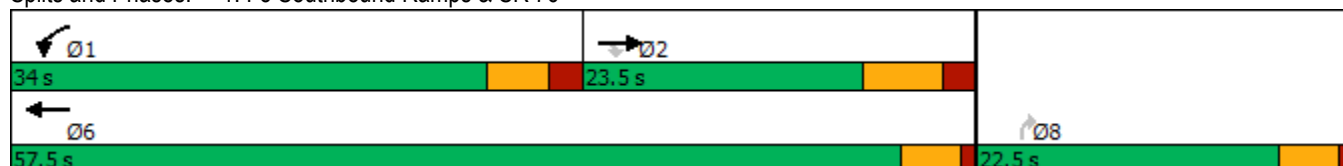
Cycle Length: 80

Actuated Cycle Length: 59.3

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing + Project AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↑
Traffic Volume (vph)	312	226	1096	598	0	327
Future Volume (vph)	312	226	1096	598	0	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1562	3433	3539		1611
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1562	3433	3539		1611
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	318	231	1118	610	0	334
RTOR Reduction (vph)	0	187	0	0	0	302
Lane Group Flow (vph)	318	44	1118	610	0	32
Confl. Peds. (#/hr)		1				
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	11.3	11.3	25.3	44.6		5.6
Effective Green, g (s)	11.3	11.3	25.3	44.6		5.6
Actuated g/C Ratio	0.19	0.19	0.43	0.75		0.09
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	675	298	1467	2666		152
v/s Ratio Prot	c0.09		c0.33	0.17		
v/s Ratio Perm		0.03				c0.02
v/c Ratio	0.47	0.15	0.76	0.23		0.21
Uniform Delay, d1	21.3	19.9	14.4	2.2		24.8
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.2	2.4	0.0		0.7
Delay (s)	21.8	20.2	16.8	2.2		25.4
Level of Service	C	C	B	A		C
Approach Delay (s)	21.1			11.6	25.4	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			59.2		Sum of lost time (s)	17.0
Intersection Capacity Utilization			54.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Existing + Project AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	532	107	1100	1439	99	617
Future Volume (vph)	532	107	1100	1439	99	617
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	26.6	24.1	29.3	55.9	24.1	24.1
Total Split (%)	33.3%	30.1%	36.6%	69.9%	30.1%	30.1%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 70.3

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
29.3 s	26.6 s	
← Ø6	↘ Ø8	
55.9 s	24.1 s	

Existing + Project AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	532	107	1100	1439	99	617
Future Volume (veh/h)	532	107	1100	1439	99	617
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	1870	1870
Adj Flow Rate, veh/h	548	110	1134	1484	102	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	766	461	1280	2428	135	
Arrive On Green	0.22	0.22	0.37	0.68	0.08	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	548	110	1134	1484	102	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	8.4	3.1	18.0	13.3	3.3	0.0
Cycle Q Clear(g_c), s	8.4	3.1	18.0	13.3	3.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	766	461	1280	2428	135	
V/C Ratio(X)	0.72	0.24	0.89	0.61	0.76	
Avail Cap(c_a), veh/h	1131	624	1395	2912	548	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	15.8	17.2	5.0	26.5	0.0
Incr Delay (d2), s/veh	1.3	0.3	6.8	0.3	8.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	1.1	6.5	1.6	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	16.1	24.1	5.3	34.9	0.0
LnGrp LOS	C	B	C	A	C	
Approach Vol, veh/h	658			2618	102	A
Approach Delay, s/veh	21.5			13.4	34.9	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.4	20.6			47.9	10.5
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 24	18.6			47.9	18.0
Max Q Clear Time (g_c+I1), s	20.0	10.4			15.3	5.3
Green Ext Time (p_c), s	1.7	2.2			12.4	0.2

Intersection Summary

HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	1132	17	20	2494	45	27
Future Volume (vph)	1132	17	20	2494	45	27
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	10.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	38.1	14.7	33.0	38.1	14.7
Total Split (s)	94.7	40.1	25.2	119.9	40.1	25.2
Total Split (%)	59.2%	25.1%	15.8%	74.9%	25.1%	15.8%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160

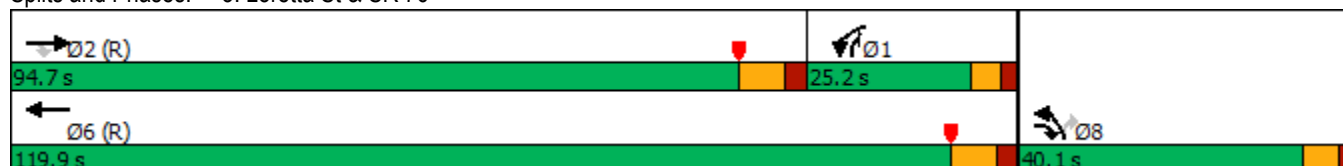
Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	1132	17	20	2494	45	27
Future Volume (veh/h)	1132	17	20	2494	45	27
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	1870	1870
Adj Flow Rate, veh/h	1167	18	21	2571	46	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1331	688	761	3027	107	773
Arrive On Green	0.37	0.37	0.43	0.85	0.06	0.06
Sat Flow, veh/h	3647	1583	1781	3647	1781	1585
Grp Volume(v), veh/h	1167	18	21	2571	46	28
Grp Sat Flow(s),veh/h/ln	1777	1583	1781	1777	1781	1585
Q Serve(g_s), s	48.9	1.0	1.1	62.1	4.0	0.0
Cycle Q Clear(g_c), s	48.9	1.0	1.1	62.1	4.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1331	688	761	3027	107	773
V/C Ratio(X)	0.88	0.03	0.03	0.85	0.43	0.04
Avail Cap(c_a), veh/h	1926	953	761	3027	379	1014
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	25.9	26.6	6.4	72.5	21.4
Incr Delay (d2), s/veh	4.9	0.0	0.0	3.2	2.7	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	21.6	0.4	0.5	13.5	1.9	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.5	25.9	26.6	9.6	75.2	21.4
LnGrp LOS	D	C	C	A	E	C
Approach Vol, veh/h	1185			2592	74	
Approach Delay, s/veh	51.1			9.7	54.9	
Approach LOS	D			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	76.4	67.9			144.3	15.7
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	19.5	* 87			111.9	34.0
Max Q Clear Time (g_c+I1), s	3.1	50.9			64.1	6.0
Green Ext Time (p_c), s	0.0	9.0			35.6	0.2
Intersection Summary						
HCM 6th Ctrl Delay			23.3			
HCM 6th LOS			C			
Notes						

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

Existing + Project AM
4: Canyon Dr & SR 76

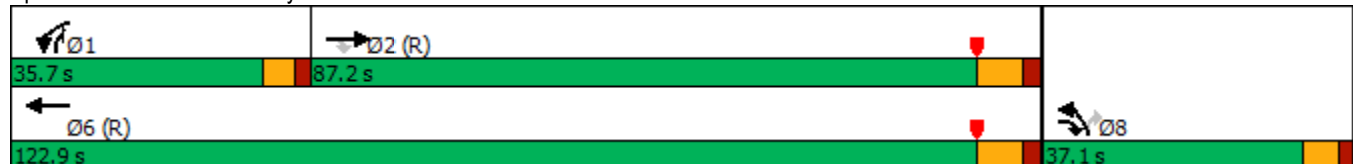
Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	1148	11	127	2491	23	131
Future Volume (vph)	1148	11	127	2491	23	131
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	39.1	15.7	33.0	39.1	15.7
Total Split (s)	87.2	37.1	35.7	122.9	37.1	35.7
Total Split (%)	54.5%	23.2%	22.3%	76.8%	23.2%	22.3%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 141 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing + Project AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (veh/h)	1148	11	127	2491	23	131
Future Volume (veh/h)	1148	11	127	2491	23	131
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	1234	12	137	2678	25	141
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2458	1223	160	2904	328	293
Arrive On Green	0.69	0.69	0.09	0.82	0.09	0.09
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	1234	12	137	2678	25	141
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	26.2	0.3	12.1	89.5	1.1	12.7
Cycle Q Clear(g_c), s	26.2	0.3	12.1	89.5	1.1	12.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2458	1223	160	2904	328	293
V/C Ratio(X)	0.50	0.01	0.86	0.92	0.08	0.48
Avail Cap(c_a), veh/h	2458	1223	334	2904	670	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	11.7	3.7	71.8	10.9	66.0	58.4
Incr Delay (d2), s/veh	0.7	0.0	1.3	0.6	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.1	5.5	22.7	0.5	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	3.7	73.1	11.5	66.1	59.6
LnGrp LOS	B	A	E	B	E	E
Approach Vol, veh/h	1246			2815	166	
Approach Delay, s/veh	12.3			14.5	60.6	
Approach LOS	B			B	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.1	118.7			138.7	21.3
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 30	79.2			114.9	31.0
Max Q Clear Time (g_c+I1), s	14.1	28.2			91.5	14.7
Green Ext Time (p_c), s	0.3	10.3			20.5	0.4
Intersection Summary						
HCM 6th Ctrl Delay			15.7			
HCM 6th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Existing + Project AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1088	111	43	2159	11	73	22	53	11	17	229
Future Volume (vph)	79	1088	111	43	2159	11	73	22	53	11	17	229
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	23.7	50.1	50.1	20.7	21.1	20.7
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	14.8%	31.3%	31.3%	12.9%	13.2%	12.9%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

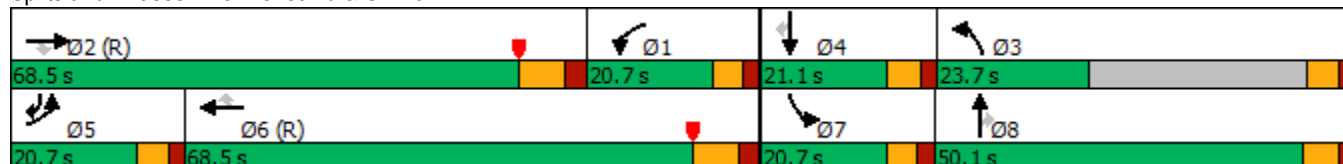
Actuated Cycle Length: 160

Offset: 69 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Project AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1088	111	43	2159	11	73	22	53	11	17	229
Future Volume (veh/h)	79	1088	111	43	2159	11	73	22	53	11	17	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
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	86	1183	121	47	2347	12	79	24	58	12	18	249
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1276	563	531	2104	939	130	258	219	55	175	271
Arrive On Green	0.08	0.36	0.36	0.60	1.00	1.00	0.07	0.14	0.14	0.03	0.09	0.09
Sat Flow, veh/h	1781	3554	1570	1781	3554	1585	1781	1870	1585	1781	1870	1542
Grp Volume(v), veh/h	86	1183	121	47	2347	12	79	24	58	12	18	249
Grp Sat Flow(s),veh/h/ln	1781	1777	1570	1781	1777	1585	1781	1870	1585	1781	1870	1542
Q Serve(g_s), s	7.5	51.2	8.6	1.8	0.0	0.0	6.9	1.8	2.9	1.1	1.4	15.0
Cycle Q Clear(g_c), s	7.5	51.2	8.6	1.8	0.0	0.0	6.9	1.8	2.9	1.1	1.4	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	1276	563	531	2104	939	130	258	219	55	175	271
V/C Ratio(X)	0.61	0.93	0.21	0.09	1.12	0.01	0.61	0.09	0.27	0.22	0.10	0.92
Avail Cap(c_a), veh/h	167	1344	594	531	2104	939	200	514	436	167	175	271
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	49.3	35.6	23.0	0.0	0.0	72.0	60.2	18.8	75.6	66.3	43.8
Incr Delay (d2), s/veh	3.9	11.4	0.7	0.0	52.6	0.0	4.6	0.2	0.6	1.9	0.3	34.3
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	3.5	23.7	3.5	0.7	15.4	0.0	3.3	0.9	2.1	0.5	0.7	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.1	60.6	36.4	23.0	52.6	0.0	76.5	60.4	19.4	77.6	66.6	78.1
LnGrp LOS	E	E	D	C	F	A	E	E	B	E	E	E
Approach Vol, veh/h		1390			2406			161			279	
Approach Delay, s/veh		59.4			51.8			53.6			77.3	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	55.7	65.4	17.7	21.1	18.4	102.7	10.7	28.2				
Change Period (Y+Rc), s	8.0	* 8	6.1	* 6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 61	18.0	* 15	* 15	60.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	3.8	53.2	8.9	17.0	9.5	2.0	3.1	4.9				
Green Ext Time (p_c), s	0.0	4.2	0.1	0.0	0.1	35.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			56.1									
HCM 6th LOS			E									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	24	1423	37	36	2218	25	60	27	38	31	11
Future Volume (vph)	24	1423	37	36	2218	25	60	27	38	31	11
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	78.5	78.5	20.7	78.5	78.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	12.9%	49.1%	49.1%	12.9%	49.1%	49.1%	12.9%	28.2%	9.8%	13.2%	13.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160

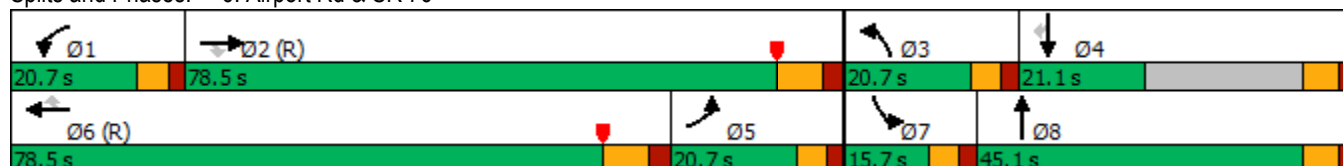
Actuated Cycle Length: 160

Offset: 83 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Existing + Project AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1423	37	36	2218	25	60	27	91	38	31	11
Future Volume (veh/h)	24	1423	37	36	2218	25	60	27	91	38	31	11
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	25	1482	39	38	2310	26	62	28	95	40	32	11
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	433	2319	1034	82	1566	698	134	34	115	93	126	107
Arrive On Green	0.49	1.00	1.00	0.09	0.88	0.88	0.07	0.09	0.09	0.05	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	374	1268	1781	1870	1585
Grp Volume(v), veh/h	25	1482	39	38	2310	26	62	0	123	40	32	11
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1642	1781	1870	1585
Q Serve(g_s), s	1.2	0.0	0.0	3.2	70.5	0.2	5.3	0.0	11.8	3.5	2.6	0.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.2	70.5	0.2	5.3	0.0	11.8	3.5	2.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		1.00
Lane Grp Cap(c), veh/h	433	2319	1034	82	1566	698	134	0	148	93	126	107
V/C Ratio(X)	0.06	0.64	0.04	0.47	1.48	0.04	0.46	0.00	0.83	0.43	0.25	0.10
Avail Cap(c_a), veh/h	433	2319	1034	167	1566	698	167	0	400	111	175	149
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.09	0.09	0.09	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	0.0	70.8	9.5	3.0	70.9	0.0	71.5	73.6	70.8	29.1
Incr Delay (d2), s/veh	0.0	1.1	0.1	0.4	214.2	0.0	2.4	0.0	10.9	3.2	1.0	0.4
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	0.5	0.3	0.0	1.4	50.4	0.1	2.5	0.0	5.4	1.7	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	1.1	0.1	71.2	223.7	3.0	73.4	0.0	82.4	76.7	71.8	29.5
LnGrp LOS	C	A	A	E	F	A	E	A	F	E	E	C
Approach Vol, veh/h		1546			2374			185			83	
Approach Delay, s/veh		1.5			218.8			79.4			68.6	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	112.4	17.7	16.9	46.9	78.5	14.0	20.6				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	70.5	* 15	15.0	15.0	* 71	* 10	39.0				
Max Q Clear Time (g_c+I1), s	5.2	2.0	7.3	4.6	3.2	72.5	5.5	13.8				
Green Ext Time (p_c), s	0.0	14.8	0.1	0.1	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			129.5									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project AM
7: Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	1371	44	52	2038	75	37	81	51	106	92	213
Future Volume (vph)	161	1371	44	52	2038	75	37	81	51	106	92	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	48.0	48.0	18.7	52.1	52.1	18.7	19.1	19.1
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	13.6%	32.6%	32.6%	11.7%	12.6%	12.6%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

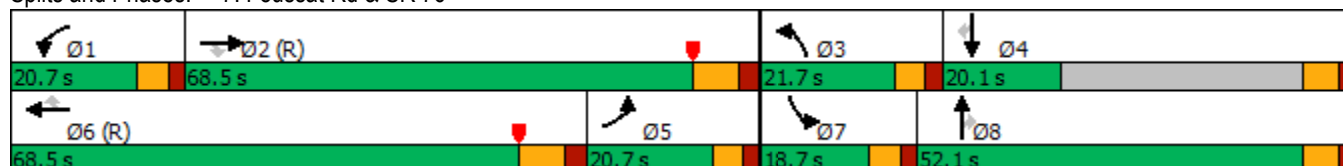
Actuated Cycle Length: 160

Offset: 53 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd & SR 76



Existing + Project AM
7: Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	1371	44	52	2038	75	37	81	51	106	92	213
Future Volume (veh/h)	161	1371	44	52	2038	75	37	81	51	106	92	213
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	163	1385	44	53	2059	76	37	82	52	107	93	215
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1011	2193	978	235	1344	599	227	267	119	278	320	251
Arrive On Green	0.59	1.00	1.00	0.07	0.38	0.38	0.07	0.07	0.07	0.08	0.09	0.09
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	163	1385	44	53	2059	76	37	82	52	107	93	215
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	3.5	0.0	0.0	2.3	60.5	3.7	1.6	3.5	5.0	4.7	3.9	7.1
Cycle Q Clear(g_c), s	3.5	0.0	0.0	2.3	60.5	3.7	1.6	3.5	5.0	4.7	3.9	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1011	2193	978	235	1344	599	227	267	119	278	320	251
V/C Ratio(X)	0.16	0.63	0.04	0.23	1.53	0.13	0.16	0.31	0.44	0.38	0.29	0.86
Avail Cap(c_a), veh/h	1011	2193	978	324	1344	599	346	1022	456	281	320	251
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	0.0	70.6	49.8	17.4	70.6	70.1	70.8	69.8	68.0	24.3
Incr Delay (d2), s/veh	0.1	1.0	0.1	0.5	243.3	0.4	0.3	0.6	2.4	0.9	0.5	24.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.3	0.0	1.0	70.9	2.0	0.7	1.6	2.1	2.1	1.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	1.0	0.1	71.1	293.1	17.9	70.9	70.7	73.2	70.7	68.5	48.4
LnGrp LOS	C	A	A	E	F	B	E	E	E	E	E	D
Approach Vol, veh/h		1592			2188			171			415	
Approach Delay, s/veh		3.3			278.1			71.5			58.7	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.6	106.7	16.2	20.5	54.8	68.5	18.6	18.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 16	14.0	15.0	* 61	* 13	46.0				
Max Q Clear Time (g_c+I1), s	4.3	2.0	3.6	9.1	5.5	62.5	6.7	7.0				
Green Ext Time (p_c), s	0.1	12.9	0.0	0.6	0.3	0.0	0.1	0.7				

Intersection Summary

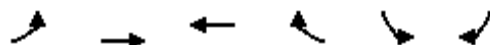
HCM 6th Ctrl Delay	149.0
HCM 6th LOS	F

Notes

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

Existing + Project AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	275	878	1690	214	284	549	
Future Volume (vph)	275	878	1690	214	284	549	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	90.8	55.1	55.1	19.1	35.7	50.1
Total Split (%)	22.3%	56.8%	34.4%	34.4%	11.9%	22.3%	31%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 160

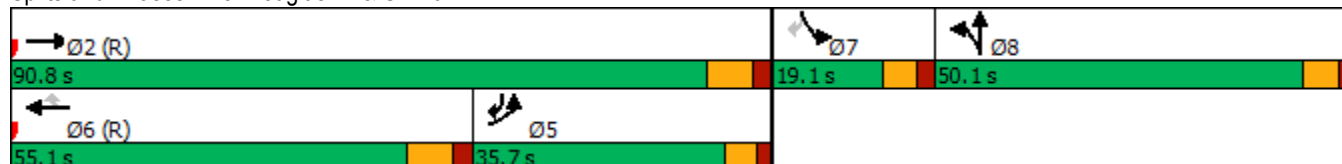
Actuated Cycle Length: 160

Offset: 131 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: Douglas Dr & SR 76

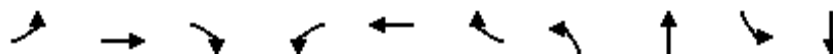


Existing + Project AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	275	878	0	0	1690	214	0	0	0	284	0	549
Future Volume (veh/h)	275	878	0	0	1690	214	0	0	0	284	0	549
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	299	954	0	0	1837	233	0	0	0	309	0	597
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	2093	3376	0	0	1046	467	0	1	0	0	0	0
Arrive On Green	0.61	0.95	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	299	954	0	0	1837	233	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	6.0	2.9	0.0	0.0	47.1	19.5	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	6.0	2.9	0.0	0.0	47.1	19.5	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	2093	3376	0	0	1046	467	0	1	0			
V/C Ratio(X)	0.14	0.28	0.00	0.00	1.76	0.50	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	2093	3376	0	0	1046	467	0	514	0			
HCM Platoon Ratio	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	0.09	0.09	0.00	0.00	0.00			
Uniform Delay (d), s/veh	13.6	0.3	0.0	0.0	56.4	46.7	0.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	340.6	0.3	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			
%ile BackOfQ(50%),veh/ln	2.3	0.1	0.0	0.0	70.6	7.8	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.5	0.0	0.0	397.0	47.0	0.0	0.0	0.0			
LnGrp LOS	B	A	A	A	F	D	A	A	A			
Approach Vol, veh/h	1253			2070			0					
Approach Delay, s/veh	3.6			357.6			0.0					
Approach LOS	A			F								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	160.0			104.9			55.1			0.0		
Change Period (Y+Rc), s	8.0			8.0			* 8			6.1		
Max Green Setting (Gmax), s	82.8			30.0			* 47			44.0		
Max Q Clear Time (g_c+I1), s	4.9			8.0			49.1			0.0		
Green Ext Time (p_c), s	7.3			0.9			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	224.1											
HCM 6th LOS	F											
Notes												

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	49	856	234	346	1498	81	274	384	49	337
Future Volume (vph)	49	856	234	346	1498	81	274	384	49	337
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	26.5	26.5	60.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	16.6%	16.6%	37.9%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

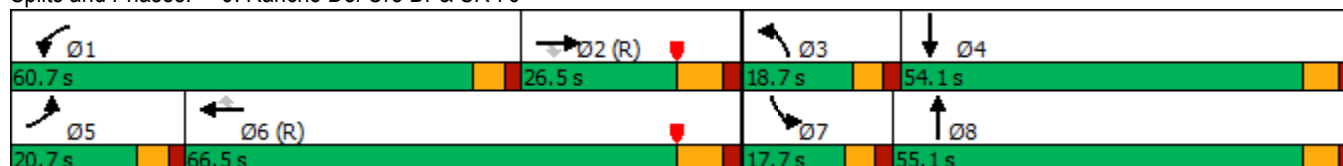
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



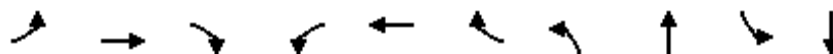
Existing + Project AM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	856	234	346	1498	81	274	384	346	49	337	64
Future Volume (veh/h)	49	856	234	346	1498	81	274	384	346	49	337	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	53	930	254	376	1628	88	298	417	364	53	366	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1350	594	439	1499	669	281	475	412	235	751	142
Arrive On Green	0.03	0.13	0.13	0.13	0.42	0.42	0.08	0.27	0.27	0.07	0.25	0.25
Sat Flow, veh/h	1781	3554	1564	3456	3554	1585	3456	1784	1547	3456	2972	562
Grp Volume(v), veh/h	53	930	254	376	1628	88	298	415	366	53	217	219
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1777	1585	1728	1777	1555	1728	1777	1758
Q Serve(g_s), s	4.7	40.1	24.0	17.1	67.5	5.4	13.0	35.8	36.1	2.3	16.6	17.0
Cycle Q Clear(g_c), s	4.7	40.1	24.0	17.1	67.5	5.4	13.0	35.8	36.1	2.3	16.6	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	151	1350	594	439	1499	669	281	473	413	235	449	444
V/C Ratio(X)	0.35	0.69	0.43	0.86	1.09	0.13	1.06	0.88	0.88	0.23	0.48	0.49
Avail Cap(c_a), veh/h	167	1350	594	1188	1499	669	281	544	476	259	533	527
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	73.4	60.9	53.9	68.4	46.2	28.3	73.5	56.2	56.4	70.6	50.9	51.0
Incr Delay (d2), s/veh	0.7	1.4	1.1	4.9	50.3	0.4	70.8	13.8	16.2	0.4	0.6	0.7
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	2.2	19.4	10.3	7.6	38.6	2.1	8.5	17.6	15.8	1.0	7.4	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	62.3	55.0	73.3	96.5	28.7	144.3	70.1	72.5	71.0	51.6	51.7
LnGrp LOS	E	E	D	E	F	C	F	E	E	E	D	D
Approach Vol, veh/h		1237			2092			1079			489	
Approach Delay, s/veh		61.3			89.5			91.4			53.7	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	68.8	18.7	46.5	19.3	75.5	16.6	48.7				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 55	18.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	19.1	42.1	15.0	19.0	6.7	69.5	4.3	38.1				
Green Ext Time (p_c), s	1.3	0.0	0.0	2.4	0.0	0.0	0.1	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			79.2									
HCM 6th LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	65	548	144	107	1109	146	278	105	143	161
Future Volume (vph)	65	548	144	107	1109	146	278	105	143	161
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	7.0	6.0	6.0	7.0	7.0	6.0	8.0	6.0	8.0
Minimum Split (s)	11.1	36.8	11.1	11.4	36.4	36.4	11.1	34.8	11.1	34.8
Total Split (s)	18.0	24.0	17.0	27.0	33.0	33.0	17.0	52.0	17.0	52.0
Total Split (%)	15.0%	20.0%	14.2%	22.5%	27.5%	27.5%	14.2%	43.3%	14.2%	43.3%
Yellow Time (s)	4.1	4.8	4.1	4.4	4.4	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.4	5.4	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Min	None	Min

Intersection Summary

Cycle Length: 120

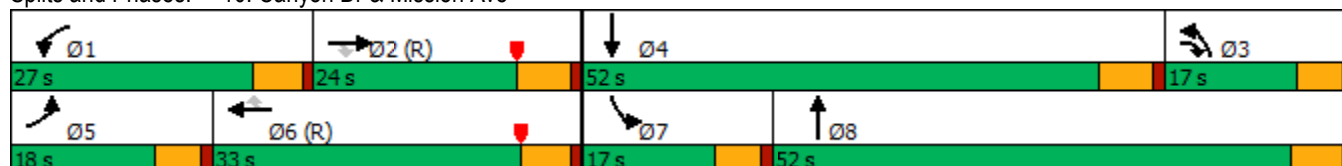
Actuated Cycle Length: 120

Offset: 89.4 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Timings

N:\3145\Analysis\Synchro\03 Ex + P AM.syn

Synchro 10 Report

Existing + Project AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	548	144	107	1109	146	278	105	64	143	161	45
Future Volume (veh/h)	65	548	144	107	1109	146	278	105	64	143	161	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.85	1.00		0.89	1.00		0.90
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	77	652	171	127	1320	174	331	125	76	170	192	54
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1398	753	155	1520	575	343	571	310	229	621	167
Arrive On Green	0.06	0.39	0.39	0.09	0.43	0.43	0.10	0.27	0.27	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1515	1781	3554	1344	3456	2121	1154	3456	2698	725
Grp Volume(v), veh/h	77	652	171	127	1320	174	331	102	99	170	123	123
Grp Sat Flow(s),veh/h/ln	1781	1777	1515	1781	1777	1344	1728	1777	1498	1728	1777	1646
Q Serve(g_s), s	5.1	16.4	2.0	8.4	40.6	10.2	11.5	5.4	6.2	5.8	6.9	7.4
Cycle Q Clear(g_c), s	5.1	16.4	2.0	8.4	40.6	10.2	11.5	5.4	6.2	5.8	6.9	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.44
Lane Grp Cap(c), veh/h	98	1398	753	155	1520	575	343	478	403	229	409	379
V/C Ratio(X)	0.78	0.47	0.23	0.82	0.87	0.30	0.97	0.21	0.24	0.74	0.30	0.32
Avail Cap(c_a), veh/h	191	1398	753	321	1520	575	343	684	577	343	684	634
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(l)	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	56.0	27.0	6.4	53.8	31.3	22.6	53.8	34.0	34.3	55.0	38.2	38.4
Incr Delay (d2), s/veh	12.6	1.1	0.7	10.0	7.0	1.4	39.4	0.2	0.3	4.7	0.4	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	2.6	7.0	1.4	4.1	18.0	3.4	6.8	2.4	2.3	2.7	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.5	28.2	7.1	63.8	38.3	23.9	93.3	34.2	34.6	59.7	38.6	38.9
LnGrp LOS	E	C	A	E	D	C	F	C	C	E	D	D
Approach Vol, veh/h		900			1621			532			416	
Approach Delay, s/veh		27.6			38.7			71.0			47.3	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	53.0	17.7	33.4	11.7	57.1	13.1	38.1				
Change Period (Y+Rc), s	5.4	5.8	5.8	* 5.8	5.1	* 5.8	5.1	5.8				
Max Green Setting (Gmax), s	21.6	18.2	11.9	* 46	12.9	* 28	11.9	46.2				
Max Q Clear Time (g_c+I1), s	10.4	18.4	13.5	9.4	7.1	42.6	7.8	8.2				
Green Ext Time (p_c), s	0.2	0.0	0.0	1.6	0.1	0.0	0.2	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			41.8									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
User approved changes to right turn type.												

Existing + Project AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø7
Lane Configurations									
Traffic Volume (vph)	3	463	122	45	1066	0	0		
Future Volume (vph)	3	463	122	45	1066	0	0		
Turn Type	Prot	NA	Perm	Prot	NA	NA	NA		
Protected Phases	5	2		1	6	8	4	3	7
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	4		
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	3.0	3.0
Minimum Split (s)	10.4	43.2	43.2	10.4	43.2	25.2	25.2	10.4	10.4
Total Split (s)	10.4	43.4	43.4	11.0	44.0	25.2	25.2	10.4	10.4
Total Split (%)	11.6%	48.2%	48.2%	12.2%	48.9%	28.0%	28.0%	12%	12%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	3.6	3.6	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.4	6.2	6.2	5.4	6.2	4.6	4.6		
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 62.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

11 s	43.4 s	10.4 s	25.2 s
10.4 s	44 s	10.4 s	25.2 s

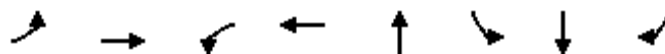
Existing + Project AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	463	122	45	1066	3	188	0	24	1	0	1
Future Volume (veh/h)	3	463	122	45	1066	3	188	0	24	1	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
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	3	526	139	51	1211	3	214	0	27	1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	1609	700	94	1823	5	0	0	208	0	0	205
Arrive On Green	0.00	0.45	0.45	0.05	0.50	0.50	0.00	0.00	0.13	0.00	0.00	0.13
Sat Flow, veh/h	1781	3554	1546	1781	3636	9	0	0	1582	0	0	1560
Grp Volume(v), veh/h	3	526	139	51	592	622	0	0	27	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1777	1869	0	0	1582	0	0	1560
Q Serve(g_s), s	0.1	4.2	2.4	1.2	11.1	11.1	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	4.2	2.4	1.2	11.1	11.1	0.0	0.0	0.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	7	1609	700	94	891	937	0	0	208	0	0	205
V/C Ratio(X)	0.41	0.33	0.20	0.55	0.66	0.66	0.00	0.00	0.13	0.00	0.00	0.00
Avail Cap(c_a), veh/h	200	2964	1290	224	1506	1584	0	0	730	0	0	720
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	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	7.8	7.3	20.6	8.3	8.3	0.0	0.0	17.1	0.0	0.0	16.8
Incr Delay (d2), s/veh	33.2	0.1	0.1	4.9	0.9	0.8	0.0	0.0	0.3	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	0.1	1.1	0.5	0.6	2.7	2.9	0.0	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	8.0	7.5	25.5	9.2	9.1	0.0	0.0	17.4	0.0	0.0	16.8
LnGrp LOS	E	A	A	C	A	A	A	A	B	A	A	B
Approach Vol, veh/h		668			1265			27			1	
Approach Delay, s/veh		8.1			9.8			17.4			16.8	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	26.4	0.0	10.5	5.6	28.6	0.0	10.5				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	3.2	6.2	0.0	2.0	2.1	13.1	0.0	2.7				
Green Ext Time (p_c), s	0.0	4.0	0.0	0.0	0.0	8.5	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

Existing + Project AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	30	617	7	1113	20	32	17	22
Future Volume (vph)	30	617	7	1113	20	32	17	22
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	5.0	5.0	5.0
Minimum Split (s)	10.4	30.8	10.4	30.8	25.0	23.4	23.4	23.4
Total Split (s)	20.0	30.0	20.0	30.0	25.0	25.0	25.0	25.0
Total Split (%)	20.0%	30.0%	20.0%	30.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	30 s	25 s	25 s
Ø5	Ø6 (R)		
20 s	30 s		

Timings

N:\3145\Analysis\Synchro\03 Ex + P AM.syn

Synchro 10 Report

Existing + Project AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	617	6	7	1113	69	13	20	19	32	17	22
Future Volume (veh/h)	30	617	6	7	1113	69	13	20	19	32	17	22
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	31	636	6	7	1147	71	13	21	20	26	28	23
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	51	2445	23	16	2236	138	26	42	40	79	83	70
Arrive On Green	0.03	0.68	0.68	0.01	0.87	0.87	0.06	0.06	0.06	0.04	0.04	0.04
Sat Flow, veh/h	1781	3607	34	1781	3399	210	417	674	642	1781	1870	1585
Grp Volume(v), veh/h	31	313	329	7	599	619	54	0	0	26	28	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1833	1734	0	0	1781	1870	1585
Q Serve(g_s), s	1.7	6.9	6.9	0.4	7.6	7.7	3.0	0.0	0.0	1.4	1.5	1.4
Cycle Q Clear(g_c), s	1.7	6.9	6.9	0.4	7.6	7.7	3.0	0.0	0.0	1.4	1.5	1.4
Prop In Lane	1.00		0.02	1.00		0.11	0.24		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	51	1205	1264	16	1169	1206	108	0	0	79	83	70
V/C Ratio(X)	0.60	0.26	0.26	0.44	0.51	0.51	0.50	0.00	0.00	0.33	0.34	0.33
Avail Cap(c_a), veh/h	260	1205	1264	260	1169	1206	354	0	0	365	383	325
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	0.00	0.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	48.0	6.3	6.3	49.2	2.6	2.6	45.4	0.0	0.0	46.4	46.4	46.4
Incr Delay (d2), s/veh	10.8	0.5	0.5	16.5	1.4	1.4	3.6	0.0	0.0	2.4	2.4	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	0.9	2.3	2.4	0.2	2.0	2.1	1.4	0.0	0.0	0.7	0.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	6.8	6.8	65.7	4.0	4.0	49.0	0.0	0.0	48.8	48.8	49.0
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	D	D
Approach Vol, veh/h	673			1225			54			77		
Approach Delay, s/veh	9.2			4.4			49.0			48.8		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	74.0		8.9	8.3	72.0		10.8				
Change Period (Y+Rc), s	5.4	6.2		4.5	5.4	6.2		4.6				
Max Green Setting (Gmax), s	14.6	23.8		20.5	14.6	23.8		20.4				
Max Q Clear Time (g_c+I1), s	2.4	8.9		3.5	3.7	9.7		5.0				
Green Ext Time (p_c), s	0.0	3.2		0.2	0.0	6.6		0.2				

Intersection Summary

HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Existing + Project AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	17	622	46	1161	22	0	46	19	0	10
Future Volume (vph)	17	622	46	1161	22	0	46	19	0	10
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	32.9	32.9	32.9	32.9	32.9	32.9
Total Split (s)	26.0	40.0	26.0	40.0	34.0	34.0	34.0	34.0	34.0	34.0
Total Split (%)	26.0%	40.0%	26.0%	40.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 72 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Existing + Project AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	622	22	46	1161	19	22	0	46	19	0	10
Future Volume (veh/h)	17	622	22	46	1161	19	22	0	46	19	0	10
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	18	641	23	47	1197	20	23	0	47	20	0	10
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	35	2144	77	65	2251	38	78	0	309	78	0	309
Arrive On Green	0.04	1.00	1.00	0.07	1.00	1.00	0.19	0.00	0.19	0.19	0.00	0.19
Sat Flow, veh/h	1781	3499	125	1781	3577	60	29	0	1585	28	0	1585
Grp Volume(v), veh/h	18	325	339	47	595	622	23	0	47	20	0	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1860	29	0	1585	28	0	1585
Q Serve(g_s), s	1.0	0.0	0.0	2.6	0.0	0.0	0.4	0.0	2.5	0.4	0.0	0.5
Cycle Q Clear(g_c), s	1.0	0.0	0.0	2.6	0.0	0.0	19.5	0.0	2.5	19.5	0.0	0.5
Prop In Lane	1.00		0.07	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	35	1089	1132	65	1118	1171	78	0	309	78	0	309
V/C Ratio(X)	0.51	0.30	0.30	0.72	0.53	0.53	0.30	0.00	0.15	0.26	0.00	0.03
Avail Cap(c_a), veh/h	372	1089	1132	372	1118	1171	216	0	464	211	0	464
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.78	0.78	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	0.0	0.0	45.9	0.0	0.0	49.9	0.0	33.4	49.9	0.0	32.6
Incr Delay (d2), s/veh	10.8	0.7	0.7	11.2	1.4	1.4	2.1	0.0	0.2	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	0.2	1.3	0.4	0.4	0.6	0.0	1.0	0.5	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	0.7	0.7	57.1	1.4	1.4	52.0	0.0	33.6	51.7	0.0	32.7
LnGrp LOS	E	A	A	E	A	A	D	A	C	D	A	C
Approach Vol, veh/h	682				1264				70			
Approach Delay, s/veh	2.2				3.5				39.7			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	66.7		24.6	7.1	68.4		24.6				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	20.9	34.2		* 29	20.9	34.2		* 29				
Max Q Clear Time (g_c+I1), s	4.6	2.0		21.5	3.0	2.0		21.5				
Green Ext Time (p_c), s	0.1	4.1		0.0	0.0	8.9		0.1				

Intersection Summary

HCM 6th Ctrl Delay	4.9
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Project AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	53	580	22	1115	30	37	124	32	130	77
Future Volume (vph)	53	580	22	1115	30	37	124	32	130	77
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	30.7	10.6	11.1	30.5	10.6	30.5	11.1
Total Split (s)	20.0	35.0	15.0	30.0	20.0	20.0	30.0	20.0	30.0	20.0
Total Split (%)	20.0%	35.0%	15.0%	30.0%	20.0%	20.0%	30.0%	20.0%	30.0%	20.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	Min	None

Intersection Summary

Cycle Length: 100

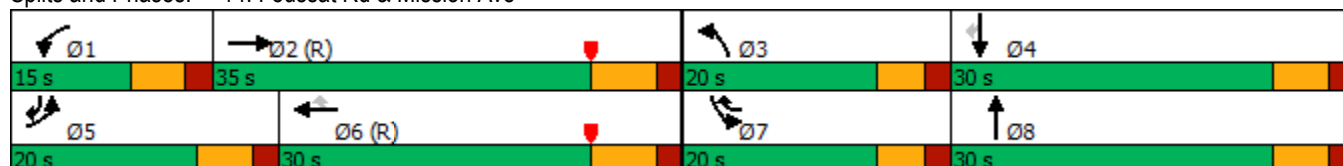
Actuated Cycle Length: 100

Offset: 52 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



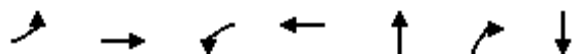
Existing + Project AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	580	38	22	1115	30	37	124	35	32	130	77
Future Volume (veh/h)	53	580	38	22	1115	30	37	124	35	32	130	77
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	55	604	40	23	1161	31	39	129	36	33	135	80
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	71	2118	140	42	2167	1014	114	206	56	104	254	310
Arrive On Green	0.08	1.00	1.00	0.05	1.00	1.00	0.03	0.07	0.07	0.03	0.07	0.07
Sat Flow, veh/h	1781	3383	224	1781	3554	1585	3456	2766	747	3456	3554	2790
Grp Volume(v), veh/h	55	317	327	23	1161	31	39	81	84	33	135	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1830	1781	1777	1585	1728	1777	1736	1728	1777	1395
Q Serve(g_s), s	3.0	0.0	0.0	1.3	0.0	0.0	1.1	4.4	4.7	0.9	3.7	2.6
Cycle Q Clear(g_c), s	3.0	0.0	0.0	1.3	0.0	0.0	1.1	4.4	4.7	0.9	3.7	2.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	71	1112	1146	42	2167	1014	114	132	129	104	254	310
V/C Ratio(X)	0.78	0.28	0.29	0.55	0.54	0.03	0.34	0.62	0.65	0.32	0.53	0.26
Avail Cap(c_a), veh/h	248	1112	1146	159	2167	1014	498	425	415	498	849	778
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	0.0	0.0	47.1	0.0	0.0	47.3	44.9	45.0	47.5	44.8	40.7
Incr Delay (d2), s/veh	16.1	0.6	0.6	9.6	0.9	0.1	1.8	4.6	5.3	1.7	1.7	0.4
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	1.6	0.2	0.2	0.6	0.3	0.0	0.5	2.1	2.2	0.4	1.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	0.6	0.6	56.7	0.9	0.1	49.0	49.5	50.3	49.2	46.6	41.1
LnGrp LOS	E	A	A	E	A	A	D	D	D	D	D	D
Approach Vol, veh/h		699			1215			204			248	
Approach Delay, s/veh		5.4			1.9			49.7			45.2	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	69.4	8.9	13.2	10.1	67.8	8.6	13.5				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.1	6.8	5.6	6.1				
Max Green Setting (Gmax), s	8.9	28.2	14.4	23.9	13.9	23.2	14.4	23.9				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.1	5.7	5.0	2.0	2.9	6.7				
Green Ext Time (p_c), s	0.0	3.7	0.0	1.0	0.1	8.1	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing + Project AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	7	527	91	1095	6	41	0
Future Volume (vph)	7	527	91	1095	6	41	0
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	20.8	30.0	9.5	13.8
Total Split (s)	20.0	35.0	20.0	35.0	30.0	20.0	15.0
Total Split (%)	20.0%	35.0%	20.0%	35.0%	30.0%	20.0%	15.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 60 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	35 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	35 s		

Existing + Project AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	527	90	91	1095	8	47	6	41	4	0	7
Future Volume (veh/h)	7	527	90	91	1095	8	47	6	41	4	0	7
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	7	543	93	94	1129	8	48	6	42	4	0	7
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	9	2005	342	119	2612	19	78	10	184	11	0	19
Arrive On Green	0.01	1.00	1.00	0.13	1.00	1.00	0.05	0.05	0.05	0.02	0.00	0.02
Sat Flow, veh/h	1781	3036	518	1781	3617	26	1592	199	1585	600	0	1051
Grp Volume(v), veh/h	7	317	319	94	555	582	54	0	42	11	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1781	1777	1866	1791	0	1585	1651	0	0
Q Serve(g_s), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.01	0.89		1.00	0.36		0.64
Lane Grp Cap(c), veh/h	9	1174	1174	119	1283	1347	88	0	184	30	0	0
V/C Ratio(X)	0.74	0.27	0.27	0.79	0.43	0.43	0.61	0.00	0.23	0.36	0.00	0.00
Avail Cap(c_a), veh/h	265	1174	1174	265	1283	1347	455	0	509	165	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.96	0.96	0.96	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	42.6	0.0	0.0	46.6	0.0	40.1	48.5	0.0	0.0
Incr Delay (d2), s/veh	70.5	0.5	0.5	10.1	1.0	0.9	6.7	0.0	0.6	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.2	2.4	0.3	0.3	1.5	0.0	1.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.9	0.5	0.5	52.7	1.0	0.9	53.3	0.0	40.8	55.6	0.0	0.0
LnGrp LOS	F	A	A	D	A	A	D	A	D	E	A	A
Approach Vol, veh/h		643			1231			96			11	
Approach Delay, s/veh		1.8			4.9			47.8			55.6	
Approach LOS		A			A			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	71.9		6.8	5.6	78.0		9.5				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	29.2		10.0	14.9	29.2		25.4				
Max Q Clear Time (g_c+I1), s	7.1	2.0		2.7	2.4	2.0		5.0				
Green Ext Time (p_c), s	0.1	3.7		0.0	0.0	7.7		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			6.3									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑
Traffic Volume (vph)	519	69	1158	39
Future Volume (vph)	519	69	1158	39
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	40.0	30.0	70.0	30.0
Total Split (%)	40.0%	30.0%	70.0%	30.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



Existing + Project AM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 	 	
Traffic Volume (veh/h)	519	45	69	1158	39	48
Future Volume (veh/h)	519	45	69	1158	39	48
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	1870	1870
Adj Flow Rate, veh/h	541	47	72	1206	41	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2389	207	94	2934	52	64
Arrive On Green	1.00	1.00	0.07	1.00	0.07	0.07
Sat Flow, veh/h	3402	287	1781	3647	744	908
Grp Volume(v), veh/h	290	298	72	1206	92	0
Grp Sat Flow(s),veh/h/ln	1777	1819	1781	1777	1670	0
Q Serve(g_s), s	0.0	0.0	4.0	0.0	5.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.0	0.0	5.4	0.0
Prop In Lane		0.16	1.00		0.45	0.54
Lane Grp Cap(c), veh/h	1283	1313	94	2934	117	0
V/C Ratio(X)	0.23	0.23	0.77	0.41	0.78	0.00
Avail Cap(c_a), veh/h	1283	1313	444	2934	424	0
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.77	0.77	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	45.9	0.0	45.7	0.0
Incr Delay (d2), s/veh	0.4	0.4	9.6	0.3	10.8	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	0.1	0.1	1.9	0.1	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.4	0.4	55.5	0.3	56.6	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	588			1278	92	
Approach Delay, s/veh	0.4			3.4	56.6	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.4	78.0			88.4	11.6
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	34.2			64.2	25.4
Max Q Clear Time (g_c+I1), s	6.0	2.0			2.0	7.4
Green Ext Time (p_c), s	0.1	3.4			10.9	0.2
Intersection Summary						
HCM 6th Ctrl Delay			5.0			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Project AM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	70	492	1201	187	89
Future Volume (vph)	70	492	1201	187	89
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases					4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8	28.8
Total Split (s)	30.0	70.0	40.0	30.0	30.0
Total Split (%)	30.0%	70.0%	40.0%	30.0%	30.0%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

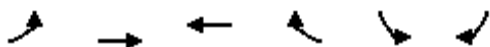
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing + Project AM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	492	1201	143	187	89
Future Volume (veh/h)	70	492	1201	143	187	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	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	1870	1870
Adj Flow Rate, veh/h	71	502	1226	146	191	91
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	92	2884	2258	268	292	134
Arrive On Green	0.10	1.00	1.00	1.00	0.08	0.08
Sat Flow, veh/h	1781	3647	3279	378	3456	1585
Grp Volume(v), veh/h	71	502	682	690	191	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1787	1728	1585
Q Serve(g_s), s	3.9	0.0	0.0	0.0	5.4	5.6
Cycle Q Clear(g_c), s	3.9	0.0	0.0	0.0	5.4	5.6
Prop In Lane	1.00			0.21	1.00	1.00
Lane Grp Cap(c), veh/h	92	2884	1260	1267	292	134
V/C Ratio(X)	0.77	0.17	0.54	0.55	0.66	0.68
Avail Cap(c_a), veh/h	444	2884	1260	1267	878	403
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.88	0.88	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	0.0	0.0	44.4	44.5
Incr Delay (d2), s/veh	12.4	0.1	1.5	1.5	2.5	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.1	0.5	0.5	2.4	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.6	0.1	1.5	1.5	46.9	50.4
LnGrp LOS	E	A	A	A	D	D
Approach Vol, veh/h		573	1372		282	
Approach Delay, s/veh		7.1	1.5		48.0	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		13.0	10.3	76.7
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		64.2		25.4	24.9	34.2
Max Q Clear Time (g_c+I1), s		2.0		7.6	5.9	2.0
Green Ext Time (p_c), s		3.4		0.9	0.1	10.9
Intersection Summary						
HCM 6th Ctrl Delay			8.8			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Project AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	23	691	1217	31	59	
Future Volume (vph)	23	691	1217	31	59	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	30.0	45.0	40.0	30.0	30.0	25.0
Total Split (%)	30.0%	45.0%	40.0%	30.0%	30.0%	25%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 8 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing + Project AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↰	↑↑		↰	↑
Traffic Volume (veh/h)	23	691	0	1217	9	31	59
Future Volume (veh/h)	23	691	0	1217	9	31	59
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	1870	1870
Adj Flow Rate, veh/h	24	727		1281	9	33	62
Peak Hour Factor	0.95	0.95		0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	59	2984		2733	19	100	89
Arrive On Green	0.07	1.00		0.76	0.76	0.06	0.06
Sat Flow, veh/h	1781	3647		3711	25	1781	1585
Grp Volume(v), veh/h	24	727		629	661	33	62
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1866	1781	1585
Q Serve(g_s), s	1.3	0.0		13.4	13.4	1.8	3.8
Cycle Q Clear(g_c), s	1.3	0.0		13.4	13.4	1.8	3.8
Prop In Lane	1.00				0.01	1.00	1.00
Lane Grp Cap(c), veh/h	59	2984		1342	1410	100	89
V/C Ratio(X)	0.41	0.24		0.47	0.47	0.33	0.70
Avail Cap(c_a), veh/h	444	2984		1342	1410	452	403
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98		0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	45.7	0.0		4.6	4.6	45.4	46.3
Incr Delay (d2), s/veh	4.3	0.2		0.9	0.8	1.9	9.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1		3.5	3.6	0.8	3.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	50.1	0.2		5.5	5.5	47.3	55.7
LnGrp LOS	D	A		A	A	D	E
Approach Vol, veh/h		751		1290		95	
Approach Delay, s/veh		1.8		5.5		52.7	
Approach LOS		A		A		D	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		89.8		10.2	8.4	81.4	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		39.2		25.4	24.9	34.2	
Max Q Clear Time (g_c+I1), s		2.0		5.8	3.3	15.4	
Green Ext Time (p_c), s		5.1		0.2	0.0	7.9	

Intersection Summary

HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

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

Existing + Project AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	172	373	153	148	555	174	212	89	86	730	429
Future Volume (vph)	172	373	153	148	555	174	212	89	86	730	429
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

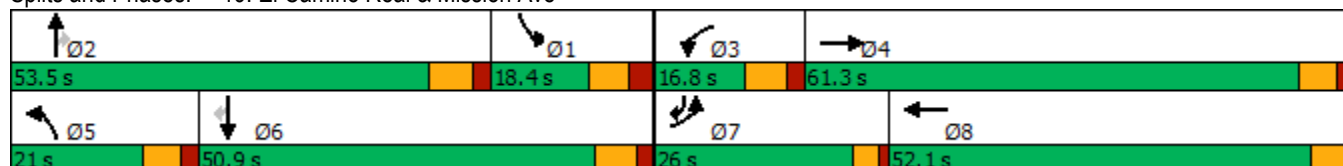
Cycle Length: 150

Actuated Cycle Length: 127.7

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing + Project AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	373	153	148	555	22	174	212	89	86	730	429
Future Volume (veh/h)	172	373	153	148	555	22	174	212	89	86	730	429
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	179	389	0	154	578	23	134	287	93	90	760	447
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	265	547		375	754	30	191	453	192	561	1189	652
Arrive On Green	0.08	0.15	0.00	0.11	0.22	0.22	0.11	0.12	0.12	0.32	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	3484	138	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	179	389	0	154	295	306	134	287	93	90	760	447
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1845	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	4.5	9.4	0.0	3.7	14.0	14.1	6.6	6.6	3.5	3.3	16.3	20.8
Cycle Q Clear(g_c), s	4.5	9.4	0.0	3.7	14.0	14.1	6.6	6.6	3.5	3.3	16.3	20.8
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	265	547		375	385	400	191	453	192	561	1189	652
V/C Ratio(X)	0.67	0.71		0.41	0.77	0.77	0.70	0.63	0.48	0.16	0.64	0.69
Avail Cap(c_a), veh/h	843	2167		383	928	964	290	1937	821	561	1738	897
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	36.3	0.0	37.5	33.2	33.2	38.9	37.7	18.4	22.3	25.4	21.8
Incr Delay (d2), s/veh	3.0	1.7	0.0	0.7	3.2	3.1	4.7	1.5	1.9	0.1	0.6	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	2.0	4.0	0.0	1.5	6.0	6.3	3.1	3.1	1.9	1.4	6.8	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	38.0	0.0	38.2	36.4	36.3	43.5	39.2	20.3	22.4	26.0	23.0
LnGrp LOS	D	D		D	D	D	D	D	C	C	C	C
Approach Vol, veh/h		568	A		755			514			1297	
Approach Delay, s/veh		39.7			36.7			36.9			24.7	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.7	17.7	16.6	20.2	16.0	37.5	10.9	25.8				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	5.3	8.6	5.7	11.4	8.6	22.8	6.5	16.1				
Green Ext Time (p_c), s	0.1	2.3	0.2	2.5	0.2	7.3	0.5	3.4				

Intersection Summary

HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Project AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	 	 			 		 		 
Traffic Volume (vph)	64	454	67	27	658	59	102	19	97
Future Volume (vph)	64	454	67	27	658	59	102	19	97
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 53.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Dr & Mission Ave

 Ø1	 Ø2	 Ø3	 Ø4
10.6 s	38.3 s	10.1 s	41 s
 Ø5	 Ø6	 Ø7	 Ø8
12 s	36.9 s	10.4 s	40.7 s

Timings

N:\3145\Analysis\Synchro\03 Ex + P AM.syn

Synchro 10 Report

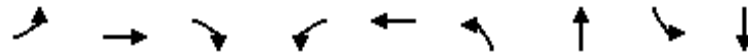
Existing + Project AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	64	454	67	27	658	33	59	102	21	19	97	73
Future Volume (veh/h)	64	454	67	27	658	33	59	102	21	19	97	73
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	67	478	71	28	693	35	62	107	22	20	102	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1164	519	57	1031	52	103	563	113	43	315	219
Arrive On Green	0.06	0.33	0.33	0.03	0.30	0.30	0.06	0.19	0.19	0.02	0.16	0.16
Sat Flow, veh/h	3456	3554	1585	1781	3442	174	1781	2950	591	1781	2004	1393
Grp Volume(v), veh/h	67	478	71	28	358	370	62	63	66	20	89	90
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1839	1781	1777	1764	1781	1777	1620
Q Serve(g_s), s	0.9	5.3	1.6	0.8	8.9	8.9	1.7	1.5	1.6	0.6	2.2	2.5
Cycle Q Clear(g_c), s	0.9	5.3	1.6	0.8	8.9	8.9	1.7	1.5	1.6	0.6	2.2	2.5
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.33	1.00		0.86
Lane Grp Cap(c), veh/h	209	1164	519	57	532	551	103	339	336	43	280	255
V/C Ratio(X)	0.32	0.41	0.14	0.49	0.67	0.67	0.60	0.19	0.20	0.46	0.32	0.35
Avail Cap(c_a), veh/h	364	2514	1121	177	1246	1290	244	1147	1139	195	1098	1001
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	22.7	13.1	11.9	23.9	15.5	15.5	23.2	17.1	17.1	24.2	18.8	18.9
Incr Delay (d2), s/veh	0.9	0.2	0.1	6.3	1.5	1.4	5.6	0.3	0.3	7.5	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.6	0.4	0.4	3.0	3.1	0.8	0.6	0.6	0.3	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	13.4	12.0	30.3	16.9	16.9	28.8	17.4	17.4	31.8	19.5	19.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		616			756			191			199	
Approach Delay, s/veh		14.3			17.4			21.1			20.8	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	15.4	6.7	21.9	8.0	13.7	8.1	20.5				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	2.6	3.6	2.8	7.3	3.7	4.5	2.9	10.9				
Green Ext Time (p_c), s	0.0	0.7	0.0	3.2	0.0	1.0	0.0	4.2				
Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									

Existing + Project AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←	→	←	←	→	←	→	←	→
Traffic Volume (vph)	46	491	282	164	602	331	34	2	4
Future Volume (vph)	46	491	282	164	602	331	34	2	4
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	3.0	6.0	6.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	10.1	28.0	23.1	24.0
Total Split (s)	11.1	33.1	33.1	15.8	37.8	26.8	28.0	23.1	24.3
Total Split (%)	11.1%	33.1%	33.1%	15.8%	37.8%	26.8%	28.0%	23.1%	24.3%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	3.0	4.8	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	4.0	5.8	5.1	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 80.3

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

← Ø1	→ Ø2	← Ø3	↓ Ø4
15.8 s	33.1 s	26.8 s	24.3 s
↑ Ø5	← Ø6	← Ø7	↑ Ø8
11.1 s	37.8 s	23.1 s	28 s

Existing + Project AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	491	282	164	602	18	331	34	115	2	4	13
Future Volume (veh/h)	46	491	282	164	602	18	331	34	115	2	4	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.98
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	50	534	307	178	654	20	360	37	125	2	4	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	582	485	214	703	22	402	84	285	129	33	114
Arrive On Green	0.04	0.31	0.31	0.12	0.39	0.39	0.23	0.23	0.23	0.07	0.09	0.09
Sat Flow, veh/h	1781	1870	1558	1781	1803	55	1781	364	1231	1781	358	1253
Grp Volume(v), veh/h	50	534	307	178	0	674	360	0	162	2	0	18
Grp Sat Flow(s),veh/h/ln	1781	1870	1558	1781	0	1858	1781	0	1596	1781	0	1611
Q Serve(g_s), s	2.3	22.9	14.0	8.1	0.0	28.8	16.3	0.0	7.2	0.1	0.0	0.9
Cycle Q Clear(g_c), s	2.3	22.9	14.0	8.1	0.0	28.8	16.3	0.0	7.2	0.1	0.0	0.9
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.77	1.00		0.78
Lane Grp Cap(c), veh/h	73	582	485	214	0	725	402	0	370	129	0	147
V/C Ratio(X)	0.68	0.92	0.63	0.83	0.00	0.93	0.90	0.00	0.44	0.02	0.00	0.12
Avail Cap(c_a), veh/h	129	610	508	229	0	725	489	0	426	386	0	374
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(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	27.6	24.5	35.7	0.0	24.2	31.2	0.0	27.3	35.8	0.0	34.7
Incr Delay (d2), s/veh	10.6	18.4	2.4	21.1	0.0	18.5	16.6	0.0	0.8	0.0	0.0	0.4
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	1.2	12.2	5.0	4.6	0.0	15.1	8.3	0.0	2.6	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	46.0	26.9	56.9	0.0	42.7	47.8	0.0	28.1	35.8	0.0	35.1
LnGrp LOS	D	D	C	E	A	D	D	A	C	D	A	D
Approach Vol, veh/h		891			852			522			20	
Approach Delay, s/veh		39.7			45.7			41.7			35.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	31.9	22.8	13.4	8.5	38.4	11.1	25.0				
Change Period (Y+Rc), s	5.1	6.0	4.0	* 5.8	5.1	6.0	5.1	5.8				
Max Green Setting (Gmax), s	10.7	27.1	22.8	* 19	6.0	31.8	18.0	22.2				
Max Q Clear Time (g_c+I1), s	10.1	24.9	18.3	2.9	4.3	30.8	2.1	9.2				
Green Ext Time (p_c), s	0.0	1.0	0.5	0.0	0.0	0.4	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			42.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	89	235	81	329	1340	
Future Volume (vph)	89	235	81	329	1340	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	3
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	12.0	12.0	6.0
Minimum Split (s)	29.7	29.7	11.1	23.8	30.8	10.6
Total Split (s)	29.7	29.7	11.1	64.6	53.5	10.7
Total Split (%)	28.3%	28.3%	10.6%	61.5%	51.0%	10%
Yellow Time (s)	3.7	3.7	4.1	4.3	4.3	3.6
All-Red Time (s)	1.0	1.0	1.0	1.5	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	5.1	5.8	5.8	
Lead/Lag	Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 81.9

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

64.6 s	10.7 s	29.7 s
11.1 s	53.5 s	

Existing + Project AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	LT	LT	LT	TH	TH	LT	LT	LT
Traffic Volume (vph)	89	235	81	329	1340	45	0	0
Future Volume (vph)	89	235	81	329	1340	45	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.1	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	1.00			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1549	1770	3539	3517			
Flt Permitted	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	1549	1770	3539	3517			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	106	280	96	392	1595	54	0	0
RTOR Reduction (vph)	0	163	0	0	0	0	0	0
Lane Group Flow (vph)	106	117	96	392	1649	0	0	0
Confl. Peds. (#/hr)		7				14		
Confl. Bikes (#/hr)		2						
Turn Type	Prot	Perm	Prot	NA	NA		Prot	Perm
Protected Phases	4		5	2	6		3	
Permitted Phases		4						3
Actuated Green, G (s)	12.1	12.1	6.0	59.2	48.1			
Effective Green, g (s)	12.1	12.1	6.0	59.2	48.1			
Actuated g/C Ratio	0.15	0.15	0.07	0.72	0.59			
Clearance Time (s)	4.7	4.7	5.1	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	507	229	129	2561	2068			
v/s Ratio Prot	0.03		c0.05	0.11	c0.47			
v/s Ratio Perm		c0.08						
v/c Ratio	0.21	0.51	0.74	0.15	0.80			
Uniform Delay, d1	30.6	32.1	37.1	3.5	13.1			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.2	1.9	20.5	0.0	2.2			
Delay (s)	30.8	34.1	57.7	3.5	15.3			
Level of Service	C	C	E	A	B			
Approach Delay (s)	33.2			14.2	15.3		0.0	
Approach LOS	C			B	B		A	
Intersection Summary								
HCM 2000 Control Delay			17.8		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.80					
Actuated Cycle Length (s)			81.8		Sum of lost time (s)		20.2	
Intersection Capacity Utilization			73.6%		ICU Level of Service		D	
Analysis Period (min)			15					

c Critical Lane Group

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	99	1	6	1	8	102	6	18	0
Future Vol, veh/h	0	0	0	99	1	6	1	8	102	6	18	0
Conflicting Peds, #/hr	0	0	0	0	0	3	0	0	8	10	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	155	2	9	2	13	159	9	28	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	14	0	0	2	0	0	333	326	12	418	322	10
Stage 1	-	-	-	-	-	-	2	2	-	320	320	-
Stage 2	-	-	-	-	-	-	331	324	-	98	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1604	-	-	1620	-	-	620	592	1069	545	595	1071
Stage 1	-	-	-	-	-	-	1021	894	-	692	652	-
Stage 2	-	-	-	-	-	-	682	650	-	908	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1599	-	-	1620	-	-	552	533	1059	416	536	1068
Mov Cap-2 Maneuver	-	-	-	-	-	-	552	533	-	416	536	-
Stage 1	-	-	-	-	-	-	1021	894	-	690	587	-
Stage 2	-	-	-	-	-	-	587	586	-	753	894	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			7			9.5			12.8		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	981	1599	-	-	1620	-	-	500				
HCM Lane V/C Ratio	0.177	-	-	-	0.095	-	-	0.075				
HCM Control Delay (s)	9.5	0	-	-	7.5	0	-	12.8				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.6	0	-	-	0.3	-	-	0.2				

Existing + Project AM
24: N. Foussat Rd/N. Foussat Rd & Foussat Rd/Project Dwy

Ocean Kamp
02/16/2021

Intersection												
Int Delay, s/veh	17.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	109	76	91	23	83	10	123	12	30	10	8	275
Future Vol, veh/h	109	76	91	23	83	10	123	12	30	10	8	275
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	92	83	92	92	92	83	83	92	92	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	131	83	110	25	90	11	148	14	33	11	10	331

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	194	0	0	717	552	139	570	602	96
Stage 1	-	-	-	-	-	-	401	401	-	146	146	-
Stage 2	-	-	-	-	-	-	316	151	-	424	456	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1491	-	-	1379	-	-	345	442	909	432	414	960
Stage 1	-	-	-	-	-	-	626	601	-	857	776	-
Stage 2	-	-	-	-	-	-	695	772	-	608	568	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1491	-	-	1378	-	-	201	390	908	368	365	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	390	-	368	365	-
Stage 1	-	-	-	-	-	-	563	540	-	771	761	-
Stage 2	-	-	-	-	-	-	441	757	-	513	511	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			1.5			62.5			11.8		
HCM LOS							F			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	241	1491	-	-	1378	-	-	877
HCM Lane V/C Ratio	0.81	0.088	-	-	0.018	-	-	0.401
HCM Control Delay (s)	62.5	7.6	0	-	7.7	0	-	11.8
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	6.2	0.3	-	-	0.1	-	-	2

Existing + Project AM
25: Foussat Rd & Alex Rd/Project Dwy

Ocean Kamp
02/16/2021

Intersection												
Int Delay, s/veh	9.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑			↕	
Traffic Vol, veh/h	2	4	13	121	6	43	34	233	91	32	447	2
Future Vol, veh/h	2	4	13	121	6	43	34	233	91	32	447	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	92	84	92	92	92	84	84	92	92	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	15	132	7	47	40	277	99	35	532	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1039	1061	535	1020	1013	327	536	0	0	376	0	0
Stage 1	605	605	-	407	407	-	-	-	-	-	-	-
Stage 2	434	456	-	613	606	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	209	224	545	215	239	714	1032	-	-	1182	-	-
Stage 1	485	487	-	621	597	-	-	-	-	-	-	-
Stage 2	600	568	-	480	487	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	179	206	544	193	220	714	1030	-	-	1182	-	-
Mov Cap-2 Maneuver	179	206	-	193	220	-	-	-	-	-	-	-
Stage 1	465	466	-	597	574	-	-	-	-	-	-	-
Stage 2	533	546	-	443	466	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.9		58.2		0.8		0.5	
HCM LOS	C		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1030	-	-	353	238	1182	-
HCM Lane V/C Ratio	0.039	-	-	0.063	0.776	0.029	-
HCM Control Delay (s)	8.6	-	-	15.9	58.2	8.1	-
HCM Lane LOS	A	-	-	C	F	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	5.6	0.1	-

Existing + Project AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations						
Traffic Volume (vph)	207	278	536	265	884	
Future Volume (vph)	207	278	536	265	884	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 74.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

Ø1	Ø2	Ø4
24 s	29 s	27 s
Ø5	Ø6	
17 s	36 s	

Existing + Project AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	207	278	0	536	126	265	884
Future Volume (veh/h)	207	278	0	536	126	265	884
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.98	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	1870	1870
Adj Flow Rate, veh/h	296	397		766	180	379	1263
Peak Hour Factor	0.70	0.70		0.70	0.70	0.70	0.70
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	485	432		825	194	416	2089
Arrive On Green	0.27	0.27		0.29	0.29	0.23	0.59
Sat Flow, veh/h	1781	1585		2936	668	1781	3647
Grp Volume(v), veh/h	296	397		479	467	379	1263
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1733	1781	1777
Q Serve(g_s), s	11.4	19.1		20.6	20.6	16.3	17.9
Cycle Q Clear(g_c), s	11.4	19.1		20.6	20.6	16.3	17.9
Prop In Lane	1.00	1.00			0.39	1.00	
Lane Grp Cap(c), veh/h	485	432		516	503	416	2089
V/C Ratio(X)	0.61	0.92		0.93	0.93	0.91	0.60
Avail Cap(c_a), veh/h	499	444		520	507	431	2089
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	25.0	27.8		27.1	27.1	29.3	10.4
Incr Delay (d2), s/veh	2.1	24.0		23.0	23.5	22.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	17.8		11.1	10.9	9.0	5.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	27.0	51.8		50.1	50.5	52.1	10.9
LnGrp LOS	C	D		D	D	D	B
Approach Vol, veh/h	693			946			1642
Approach Delay, s/veh	41.2			50.3			20.4
Approach LOS	D			D			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	23.4	28.8		26.4		52.2	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	18.3	22.6		21.1		19.9	
Green Ext Time (p_c), s	0.1	0.2		0.3		5.7	
Intersection Summary							
HCM 6th Ctrl Delay			33.4				
HCM 6th LOS			C				
Notes							
User approved ignoring U-Turning movement.							

Existing + Project AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	498	246	242	213	148	142	646	267	93	376	114
Future Volume (vph)	235	498	246	242	213	148	142	646	267	93	376	114
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.6	34.0	34.0	25.0	33.4	33.4	18.2	45.0	45.0	11.0	37.8	37.8
Total Split (%)	22.3%	29.6%	29.6%	21.7%	29.0%	29.0%	15.8%	39.1%	39.1%	9.6%	32.9%	32.9%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 98.7

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
11 s	45 s	25 s	34 s
			
18.2 s	37.8 s	25.6 s	33.4 s

Existing + Project AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	498	246	242	213	148	142	646	267	93	376	114
Future Volume (veh/h)	235	498	246	242	213	148	142	646	267	93	376	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.94
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	261	553	273	269	237	164	158	718	297	103	418	127
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	298	841	367	306	855	367	192	946	410	113	789	330
Arrive On Green	0.17	0.24	0.24	0.17	0.24	0.24	0.11	0.27	0.27	0.06	0.22	0.22
Sat Flow, veh/h	1781	3554	1551	1781	3554	1526	1781	3554	1539	1781	3554	1488
Grp Volume(v), veh/h	261	553	273	269	237	164	158	718	297	103	418	127
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1526	1781	1777	1539	1781	1777	1488
Q Serve(g_s), s	13.4	13.1	15.2	13.8	5.1	8.5	8.1	17.4	16.4	5.4	9.7	6.8
Cycle Q Clear(g_c), s	13.4	13.1	15.2	13.8	5.1	8.5	8.1	17.4	16.4	5.4	9.7	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	841	367	306	855	367	192	946	410	113	789	330
V/C Ratio(X)	0.87	0.66	0.74	0.88	0.28	0.45	0.82	0.76	0.72	0.92	0.53	0.38
Avail Cap(c_a), veh/h	385	1020	445	374	997	428	250	1453	630	113	1179	494
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	37.9	32.2	33.0	37.8	28.9	30.2	40.8	31.5	31.2	43.5	32.0	30.9
Incr Delay (d2), s/veh	16.2	1.2	5.4	18.1	0.2	0.9	15.6	1.3	2.4	59.0	0.6	0.7
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	6.8	5.4	5.9	7.2	2.1	3.0	4.2	7.1	6.0	4.1	4.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	33.4	38.4	55.9	29.0	31.0	56.4	32.8	33.6	102.5	32.6	31.7
LnGrp LOS	D	C	D	E	C	C	E	C	C	F	C	C
Approach Vol, veh/h		1087			670			1173			648	
Approach Delay, s/veh		39.6			40.3			36.2			43.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	31.7	21.4	29.3	15.1	27.5	21.1	29.7				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.9	38.2	19.6	26.8	13.1	31.0	20.2	26.2				
Max Q Clear Time (g_c+I1), s	7.4	19.4	15.8	17.2	10.1	11.7	15.4	10.5				
Green Ext Time (p_c), s	0.0	5.4	0.3	3.1	0.1	2.8	0.3	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			39.3									
HCM 6th LOS			D									

Existing + Project AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	213	153	587	220	96	90	400	238	153	1246	35
Future Volume (vph)	23	213	153	587	220	96	90	400	238	153	1246	35
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 122.5

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Project AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	213	153	587	220	96	90	400	238	153	1246	35
Future Volume (veh/h)	23	213	153	587	220	96	90	400	238	153	1246	35
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	25	232	166	638	239	104	98	435	259	166	1354	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	441	197	709	624	528	114	1306	907	195	1468	653
Arrive On Green	0.02	0.12	0.12	0.21	0.33	0.33	0.06	0.37	0.37	0.11	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	3456	1870	1582	1781	3554	1581	1781	3554	1579
Grp Volume(v), veh/h	25	232	166	638	239	104	98	435	259	166	1354	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1582	1781	1777	1581	1781	1777	1579
Q Serve(g_s), s	1.7	7.5	12.5	21.9	11.9	5.7	6.6	10.8	10.2	11.2	44.0	1.8
Cycle Q Clear(g_c), s	1.7	7.5	12.5	21.9	11.9	5.7	6.6	10.8	10.2	11.2	44.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	441	197	709	624	528	114	1306	907	195	1468	653
V/C Ratio(X)	0.75	0.53	0.84	0.90	0.38	0.20	0.86	0.33	0.29	0.85	0.92	0.06
Avail Cap(c_a), veh/h	95	525	234	808	663	561	114	1306	907	301	1519	675
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	59.5	50.0	52.2	47.2	31.0	29.0	56.5	27.8	13.3	53.3	33.9	21.5
Incr Delay (d2), s/veh	27.9	1.0	20.8	12.0	0.4	0.2	44.4	0.1	0.2	13.1	9.5	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	1.0	3.3	6.0	10.3	5.3	2.1	4.4	4.6	3.4	5.7	20.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.4	51.0	73.1	59.2	31.4	29.2	100.9	27.9	13.5	66.4	43.4	21.5
LnGrp LOS	F	D	E	E	C	C	F	C	B	E	D	C
Approach Vol, veh/h		423			981			792			1558	
Approach Delay, s/veh		61.8			49.3			32.2			45.3	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	51.8	30.8	20.5	13.2	57.4	5.3	46.1				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	13.2	12.8	23.9	14.5	8.6	46.0	3.7	13.9				
Green Ext Time (p_c), s	0.2	4.0	1.1	0.6	0.0	4.3	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh 14.8

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	28	143	26	44	198	87	14	85	3	85	238	35
Future Vol, veh/h	28	143	26	44	198	87	14	85	3	85	238	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	151	27	46	208	92	15	89	3	89	251	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.2	15.2	10.9	17
HCM LOS	B	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	14%	13%	24%
Vol Thru, %	83%	73%	60%	66%
Vol Right, %	3%	13%	26%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	197	329	358
LT Vol	14	28	44	85
Through Vol	85	143	198	238
RT Vol	3	26	87	35
Lane Flow Rate	107	207	346	377
Geometry Grp	1	1	1	1
Degree of Util (X)	0.19	0.343	0.541	0.598
Departure Headway (Hd)	6.384	5.951	5.626	5.716
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	599	637	626
Service Time	4.384	4.044	3.707	3.793
HCM Lane V/C Ratio	0.189	0.346	0.543	0.602
HCM Control Delay	10.9	12.2	15.2	17
HCM Lane LOS	B	B	C	C
HCM 95th-tile Q	0.7	1.5	3.2	4

Intersection

Intersection Delay, s/veh 9.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	155	4	11	238	15	7	16	6	23	18	44
Future Vol, veh/h	18	155	4	11	238	15	7	16	6	23	18	44
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	20	168	4	12	259	16	8	17	7	25	20	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.9	8.3	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	10%	4%	27%
Vol Thru, %	55%	88%	90%	21%
Vol Right, %	21%	2%	6%	52%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	177	264	85
LT Vol	7	18	11	23
Through Vol	16	155	238	18
RT Vol	6	4	15	44
Lane Flow Rate	32	192	287	92
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.243	0.353	0.123
Departure Headway (Hd)	5.064	4.556	4.427	4.796
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	705	789	812	746
Service Time	3.111	2.586	2.453	2.836
HCM Lane V/C Ratio	0.045	0.243	0.353	0.123
HCM Control Delay	8.3	9.1	9.9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1	1.6	0.4

Existing + Project PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	659	299	685	754	720
Future Volume (vph)	659	299	685	754	720
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	24.0	24.0	22.0	46.0	24.0
Total Split (%)	34.3%	34.3%	31.4%	65.7%	34.3%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 66.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing + Project PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	659	299	685	754	0	720
Future Volume (vph)	659	299	685	754	0	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1583	3433	3539		1589
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1583	3433	3539		1589
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	694	315	721	794	0	758
RTOR Reduction (vph)	0	236	0	0	0	405
Lane Group Flow (vph)	694	79	721	794	0	353
Confl. Bikes (#/hr)						2
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	16.6	16.6	15.9	40.5		16.8
Effective Green, g (s)	16.6	16.6	15.9	40.5		16.8
Actuated g/C Ratio	0.25	0.25	0.24	0.61		0.25
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	886	396	823	2161		402
v/s Ratio Prot	c0.20		c0.21	0.22		
v/s Ratio Perm		0.05				c0.22
v/c Ratio	0.78	0.20	0.88	0.37		0.88
Uniform Delay, d1	23.2	19.6	24.3	6.5		23.8
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	4.6	0.2	10.3	0.1		18.9
Delay (s)	27.7	19.9	34.6	6.6		42.6
Level of Service	C	B	C	A		D
Approach Delay (s)	25.3			19.9	42.6	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay			26.8		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84			
Actuated Cycle Length (s)			66.3		Sum of lost time (s)	17.0
Intersection Capacity Utilization			72.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing + Project PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	1280	99	332	1111	247	1099
Future Volume (vph)	1280	99	332	1111	247	1099
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	55.0	78.0	17.0	72.0	78.0	78.0
Total Split (%)	36.7%	52.0%	11.3%	48.0%	52.0%	52.0%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
17 s	55 s	
← Ø6	↖ Ø8	
72 s	78 s	

Existing + Project PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	1280	99	332	1111	247	1099
Future Volume (veh/h)	1280	99	332	1111	247	1099
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	1870	1870
Adj Flow Rate, veh/h	1320	102	342	1145	255	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1622	997	428	2315	307	
Arrive On Green	0.46	0.46	0.12	0.65	0.17	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	1320	102	342	1145	255	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	25.7	2.0	7.7	13.3	11.1	0.0
Cycle Q Clear(g_c), s	25.7	2.0	7.7	13.3	11.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1622	997	428	2315	307	
V/C Ratio(X)	0.81	0.10	0.80	0.49	0.83	
Avail Cap(c_a), veh/h	2087	1204	488	2843	1601	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.8	5.9	34.1	7.2	32.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	8.2	0.2	5.8	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	8.9	0.9	3.4	3.2	5.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.8	5.9	42.3	7.3	37.7	0.0
LnGrp LOS	C	A	D	A	D	
Approach Vol, veh/h	1422			1487	255	A
Approach Delay, s/veh	19.8			15.4	37.7	
Approach LOS	B			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.6	44.5			60.1	19.9
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 11	47.0			64.0	71.9
Max Q Clear Time (g_c+I1), s	9.7	27.7			15.3	13.1
Green Ext Time (p_c), s	0.2	8.8			9.0	0.8

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

					
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	2225	36	1418	25	32
Future Volume (vph)	2225	36	1418	25	32
Turn Type	NA	Prot	NA	Prot	pm+ov
Protected Phases	2	1	6	8	1
Permitted Phases					8
Detector Phase	2	1	6	8	1
Switch Phase					
Minimum Initial (s)	25.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	14.7	33.0	38.1	14.7
Total Split (s)	114.7	25.2	139.9	40.1	25.2
Total Split (%)	63.7%	14.0%	77.7%	22.3%	14.0%
Yellow Time (s)	5.5	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.7	8.0	6.1	5.7
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Min	None	C-Min	None	None

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	2225	0	36	1418	25	32
Future Volume (veh/h)	2225	0	36	1418	25	32
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	1870	1870
Adj Flow Rate, veh/h	2342	0	38	1493	26	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2824	1260	76	3088	94	151
Arrive On Green	0.79	0.00	0.04	0.87	0.05	0.05
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	2342	0	38	1493	26	34
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	71.4	0.0	3.8	17.1	2.5	3.6
Cycle Q Clear(g_c), s	71.4	0.0	3.8	17.1	2.5	3.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2824	1260	76	3088	94	151
V/C Ratio(X)	0.83	0.00	0.50	0.48	0.28	0.23
Avail Cap(c_a), veh/h	2824	1260	193	3088	336	367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	0.0	84.3	2.7	81.9	75.3
Incr Delay (d2), s/veh	0.3	0.0	5.1	0.5	1.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.6	0.0	1.8	3.6	1.2	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	0.0	89.4	3.2	83.5	76.0
LnGrp LOS	B	A	F	A	F	E
Approach Vol, veh/h	2342			1531	60	
Approach Delay, s/veh	11.4			5.4	79.3	
Approach LOS	B			A	E	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	13.4	151.0		164.4	15.6	
Change Period (Y+Rc), s	* 5.7	8.0		8.0	6.1	
Max Green Setting (Gmax), s	* 20	106.7		131.9	34.0	
Max Q Clear Time (g_c+I1), s	5.8	73.4		19.1	5.6	
Green Ext Time (p_c), s	0.0	24.2		15.1	0.1	
Intersection Summary						
HCM 6th Ctrl Delay			10.1			
HCM 6th LOS			B			
Notes						

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

Existing + Project PM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	2351	56	168	1446	8	112
Future Volume (vph)	2351	56	168	1446	8	112
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	37.1	15.7	33.0	37.1	15.7
Total Split (s)	102.2	37.1	40.7	142.9	37.1	40.7
Total Split (%)	56.8%	20.6%	22.6%	79.4%	20.6%	22.6%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 180

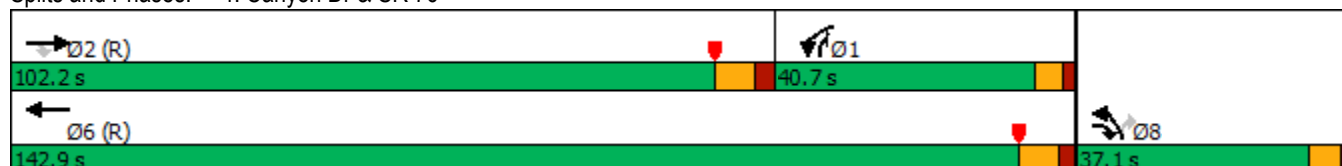
Actuated Cycle Length: 180

Offset: 82 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing + Project PM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (veh/h)	2351	56	168	1446	8	112
Future Volume (veh/h)	2351	56	168	1446	8	112
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	2528	60	181	1555	9	120
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1860	891	541	3098	173	561
Arrive On Green	0.52	0.52	0.30	0.87	0.05	0.05
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	2528	60	181	1555	9	120
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	94.2	3.1	14.2	18.0	0.4	0.0
Cycle Q Clear(g_c), s	94.2	3.1	14.2	18.0	0.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1860	891	541	3098	173	561
V/C Ratio(X)	1.36	0.07	0.33	0.50	0.05	0.21
Avail Cap(c_a), veh/h	1860	891	541	3098	595	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.39	0.39	1.00	1.00
Uniform Delay (d), s/veh	42.9	17.0	48.5	2.6	81.5	40.6
Incr Delay (d2), s/veh	165.3	0.1	0.1	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	81.3	1.3	6.2	3.4	0.2	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	208.2	17.2	48.7	2.9	81.6	40.8
LnGrp LOS	F	B	D	A	F	D
Approach Vol, veh/h	2588			1736	129	
Approach Delay, s/veh	203.7			7.6	43.7	
Approach LOS	F			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	62.7	102.2			164.9	15.1
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	35.0	* 94			134.9	31.0
Max Q Clear Time (g_c+I1), s	16.2	96.2			20.0	2.4
Green Ext Time (p_c), s	0.4	0.0			16.5	0.4

Intersection Summary

HCM 6th Ctrl Delay	122.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Project PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	1931	101	38	1366	12	136	16	107	35	17	112
Future Volume (vph)	198	1931	101	38	1366	12	136	16	107	35	17	112
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	45.7	88.5	88.5	20.7	63.5	63.5	23.7	50.1	50.1	20.7	21.1	45.7
Total Split (%)	25.4%	49.2%	49.2%	11.5%	35.3%	35.3%	13.2%	27.8%	27.8%	11.5%	11.7%	25.4%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 47 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Project PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1931	101	38	1366	12	136	16	107	35	17	112
Future Volume (veh/h)	198	1931	101	38	1366	12	136	16	107	35	17	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	215	2099	110	41	1485	13	148	17	116	38	18	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	678	2287	994	103	1096	476	166	187	154	101	114	697
Arrive On Green	0.38	0.64	0.64	0.04	0.21	0.21	0.09	0.10	0.10	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1544	1781	3554	1543	1781	1870	1536	1781	1870	1541
Grp Volume(v), veh/h	215	2099	110	41	1485	13	148	17	116	38	18	122
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1781	1777	1543	1781	1870	1536	1781	1870	1541
Q Serve(g_s), s	15.3	92.6	2.6	4.0	55.5	1.0	14.8	1.5	13.2	3.7	1.6	0.0
Cycle Q Clear(g_c), s	15.3	92.6	2.6	4.0	55.5	1.0	14.8	1.5	13.2	3.7	1.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	678	2287	994	103	1096	476	166	187	154	101	114	697
V/C Ratio(X)	0.32	0.92	0.11	0.40	1.36	0.03	0.89	0.09	0.75	0.38	0.16	0.17
Avail Cap(c_a), veh/h	678	2287	994	148	1096	476	178	457	375	148	156	731
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	27.9	3.3	83.4	71.4	32.6	80.7	73.6	78.8	81.8	80.1	30.4
Incr Delay (d2), s/veh	0.0	0.8	0.0	1.6	163.8	0.1	36.7	0.2	7.3	2.3	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	35.7	1.7	1.9	50.5	0.5	8.5	0.7	5.6	1.8	0.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	28.7	3.3	85.0	235.3	32.6	117.4	73.8	86.1	84.1	80.7	30.5
LnGrp LOS	D	C	A	F	F	C	F	E	F	F	F	C
Approach Vol, veh/h	2424			1539			281			178		
Approach Delay, s/veh	28.5			229.5			101.9			47.0		
Approach LOS	C			F			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	123.8	22.9	17.1	76.5	63.5	15.9	24.1				
Change Period (Y+Rc), s	* 5.7	8.0	6.1	* 6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	80.5	18.0	* 15	40.0	* 56	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.0	94.6	16.8	3.6	17.3	57.5	5.7	15.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.5	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	103.9
HCM 6th LOS	F

Notes

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

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	23	2321	46	80	1482	25	68	93	39	69	40
Future Volume (vph)	23	2321	46	80	1482	25	68	93	39	69	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	98.5	98.5	20.7	98.5	98.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	11.5%	54.7%	54.7%	11.5%	54.7%	54.7%	11.5%	25.1%	8.7%	11.7%	11.7%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180

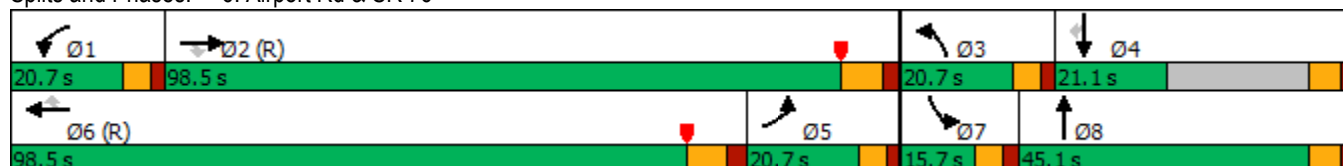
Actuated Cycle Length: 180

Offset: 87 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Existing + Project PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2321	46	80	1482	25	68	93	93	39	69	40
Future Volume (veh/h)	23	2321	46	80	1482	25	68	93	93	39	69	40
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	24	2418	48	83	1544	26	71	97	97	41	72	42
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	339	2222	991	101	1702	759	119	110	110	86	205	174
Arrive On Green	0.25	0.83	0.83	0.02	0.16	0.16	0.07	0.13	0.13	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	858	858	1781	1870	1585
Grp Volume(v), veh/h	24	2418	48	83	1544	26	71	0	194	41	72	42
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1716	1781	1870	1585
Q Serve(g_s), s	1.8	112.5	1.0	8.4	76.9	1.9	7.0	0.0	20.0	4.0	6.4	3.0
Cycle Q Clear(g_c), s	1.8	112.5	1.0	8.4	76.9	1.9	7.0	0.0	20.0	4.0	6.4	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	339	2222	991	101	1702	759	119	0	219	86	205	174
V/C Ratio(X)	0.07	1.09	0.05	0.82	0.91	0.03	0.60	0.00	0.89	0.48	0.35	0.24
Avail Cap(c_a), veh/h	339	2222	991	148	1787	797	148	0	372	99	205	174
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.27	0.27	0.27	0.61	0.61	0.61	0.96	0.00	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	15.2	5.8	87.4	71.8	23.5	81.7	0.0	77.2	83.4	74.2	35.7
Incr Delay (d2), s/veh	0.0	42.2	0.0	13.0	5.6	0.1	4.6	0.0	12.3	4.0	1.0	0.7
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	33.5	0.4	4.3	38.1	1.0	3.4	0.0	9.7	2.0	3.2	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	57.4	5.8	100.4	77.4	23.5	86.2	0.0	89.5	87.4	75.3	36.5
LnGrp LOS	E	F	A	F	E	C	F	A	F	F	E	D
Approach Vol, veh/h		2490			1653			265			155	
Approach Delay, s/veh		56.4			77.7			88.6			68.0	
Approach LOS		E			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	120.5	17.7	25.8	42.3	94.2	14.4	29.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	90.5	* 15	15.0	15.0	* 91	* 10	39.0				
Max Q Clear Time (g_c+I1), s	10.4	114.5	9.0	8.4	3.8	78.9	6.0	22.0				
Green Ext Time (p_c), s	0.1	0.0	0.1	0.2	0.0	7.4	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			66.4									
HCM 6th LOS			E									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	409	2013	84	109	1298	181	62	174	92	128	178	290
Future Volume (vph)	409	2013	84	109	1298	181	62	174	92	128	178	290
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	18.7	54.0	54.0	18.7	52.1	52.1	18.7	20.1	20.1
Total Split (s)	20.7	88.5	88.5	20.7	88.5	88.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	11.5%	49.2%	49.2%	11.5%	49.2%	49.2%	12.1%	28.9%	28.9%	10.4%	11.2%	11.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

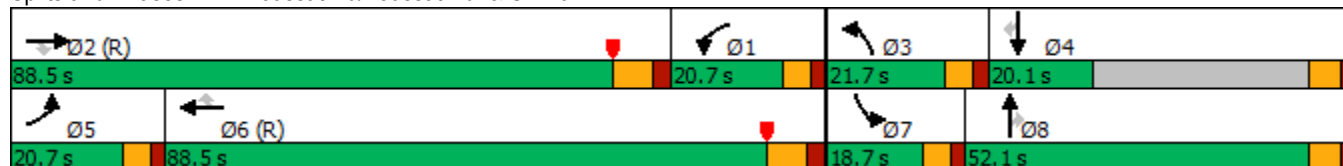
Actuated Cycle Length: 180

Offset: 151 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



Existing + Project PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	2013	84	109	1298	181	62	174	92	128	178	290
Future Volume (veh/h)	409	2013	84	109	1298	181	62	174	92	128	178	290
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	426	2097	88	114	1352	189	65	181	96	133	185	302
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	288	1589	709	868	2231	995	240	267	119	249	276	217
Arrive On Green	0.06	0.30	0.30	0.25	0.63	0.63	0.07	0.08	0.08	0.07	0.08	0.08
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	426	2097	88	114	1352	189	65	181	96	133	185	302
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	15.0	80.5	5.4	4.6	41.1	9.1	3.2	8.9	6.9	6.7	9.1	14.0
Cycle Q Clear(g_c), s	15.0	80.5	5.4	4.6	41.1	9.1	3.2	8.9	6.9	6.7	9.1	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1589	709	868	2231	995	240	267	119	249	276	217
V/C Ratio(X)	1.48	1.32	0.12	0.13	0.61	0.19	0.27	0.68	0.81	0.53	0.67	1.39
Avail Cap(c_a), veh/h	288	1589	709	868	2231	995	307	908	405	250	276	217
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	85.0	63.0	20.3	52.2	20.1	14.2	79.4	81.1	34.0	80.6	80.7	83.0
Incr Delay (d2), s/veh	217.4	144.2	0.0	0.1	1.2	0.4	0.6	2.8	11.3	2.2	6.1	202.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	68.5	2.9	2.0	16.3	3.5	1.5	4.2	3.1	3.1	4.5	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	302.4	207.2	20.3	52.3	21.4	14.6	80.0	84.0	45.3	82.8	86.8	285.1
LnGrp LOS	F	F	C	D	C	B	E	F	D	F	F	F
Approach Vol, veh/h		2611			1655			342			620	
Approach Delay, s/veh		216.4			22.7			72.4			182.5	
Approach LOS		F			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	53.2	88.5	18.2	20.1	20.7	121.0	18.7	19.6				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 81	* 16	14.0	* 15	80.5	* 13	46.0				
Max Q Clear Time (g_c+I1), s	6.6	82.5	5.2	16.0	17.0	43.1	8.7	10.9				
Green Ext Time (p_c), s	0.2	0.0	0.1	0.0	0.0	12.3	0.1	1.5				

Intersection Summary

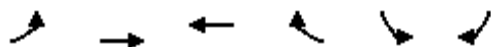
HCM 6th Ctrl Delay	141.7
HCM 6th LOS	F

Notes

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

Existing + Project PM
8: SR 76 & Douglas Drive

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	559	1919	1340	250	250	342	
Future Volume (vph)	559	1919	1340	250	250	342	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	110.8	75.1	75.1	19.1	35.7	50.1
Total Split (%)	19.8%	61.6%	41.7%	41.7%	10.6%	19.8%	28%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lead		Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 95 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 76 & Douglas Drive

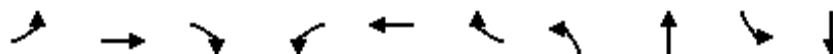


Existing + Project PM
8: SR 76 & Douglas Drive

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	559	1919	0	0	1340	250	0	0	0	250	0	342
Future Volume (veh/h)	559	1919	0	0	1340	250	0	0	0	250	0	342
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	608	2086	0	0	1457	272	0	0	0	272	0	372
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	576	3396	0	0	2691	1200	0	1	0	0	0	0
Arrive On Green	0.17	0.96	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	608	2086	0	0	1457	272	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	30.0	11.4	0.0	0.0	50.1	17.2	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	30.0	11.4	0.0	0.0	50.1	17.2	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	576	3396	0	0	2691	1200	0	1	0			
V/C Ratio(X)	1.06	0.61	0.00	0.00	0.54	0.23	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	576	3396	0	0	2691	1200	0	457	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.69	0.69	0.00	0.00	0.00			
Uniform Delay (d), s/veh	75.0	0.4	0.0	0.0	23.1	15.0	0.0	0.0	0.0			
Incr Delay (d2), s/veh	53.0	0.8	0.0	0.0	0.5	0.3	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			
%ile BackOfQ(50%),veh/ln	17.3	0.4	0.0	0.0	22.2	6.8	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.0	1.3	0.0	0.0	23.7	15.3	0.0	0.0	0.0			
LnGrp LOS	F	A	A	A	C	B	A	A	A			
Approach Vol, veh/h	2694			1729			0					
Approach Delay, s/veh	29.9			22.3			0.0					
Approach LOS	C			C								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	180.0			35.7			144.3			0.0		
Change Period (Y+Rc), s	8.0			* 5.7			8.0			6.1		
Max Green Setting (Gmax), s	102.8			* 30			67.1			44.0		
Max Q Clear Time (g_c+I1), s	13.4			32.0			52.1			0.0		
Green Ext Time (p_c), s	32.5			0.0			8.9			0.0		
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									
Notes												

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	69	1619	282	236	1053	61	252	326	72	254
Future Volume (vph)	69	1619	282	236	1053	61	252	326	72	254
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	25.0	25.0	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	54.1	54.1	21.7	55.1	55.1	18.7	55.1	17.7	54.1
Total Split (s)	20.7	80.5	80.5	26.7	86.5	86.5	18.7	55.1	17.7	54.1
Total Split (%)	11.5%	44.7%	44.7%	14.8%	48.1%	48.1%	10.4%	30.6%	9.8%	30.1%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 180

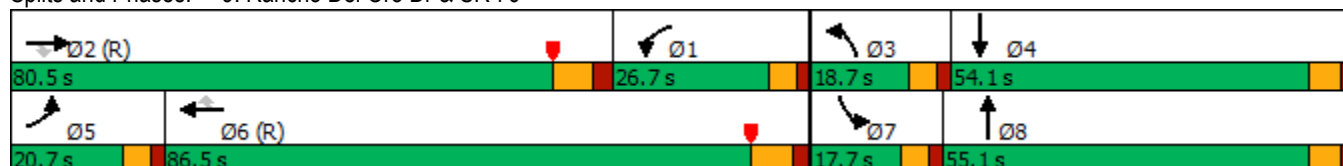
Actuated Cycle Length: 180

Offset: 73 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



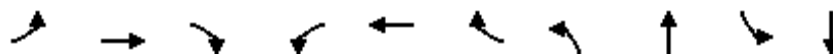
Existing + Project PM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1619	282	236	1053	61	252	326	288	72	254	63
Future Volume (veh/h)	69	1619	282	236	1053	61	252	326	288	72	254	63
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		0.98	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	71	1669	291	243	1086	63	260	336	297	74	262	65
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	144	1431	637	527	1731	772	250	401	347	225	618	150
Arrive On Green	0.03	0.13	0.13	0.15	0.49	0.49	0.07	0.23	0.23	0.07	0.22	0.22
Sat Flow, veh/h	1781	3554	1582	3456	3554	1585	3456	1782	1542	3456	2832	690
Grp Volume(v), veh/h	71	1669	291	243	1086	63	260	335	298	74	163	164
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	1585	1728	1777	1547	1728	1777	1745
Q Serve(g_s), s	7.1	72.5	23.0	11.5	40.6	3.8	13.0	32.4	33.3	3.7	14.2	14.6
Cycle Q Clear(g_c), s	7.1	72.5	23.0	11.5	40.6	3.8	13.0	32.4	33.3	3.7	14.2	14.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	144	1431	637	527	1731	772	250	400	349	225	387	381
V/C Ratio(X)	0.49	1.17	0.46	0.46	0.63	0.08	1.04	0.84	0.85	0.33	0.42	0.43
Avail Cap(c_a), veh/h	148	1431	637	527	1731	772	250	484	421	230	474	465
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.20	0.20	0.20	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	83.9	78.0	33.8	69.5	34.1	24.7	83.5	66.6	66.9	80.4	60.6	60.8
Incr Delay (d2), s/veh	0.5	76.4	0.5	0.6	1.7	0.2	68.3	10.5	13.6	0.6	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	49.9	9.8	5.1	17.3	1.5	8.1	15.7	14.3	1.7	6.4	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	154.5	34.3	70.2	35.8	24.9	151.8	77.0	80.5	81.0	61.1	61.3
LnGrp LOS	F	F	C	E	D	C	F	E	F	F	E	E
Approach Vol, veh/h		2031			1392			893			401	
Approach Delay, s/veh		134.8			41.3			100.0			64.9	
Approach LOS		F			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.4	80.5	18.7	45.4	20.3	95.7	17.4	46.7				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	21.0	* 73	* 13	48.0	* 15	78.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	13.5	74.5	15.0	16.6	9.1	42.6	5.7	35.3				
Green Ext Time (p_c), s	0.4	0.0	0.0	1.8	0.1	8.3	0.1	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			94.7									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Project PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	84	1026	225	121	686	64	253	155	189	207
Future Volume (vph)	84	1026	225	121	686	64	253	155	189	207
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	7.0	6.0	6.0	7.0	7.0	6.0	8.0	6.0	8.0
Minimum Split (s)	11.1	36.8	11.1	11.4	36.4	36.4	11.1	34.8	11.1	34.8
Total Split (s)	20.0	24.0	24.0	38.0	42.0	42.0	24.0	34.0	24.0	34.0
Total Split (%)	16.7%	20.0%	20.0%	31.7%	35.0%	35.0%	20.0%	28.3%	20.0%	28.3%
Yellow Time (s)	4.1	4.8	4.1	4.4	4.4	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.4	5.4	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Min	None	Min

Intersection Summary

Cycle Length: 120

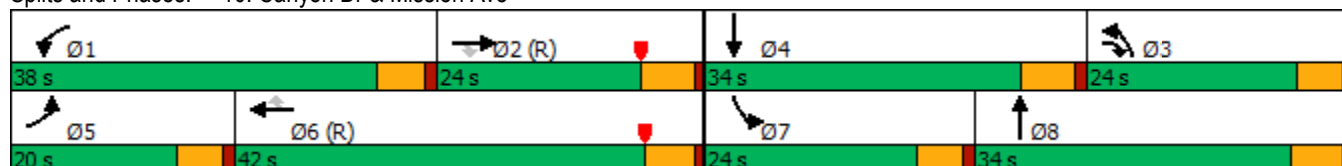
Actuated Cycle Length: 120

Offset: 85.4 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Existing + Project PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	1026	225	121	686	64	253	155	79	189	207	46
Future Volume (veh/h)	84	1026	225	121	686	64	253	155	79	189	207	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.92
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	87	1058	232	125	707	66	261	160	81	195	213	47
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	110	1615	849	154	1711	746	329	459	220	261	498	106
Arrive On Green	0.06	0.45	0.45	0.09	0.48	0.48	0.10	0.20	0.20	0.08	0.17	0.17
Sat Flow, veh/h	1781	3554	1536	1781	3554	1548	3456	2305	1102	3456	2863	612
Grp Volume(v), veh/h	87	1058	232	125	707	66	261	121	120	195	130	130
Grp Sat Flow(s),veh/h/ln	1781	1777	1536	1781	1777	1548	1728	1777	1630	1728	1777	1699
Q Serve(g_s), s	5.8	27.8	2.8	8.3	15.5	2.8	8.9	7.0	7.6	6.6	7.8	8.2
Cycle Q Clear(g_c), s	5.8	27.8	2.8	8.3	15.5	2.8	8.9	7.0	7.6	6.6	7.8	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.36
Lane Grp Cap(c), veh/h	110	1615	849	154	1711	746	329	354	325	261	309	295
V/C Ratio(X)	0.79	0.66	0.27	0.81	0.41	0.09	0.79	0.34	0.37	0.75	0.42	0.44
Avail Cap(c_a), veh/h	221	1615	849	484	1711	746	544	418	383	544	418	399
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	55.5	25.4	4.7	53.8	20.1	16.8	53.1	41.3	41.5	54.4	44.2	44.4
Incr Delay (d2), s/veh	11.7	2.1	0.8	9.6	0.7	0.2	4.3	0.6	0.7	4.3	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	11.6	1.4	4.1	6.3	1.0	4.0	3.1	3.1	3.0	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	27.5	5.5	63.5	20.9	17.1	57.5	41.9	42.2	58.6	45.1	45.4
LnGrp LOS	E	C	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1377			898			502			455	
Approach Delay, s/veh		26.3			26.5			50.1			51.0	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	60.3	17.2	26.7	12.5	63.6	14.2	29.7				
Change Period (Y+Rc), s	5.4	5.8	5.8	* 5.8	5.1	* 5.8	5.1	5.8				
Max Green Setting (Gmax), s	32.6	18.2	18.9	* 28	14.9	* 37	18.9	28.2				
Max Q Clear Time (g_c+I1), s	10.3	29.8	10.9	10.2	7.8	17.5	8.6	9.6				
Green Ext Time (p_c), s	0.3	0.0	0.5	1.4	0.1	4.6	0.4	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
User approved changes to right turn type.												



Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø5	Ø7
Lane Configurations	↑↑	↑	↵	↑↑	↔	↔			
Traffic Volume (vph)	1039	197	25	640	1	1			
Future Volume (vph)	1039	197	25	640	1	1			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	2		1	6	8	4	3	5	7
Permitted Phases		2							
Detector Phase	2	2	1	6	8	4			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)	41.6	41.6	9.5	41.6	25.2	25.2	10.4	9.5	10.4
Total Split (s)	44.4	44.4	10.0	44.9	25.2	25.2	10.4	9.5	10.4
Total Split (%)	49.3%	49.3%	11.1%	49.9%	28.0%	28.0%	12%	11%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	3.0	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

Ø1 ↵ 10 s	Ø2 → 44.4 s	Ø3 ↵ 10.4 s	Ø4 ↓ 25.2 s
Ø5 ↵ 9.5 s	Ø6 ← 44.9 s	Ø7 ↵ 10.4 s	Ø8 ↑ 25.2 s

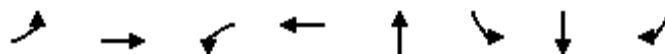
Existing + Project PM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1039	197	25	640	0	145	1	58	0	1	0
Future Volume (veh/h)	0	1039	197	25	640	0	145	1	58	0	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	0	1071	203	26	660	0	149	1	60	0	1	0
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	4	1699	734	33	2056	0	0	5	312	0	374	0
Arrive On Green	0.00	0.48	0.48	0.02	0.58	0.00	0.00	0.20	0.20	0.00	0.20	0.00
Sat Flow, veh/h	1781	3554	1536	1781	3647	0	0	26	1558	0	1870	0
Grp Volume(v), veh/h	0	1071	203	26	660	0	0	0	61	0	1	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1536	1781	1777	0	0	0	1584	0	1870	0
Q Serve(g_s), s	0.0	11.0	3.9	0.7	4.7	0.0	0.0	0.0	1.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.0	3.9	0.7	4.7	0.0	0.0	0.0	1.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.00		0.98	0.00		0.00
Lane Grp Cap(c), veh/h	4	1699	734	33	2056	0	0	0	317	0	374	0
V/C Ratio(X)	0.00	0.63	0.28	0.80	0.32	0.00	0.00	0.00	0.19	0.00	0.00	0.00
Avail Cap(c_a), veh/h	201	2901	1254	219	2938	0	0	0	618	0	729	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(l)	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.5	7.6	23.8	5.3	0.0	0.0	0.0	16.2	0.0	15.6	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.2	34.4	0.1	0.0	0.0	0.0	0.3	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	0.0	2.9	0.9	0.6	1.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.9	7.9	58.3	5.4	0.0	0.0	0.0	16.5	0.0	15.6	0.0
LnGrp LOS	A	A	A	E	A	A	A	A	B	A	B	A
Approach Vol, veh/h	1274			686			61			1		
Approach Delay, s/veh	9.6			7.4			16.5			15.6		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	27.9	0.0	16.0	0.0	32.8	0.0	16.0				
Change Period (Y+Rc), s	4.0	4.6	5.4	6.2	4.0	4.6	5.4	6.2				
Max Green Setting (Gmax), s	6.0	39.8	5.0	19.0	5.5	40.3	5.0	19.0				
Max Q Clear Time (g_c+I1), s	2.7	13.0	0.0	2.0	0.0	6.7	0.0	3.6				
Green Ext Time (p_c), s	0.0	9.1	0.0	0.0	0.0	4.7	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay	9.0											
HCM 6th LOS	A											

Existing + Project PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	37	1364	15	927	10	33	11	41
Future Volume (vph)	37	1364	15	927	10	33	11	41
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.4	27.2	10.4	29.2	25.0	28.4	28.4	28.4
Total Split (s)	20.0	45.0	20.0	45.0	25.0	30.0	30.0	30.0
Total Split (%)	16.7%	37.5%	16.7%	37.5%	20.8%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	45 s	30 s	25 s
Ø5	Ø6 (R)		
20 s	45 s		

Timings

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Synchro 10 Report

Existing + Project PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1364	11	15	927	38	15	10	17	33	11	41
Future Volume (veh/h)	37	1364	11	15	927	38	15	10	17	33	11	41
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	40	1467	12	16	997	41	16	11	18	24	28	44
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	2509	21	31	2369	97	32	22	36	114	120	101
Arrive On Green	0.03	0.69	0.69	0.03	1.00	1.00	0.05	0.05	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1781	3612	30	1781	3478	143	610	420	687	1781	1870	1585
Grp Volume(v), veh/h	40	721	758	16	509	529	45	0	0	24	28	44
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1845	1716	0	0	1781	1870	1585
Q Serve(g_s), s	2.7	25.0	25.1	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	3.2
Cycle Q Clear(g_c), s	2.7	25.0	25.1	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	3.2
Prop In Lane	1.00		0.02	1.00		0.08	0.36		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	55	1234	1295	31	1210	1256	89	0	0	114	120	101
V/C Ratio(X)	0.73	0.58	0.58	0.52	0.42	0.42	0.51	0.00	0.00	0.21	0.23	0.43
Avail Cap(c_a), veh/h	217	1234	1295	217	1210	1256	292	0	0	379	397	337
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	0.00	0.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	57.7	9.4	9.4	57.4	0.0	0.0	55.4	0.0	0.0	53.3	53.4	54.1
Incr Delay (d2), s/veh	17.0	2.0	1.9	12.3	1.0	1.0	4.4	0.0	0.0	0.8	0.9	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	1.4	9.0	9.5	0.6	0.3	0.3	1.4	0.0	0.0	0.7	0.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.7	11.5	11.4	69.7	1.0	1.0	59.8	0.0	0.0	54.1	54.3	56.8
LnGrp LOS	E	B	B	E	A	A	E	A	A	D	D	E
Approach Vol, veh/h	1519				1054				45			
Approach Delay, s/veh	13.1				2.0				59.8			
Approach LOS	B				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	89.5		12.2	9.1	87.9		10.8				
Change Period (Y+Rc), s	5.4	6.2		4.5	5.4	6.2		4.6				
Max Green Setting (Gmax), s	14.6	38.8		25.5	14.6	38.8		20.4				
Max Q Clear Time (g_c+I1), s	3.1	27.1		5.2	4.7	2.0		5.1				
Green Ext Time (p_c), s	0.0	7.1		0.3	0.0	7.5		0.1				

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Existing + Project PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	21	1370	43	905	37	0	104	22	0	22
Future Volume (vph)	21	1370	43	905	37	0	104	22	0	22
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	30.9	30.9	30.9	30.9	30.9	30.9
Total Split (s)	28.0	65.0	23.0	60.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	23.3%	54.2%	19.2%	50.0%	26.7%	26.7%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 48 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Existing + Project PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1370	33	43	905	17	37	0	104	22	0	22
Future Volume (veh/h)	21	1370	33	43	905	17	37	0	104	22	0	22
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	23	1473	35	46	973	18	40	0	112	24	0	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	2161	51	59	2214	41	60	0	361	60	0	361
Arrive On Green	0.04	1.00	1.00	0.07	1.00	1.00	0.23	0.00	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1781	3548	84	1781	3569	66	0	0	1585	0	0	1585
Grp Volume(v), veh/h	23	737	771	46	484	507	40	0	112	24	0	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1858	0	0	1585	0	0	1585
Q Serve(g_s), s	1.5	0.0	0.0	3.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	1.4
Cycle Q Clear(g_c), s	1.5	0.0	0.0	3.0	0.0	0.0	27.3	0.0	7.0	27.3	0.0	1.4
Prop In Lane	1.00		0.05	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	40	1082	1130	59	1102	1153	60	0	361	60	0	361
V/C Ratio(X)	0.58	0.68	0.68	0.77	0.44	0.44	0.67	0.00	0.31	0.40	0.00	0.07
Avail Cap(c_a), veh/h	340	1082	1130	266	1102	1153	60	0	361	60	0	361
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.77	0.77	0.77	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.8	0.0	0.0	55.6	0.0	0.0	60.0	0.0	38.5	60.0	0.0	36.4
Incr Delay (d2), s/veh	9.8	2.7	2.6	16.3	1.1	1.0	24.5	0.0	0.5	4.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.8	0.8	1.6	0.3	0.3	1.6	0.0	2.8	0.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	2.7	2.6	71.9	1.1	1.0	84.5	0.0	39.0	64.2	0.0	36.4
LnGrp LOS	E	A	A	E	A	A	F	A	D	E	A	D
Approach Vol, veh/h	1531				1037				152			
Approach Delay, s/veh	3.6				4.2				51.0			
Approach LOS	A				A				D			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	78.9		32.0	7.8	80.2		32.0				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	17.9	59.2		* 27	22.9	54.2		* 27				
Max Q Clear Time (g_c+I1), s	5.0	2.0		29.3	3.5	2.0		29.3				
Green Ext Time (p_c), s	0.1	15.2		0.0	0.0	6.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Project PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	69	1384	30	813	39	40	184	61	184	93
Future Volume (vph)	69	1384	30	813	39	40	184	61	184	93
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	39.8	11.1	11.1	30.5	11.1	30.5	11.1
Total Split (s)	25.0	45.0	20.0	40.0	25.0	25.0	30.0	25.0	30.0	25.0
Total Split (%)	20.8%	37.5%	16.7%	33.3%	20.8%	20.8%	25.0%	20.8%	25.0%	20.8%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

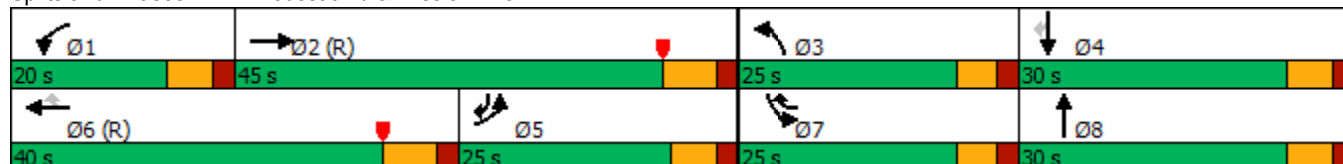
Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



Existing + Project PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1384	57	30	813	39	40	184	29	61	184	93
Future Volume (veh/h)	69	1384	57	30	813	39	40	184	29	61	184	93
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	73	1472	61	32	865	41	43	196	31	65	196	99
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	706	2235	92	49	952	483	110	272	42	127	332	1365
Arrive On Green	0.40	0.64	0.64	0.01	0.09	0.09	0.03	0.09	0.09	0.04	0.09	0.09
Sat Flow, veh/h	1781	3478	144	1781	3554	1585	3456	3081	480	3456	3554	2790
Grp Volume(v), veh/h	73	750	783	32	865	41	43	112	115	65	196	99
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1585	1728	1777	1784	1728	1777	1395
Q Serve(g_s), s	3.1	31.4	31.6	2.1	29.0	0.5	1.5	7.3	7.6	2.2	6.4	0.3
Cycle Q Clear(g_c), s	3.1	31.4	31.6	2.1	29.0	0.5	1.5	7.3	7.6	2.2	6.4	0.3
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	706	1142	1185	49	952	483	110	157	157	127	332	1365
V/C Ratio(X)	0.10	0.66	0.66	0.66	0.91	0.08	0.39	0.71	0.73	0.51	0.59	0.07
Avail Cap(c_a), veh/h	706	1142	1185	206	983	497	559	354	355	559	708	1661
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	0.95	0.95	0.95	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	22.8	13.3	13.3	58.9	53.2	17.3	57.0	53.2	53.3	56.7	52.2	6.9
Incr Delay (d2), s/veh	0.0	2.3	2.3	13.4	13.4	0.3	2.3	5.9	6.5	2.8	1.5	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	1.3	11.6	12.1	1.1	15.5	0.7	0.7	3.5	3.7	1.0	2.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	15.6	15.6	72.3	66.6	17.6	59.2	59.1	59.8	59.5	53.7	7.0
LnGrp LOS	C	B	B	E	E	B	E	E	E	E	D	A
Approach Vol, veh/h		1606			938			270			360	
Approach Delay, s/veh		15.9			64.7			59.4			41.9	
Approach LOS		B			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	83.9	9.4	17.3	54.3	39.0	10.0	16.7				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.8	* 6.8	5.6	6.1				
Max Green Setting (Gmax), s	13.9	38.2	19.4	23.9	18.9	* 33	19.4	23.9				
Max Q Clear Time (g_c+I1), s	4.1	33.6	3.5	8.4	5.1	31.0	4.2	9.6				
Green Ext Time (p_c), s	0.0	3.4	0.1	1.4	0.1	1.2	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

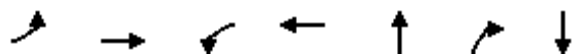
Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Project PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	4	1367	55	760	2	108	1
Future Volume (vph)	4	1367	55	760	2	108	1
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	32.8	30.0	9.5	13.8
Total Split (s)	20.0	55.0	20.0	55.0	30.0	20.0	15.0
Total Split (%)	16.7%	45.8%	16.7%	45.8%	25.0%	16.7%	12.5%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	55 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	55 s		

Existing + Project PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1367	91	55	760	7	96	2	108	5	1	7
Future Volume (veh/h)	4	1367	91	55	760	7	96	2	108	5	1	7
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	4	1486	99	60	826	8	104	2	117	5	1	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	2273	151	77	2568	25	161	3	215	13	3	21
Arrive On Green	0.00	0.22	0.22	0.09	1.00	1.00	0.09	0.09	0.09	0.02	0.02	0.02
Sat Flow, veh/h	1781	3382	224	1781	3606	35	1749	34	1585	596	119	954
Grp Volume(v), veh/h	4	777	808	60	407	427	106	0	117	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1830	1781	1777	1864	1783	0	1585	1669	0	0
Q Serve(g_s), s	0.3	47.8	48.2	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	47.8	48.2	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.02	0.98		1.00	0.36		0.57
Lane Grp Cap(c), veh/h	6	1194	1230	77	1265	1327	164	0	215	36	0	0
V/C Ratio(X)	0.72	0.65	0.66	0.78	0.32	0.32	0.65	0.00	0.54	0.39	0.00	0.00
Avail Cap(c_a), veh/h	221	1194	1230	221	1265	1327	377	0	404	139	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.9	33.9	34.1	54.2	0.0	0.0	52.6	0.0	48.4	57.9	0.0	0.0
Incr Delay (d2), s/veh	72.0	1.8	1.7	14.8	0.7	0.6	4.2	0.0	2.1	6.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	23.1	24.0	2.0	0.2	0.2	3.3	0.0	3.4	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.9	35.7	35.8	69.1	0.7	0.6	56.8	0.0	50.6	64.5	0.0	0.0
LnGrp LOS	F	D	D	E	A	A	E	A	D	E	A	A
Approach Vol, veh/h	1589			894			223			14		
Approach Delay, s/veh	36.0			5.2			53.5			64.5		
Approach LOS	D			A			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	86.4		7.6	5.5	91.3		15.7				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	49.2		10.0	14.9	49.2		25.4				
Max Q Clear Time (g_c+I1), s	6.0	50.2		3.0	2.3	2.0		10.3				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	5.4		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	27.5											
HCM 6th LOS	C											



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1332	51	807	28
Future Volume (vph)	1332	51	807	28
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	60.0	30.0	90.0	30.0
Total Split (%)	50.0%	25.0%	75.0%	25.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 	 	
Traffic Volume (veh/h)	1332	45	51	807	28	50
Future Volume (veh/h)	1332	45	51	807	28	50
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	1870	1870
Adj Flow Rate, veh/h	1373	46	53	832	29	52
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2700	90	69	3023	37	66
Arrive On Green	1.00	1.00	0.08	1.00	0.06	0.06
Sat Flow, veh/h	3602	117	1781	3647	584	1048
Grp Volume(v), veh/h	694	725	53	832	82	0
Grp Sat Flow(s),veh/h/ln	1777	1849	1781	1777	1653	0
Q Serve(g_s), s	0.0	0.0	3.5	0.0	5.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.5	0.0	5.9	0.0
Prop In Lane		0.06	1.00		0.35	0.63
Lane Grp Cap(c), veh/h	1367	1423	69	3023	104	0
V/C Ratio(X)	0.51	0.51	0.77	0.28	0.79	0.00
Avail Cap(c_a), veh/h	1367	1423	370	3023	350	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.83	0.83	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	54.8	0.0	55.5	0.0
Incr Delay (d2), s/veh	0.9	0.8	13.9	0.2	12.6	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	0.3	0.3	1.8	0.1	2.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.9	0.8	68.8	0.2	68.1	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	1419			885	82	
Approach Delay, s/veh	0.9			4.3	68.1	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.7	98.1			107.9	12.1
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	54.2			84.2	25.4
Max Q Clear Time (g_c+I1), s	5.5	2.0			2.0	7.9
Green Ext Time (p_c), s	0.1	12.6			6.3	0.2
Intersection Summary						
HCM 6th Ctrl Delay			4.4			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Project PM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	147	1289	749	242	109
Future Volume (vph)	147	1289	749	242	109
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases					4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8	28.8
Total Split (s)	30.0	90.0	60.0	30.0	30.0
Total Split (%)	25.0%	75.0%	50.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 75

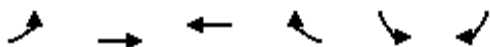
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing + Project PM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	1289	749	326	242	109
Future Volume (veh/h)	147	1289	749	326	242	109
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	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	1870	1870
Adj Flow Rate, veh/h	155	1357	788	343	255	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	182	2898	1601	695	338	155
Arrive On Green	0.20	1.00	1.00	1.00	0.10	0.10
Sat Flow, veh/h	1781	3647	2480	1036	3456	1585
Grp Volume(v), veh/h	155	1357	586	545	255	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1646	1728	1585
Q Serve(g_s), s	10.1	0.0	0.0	0.0	8.6	8.5
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.0	8.6	8.5
Prop In Lane	1.00			0.63	1.00	1.00
Lane Grp Cap(c), veh/h	182	2898	1192	1104	338	155
V/C Ratio(X)	0.85	0.47	0.49	0.49	0.75	0.74
Avail Cap(c_a), veh/h	370	2898	1192	1104	731	336
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	0.0	0.0	52.7	52.7
Incr Delay (d2), s/veh	8.9	0.5	1.3	1.4	3.4	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.2	0.4	0.4	3.9	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	55.7	0.5	1.3	1.4	56.2	59.5
LnGrp LOS	E	A	A	A	E	E
Approach Vol, veh/h		1512	1131		370	
Approach Delay, s/veh		6.1	1.3		57.2	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.7		16.3	17.4	86.3
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		84.2		25.4	24.9	54.2
Max Q Clear Time (g_c+I1), s		2.0		10.6	12.1	2.0
Green Ext Time (p_c), s		13.7		1.1	0.3	9.0
Intersection Summary						
HCM 6th Ctrl Delay			10.6			
HCM 6th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	240	1199	913	50	122	
Future Volume (vph)	240	1199	913	50	122	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	35.0	65.0	55.0	30.0	30.0	25.0
Total Split (%)	29.2%	54.2%	45.8%	25.0%	25.0%	21%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

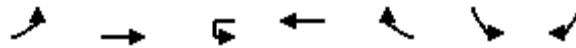
Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing + Project PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	240	1199	0	913	97	50	122
Future Volume (veh/h)	240	1199	0	913	97	50	122
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	1870	1870
Adj Flow Rate, veh/h	247	1236		941	100	52	126
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	274	2898		2007	213	174	155
Arrive On Green	0.31	1.00		0.62	0.62	0.10	0.10
Sat Flow, veh/h	1781	3647		3334	344	1781	1585
Grp Volume(v), veh/h	247	1236		516	525	52	126
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1808	1781	1585
Q Serve(g_s), s	15.9	0.0		18.7	18.7	3.3	9.3
Cycle Q Clear(g_c), s	15.9	0.0		18.7	18.7	3.3	9.3
Prop In Lane	1.00				0.19	1.00	1.00
Lane Grp Cap(c), veh/h	274	2898		1100	1120	174	155
V/C Ratio(X)	0.90	0.43		0.47	0.47	0.30	0.81
Avail Cap(c_a), veh/h	444	2898		1100	1120	377	336
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86		0.52	0.52	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0		12.3	12.3	50.3	53.1
Incr Delay (d2), s/veh	12.3	0.4		0.7	0.7	0.9	9.7
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.2		6.9	7.0	1.5	8.4
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	53.0	0.4		13.0	13.0	51.2	62.8
LnGrp LOS	D	A		B	B	D	E
Approach Vol, veh/h		1483		1041		178	
Approach Delay, s/veh		9.2		13.0		59.4	
Approach LOS		A		B		E	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		103.7		16.3	23.6	80.1	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		59.2		25.4	29.9	49.2	
Max Q Clear Time (g_c+I1), s		2.0		11.3	17.9	20.7	
Green Ext Time (p_c), s		11.3		0.4	0.5	6.9	

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

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

Existing + Project PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	399	692	185	118	426	278	693	243	165	414	333
Future Volume (vph)	399	692	185	118	426	278	693	243	165	414	333
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

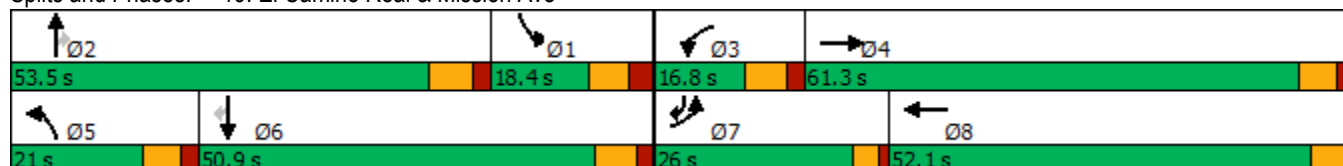
Cycle Length: 150

Actuated Cycle Length: 135

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing + Project PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	399	692	185	118	426	101	278	693	243	165	414	333
Future Volume (veh/h)	399	692	185	118	426	101	278	693	243	165	414	333
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	434	752	0	128	463	110	302	753	264	179	450	362
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	519	947		324	676	159	252	1005	426	196	860	622
Arrive On Green	0.15	0.27	0.00	0.09	0.24	0.24	0.14	0.27	0.27	0.11	0.24	0.24
Sat Flow, veh/h	3456	3554	1585	3456	2853	673	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	434	752	0	128	287	286	302	753	264	179	450	362
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1749	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	12.7	20.5	0.0	3.6	15.3	15.5	14.7	19.2	10.5	10.3	11.4	18.7
Cycle Q Clear(g_c), s	12.7	20.5	0.0	3.6	15.3	15.5	14.7	19.2	10.5	10.3	11.4	18.7
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	519	947		324	421	414	252	1005	426	196	860	622
V/C Ratio(X)	0.84	0.79		0.40	0.68	0.69	1.20	0.75	0.62	0.91	0.52	0.58
Avail Cap(c_a), veh/h	730	1878		332	804	792	252	1679	711	196	1506	910
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	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	35.5	0.0	44.4	36.2	36.2	44.7	34.8	16.0	45.8	34.2	24.9
Incr Delay (d2), s/veh	5.9	1.6	0.0	0.8	2.0	2.1	121.9	1.1	1.5	41.3	0.5	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	5.6	8.6	0.0	1.5	6.6	6.6	14.9	8.8	3.7	6.8	5.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.9	37.1	0.0	45.2	38.1	38.3	166.5	36.0	17.5	87.1	34.7	25.8
LnGrp LOS	D	D		D	D	D	F	D	B	F	C	C
Approach Vol, veh/h		1186	A		701			1319			991	
Approach Delay, s/veh		41.4			39.5			62.2			40.9	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	34.8	16.6	34.0	21.0	32.5	19.6	30.9				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	12.3	21.2	5.6	22.5	16.7	20.7	14.7	17.5				
Green Ext Time (p_c), s	0.0	6.8	0.1	5.2	0.0	4.5	0.9	3.3				

Intersection Summary

HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

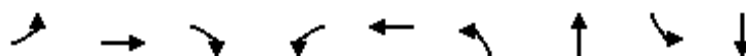
User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Project PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↰↱	↰↱	↰	↰	↰↱	↰	↰↱	↰	↰↱
Traffic Volume (vph)	78	1043	63	31	541	76	89	22	101
Future Volume (vph)	78	1043	63	31	541	76	89	22	101
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 64.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Drive /Douglas Dr & Mission Ave

↰ Ø1	↰ Ø2	↰ Ø3	↰ Ø4
10.6 s	38.3 s	10.1 s	41 s
↰ Ø5	↰ Ø6	↰ Ø7	↰ Ø8
12 s	36.9 s	10.4 s	40.7 s

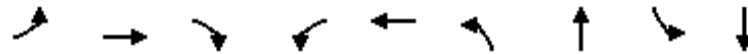
Existing + Project PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	78	1043	63	31	541	32	76	89	23	22	101	97
Future Volume (veh/h)	78	1043	63	31	541	32	76	89	23	22	101	97
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	1064	64	32	552	33	78	91	23	22	103	99
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	1445	644	62	1292	77	109	483	118	46	243	212
Arrive On Green	0.06	0.41	0.41	0.03	0.38	0.38	0.06	0.17	0.17	0.03	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	1781	3407	203	1781	2831	692	1781	1798	1567
Grp Volume(v), veh/h	80	1064	64	32	287	298	78	56	58	22	102	100
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1834	1781	1777	1746	1781	1777	1588
Q Serve(g_s), s	1.3	15.0	1.5	1.0	7.1	7.1	2.5	1.6	1.7	0.7	3.1	3.4
Cycle Q Clear(g_c), s	1.3	15.0	1.5	1.0	7.1	7.1	2.5	1.6	1.7	0.7	3.1	3.4
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.40	1.00		0.99
Lane Grp Cap(c), veh/h	214	1445	644	62	674	695	109	303	298	46	240	214
V/C Ratio(X)	0.37	0.74	0.10	0.52	0.43	0.43	0.72	0.18	0.19	0.48	0.42	0.47
Avail Cap(c_a), veh/h	310	2144	956	151	1063	1097	208	979	961	166	936	837
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	26.6	14.8	10.8	28.0	13.6	13.6	27.2	21.0	21.0	28.4	23.4	23.6
Incr Delay (d2), s/veh	1.1	0.7	0.1	6.6	0.4	0.4	8.5	0.3	0.3	7.7	1.2	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	0.5	4.8	0.4	0.5	2.3	2.4	1.3	0.6	0.7	0.4	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	15.6	10.9	34.6	14.0	14.0	35.7	21.3	21.3	36.0	24.6	25.1
LnGrp LOS	C	B	B	C	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1208			617			192			224	
Approach Delay, s/veh		16.1			15.1			27.1			26.0	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	15.9	7.1	29.4	8.7	13.8	8.8	27.8				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	2.7	3.7	3.0	17.0	4.5	5.4	3.3	9.1				
Green Ext Time (p_c), s	0.0	0.6	0.0	7.0	0.0	1.2	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									

Existing + Project PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	788	408	126	518	324	9	10	19
Future Volume (vph)	14	788	408	126	518	324	9	10	19
Turn Type	Prot	NA	Perm	Prot	NA	Split	NA	Split	NA
Protected Phases	5	2		1	6	8	8	4	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	7.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	28.0	28.0	24.0	24.0
Total Split (s)	11.1	58.0	58.0	15.0	61.9	28.0	28.0	24.0	24.0
Total Split (%)	8.9%	46.4%	46.4%	12.0%	49.5%	22.4%	22.4%	19.2%	19.2%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	4.8	4.8	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	5.8	5.8	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 125

Actuated Cycle Length: 112.8

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

Ø1	Ø2	Ø4	Ø8
15 s	58 s	24 s	28 s
Ø5	Ø6		
11.1 s	61.9 s		

Existing + Project PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	788	408	126	518	1	324	9	102	10	19	16
Future Volume (veh/h)	14	788	408	126	518	1	324	9	102	10	19	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	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	15	857	443	137	563	1	352	10	111	11	21	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	873	728	158	1005	2	355	25	283	87	47	38
Arrive On Green	0.02	0.47	0.47	0.09	0.54	0.54	0.20	0.20	0.20	0.05	0.05	0.05
Sat Flow, veh/h	1781	1870	1560	1781	1866	3	1781	128	1419	1781	957	774
Grp Volume(v), veh/h	15	857	443	137	0	564	352	0	121	11	0	38
Grp Sat Flow(s),veh/h/ln	1781	1870	1560	1781	0	1870	1781	0	1547	1781	0	1731
Q Serve(g_s), s	0.9	50.3	23.6	8.5	0.0	22.2	22.0	0.0	7.6	0.7	0.0	2.4
Cycle Q Clear(g_c), s	0.9	50.3	23.6	8.5	0.0	22.2	22.0	0.0	7.6	0.7	0.0	2.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.92	1.00		0.45
Lane Grp Cap(c), veh/h	30	873	728	158	0	1007	355	0	308	87	0	85
V/C Ratio(X)	0.51	0.98	0.61	0.87	0.00	0.56	0.99	0.00	0.39	0.13	0.00	0.45
Avail Cap(c_a), veh/h	96	873	728	158	0	1007	355	0	308	304	0	295
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.3	29.3	22.2	50.1	0.0	17.0	44.5	0.0	38.8	50.7	0.0	51.5
Incr Delay (d2), s/veh	12.7	26.0	1.5	36.3	0.0	0.7	45.6	0.0	0.8	0.6	0.0	3.7
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	0.5	26.8	8.3	5.3	0.0	9.0	13.8	0.0	2.9	0.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	55.3	23.6	86.4	0.0	17.7	90.1	0.0	39.6	51.4	0.0	55.2
LnGrp LOS	E	E	C	F	A	B	F	A	D	D	A	E
Approach Vol, veh/h		1315			701			473			49	
Approach Delay, s/veh		44.8			31.1			77.2			54.3	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	58.0		10.5	7.0	66.0		28.0				
Change Period (Y+Rc), s	5.1	6.0		5.0	5.1	6.0		5.8				
Max Green Setting (Gmax), s	9.9	52.0		19.0	6.0	55.9		22.2				
Max Q Clear Time (g_c+I1), s	10.5	52.3		4.4	2.9	24.2		24.0				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	3.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			47.2									
HCM 6th LOS			D									

Existing + Project PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3	Ø5
Lane Configurations	LT	RT	LT	TH	TH		
Traffic Volume (vph)	202	172	223	949	632		
Future Volume (vph)	202	172	223	949	632		
Turn Type	Prot	Perm	Perm	NA	NA		
Protected Phases	4			2	6	3	5
Permitted Phases		4	2				
Detector Phase	4	4	2	2	6		
Switch Phase							
Minimum Initial (s)	6.0	6.0	12.0	12.0	12.0	6.0	6.0
Minimum Split (s)	29.7	29.7	23.8	23.8	30.8	29.7	11.1
Total Split (s)	29.7	29.7	85.6	85.6	74.5	29.7	11.1
Total Split (%)	20.5%	20.5%	59.0%	59.0%	51.4%	20%	8%
Yellow Time (s)	3.7	3.7	4.3	4.3	4.3	3.7	4.1
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.7	4.7	5.8	5.8	5.8		
Lead/Lag	Lag	Lag			Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 145

Actuated Cycle Length: 91.4

Natural Cycle: 135

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ø2	Ø3	Ø4
85.6 s	29.7 s	29.7 s
Ø5		
11.1 s		
Ø6		
74.5 s		

Existing + Project PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	←←	→	←	↑↑	↑↑		←	←
Traffic Volume (vph)	202	172	223	949	632	91	0	0
Future Volume (vph)	202	172	223	949	632	91	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.8	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	0.98			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1533	1770	3539	3463			
Flt Permitted	0.95	1.00	0.35	1.00	1.00			
Satd. Flow (perm)	3433	1533	648	3539	3463			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	210	179	232	989	658	95	0	0
RTOR Reduction (vph)	0	154	0	0	0	0	0	0
Lane Group Flow (vph)	210	25	232	989	753	0	0	0
Confl. Peds. (#/hr)		15						
Confl. Bikes (#/hr)		2				3		
Turn Type	Prot	Perm	Perm	NA	NA		Prot	Perm
Protected Phases	4			2	6		3	
Permitted Phases		4	2					3
Actuated Green, G (s)	13.1	13.1	63.0	63.0	63.0			
Effective Green, g (s)	13.1	13.1	63.0	63.0	63.0			
Actuated g/C Ratio	0.14	0.14	0.67	0.67	0.67			
Clearance Time (s)	4.7	4.7	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	475	212	432	2359	2308			
v/s Ratio Prot	c0.06			0.28	0.22			
v/s Ratio Perm		0.02	c0.36					
v/c Ratio	0.44	0.12	0.54	0.42	0.33			
Uniform Delay, d1	37.3	35.6	8.2	7.3	6.7			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.2	1.3	0.1	0.1			
Delay (s)	38.0	35.9	9.5	7.4	6.8			
Level of Service	D	D	A	A	A			
Approach Delay (s)	37.0			7.8	6.8		0.0	
Approach LOS	D			A	A		A	
Intersection Summary								
HCM 2000 Control Delay			12.3		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.53					
Actuated Cycle Length (s)			94.5		Sum of lost time (s)		20.3	
Intersection Capacity Utilization			73.4%		ICU Level of Service		D	
Analysis Period (min)			15					
c Critical Lane Group								

Intersection												
Int Delay, s/veh	8.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	1	62	1	4	2	27	69	2	14	1
Future Vol, veh/h	0	1	1	62	1	4	2	27	69	2	14	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	89	92	89	92	89	89	89	89	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	1	70	1	4	2	30	78	2	16	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	2	0	0	154	147	2	199	145	3
Stage 1	-	-	-	-	-	-	2	2	-	143	143	-
Stage 2	-	-	-	-	-	-	152	145	-	56	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1616	-	-	1620	-	-	813	744	1082	760	746	1081
Stage 1	-	-	-	-	-	-	1021	894	-	860	779	-
Stage 2	-	-	-	-	-	-	850	777	-	956	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1616	-	-	1620	-	-	772	712	1082	660	714	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	772	712	-	660	714	-
Stage 1	-	-	-	-	-	-	1021	894	-	860	746	-
Stage 2	-	-	-	-	-	-	795	744	-	857	894	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.8			9.3			10.1		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	940	1616	-	-	1620	-	-	721				
HCM Lane V/C Ratio	0.117	-	-	-	0.043	-	-	0.026				
HCM Control Delay (s)	9.3	0	-	-	7.3	0	-	10.1				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1				

Intersection												
Int Delay, s/veh	130.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	246	144	211	53	131	10	156	16	39	10	21	180
Future Vol, veh/h	246	144	211	53	131	10	156	16	39	10	21	180
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	88	88	92	92	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	157	240	58	142	11	177	18	42	11	24	205

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	0	397	0	0	1215	1106	277	1131	1221	148
Stage 1	-	-	-	-	-	-	837	837	-	264	264	-
Stage 2	-	-	-	-	-	-	378	269	-	867	957	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1428	-	-	1162	-	-	~ 158	210	762	181	180	899
Stage 1	-	-	-	-	-	-	361	382	-	741	690	-
Stage 2	-	-	-	-	-	-	644	687	-	348	336	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1428	-	-	1162	-	-	~ 81	147	762	119	126	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 81	147	-	119	126	-
Stage 1	-	-	-	-	-	-	267	283	-	548	652	-
Stage 2	-	-	-	-	-	-	453	649	-	228	249	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	2.3	\$ 718.2	20.3
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	100	1428	-	-	1162	-	-	471
HCM Lane V/C Ratio	2.378	0.196	-	-	0.05	-	-	0.508
HCM Control Delay (s)	\$ 718.2	8.1	0	-	8.3	0	-	20.3
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	21.4	0.7	-	-	0.2	-	-	2.8

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	72.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	11	48	156	8	55	21	543	211	74	380	1
Future Vol, veh/h	1	11	48	156	8	55	21	543	211	74	380	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	92	95	92	92	92	95	95	92	92	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	12	51	170	9	60	22	572	229	80	400	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1326	1406	401	1323	1292	687	401	0	0	801	0	0
Stage 1	561	561	-	731	731	-	-	-	-	-	-	-
Stage 2	765	845	-	592	561	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	133	139	649	~ 133	163	447	1158	-	-	822	-	-
Stage 1	512	510	-	413	427	-	-	-	-	-	-	-
Stage 2	396	379	-	493	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	98	119	649	~ 101	140	447	1158	-	-	822	-	-
Mov Cap-2 Maneuver	98	119	-	~ 101	140	-	-	-	-	-	-	-
Stage 1	502	446	-	405	419	-	-	-	-	-	-	-
Stage 2	330	372	-	387	446	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	18.2		\$ 480.3		0.2		1.6					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1158	-	-	336	127	822	-	-				
HCM Lane V/C Ratio	0.019	-	-	0.189	1.874	0.098	-	-				
HCM Control Delay (s)	8.2	-	-	18.2	\$ 480.3	9.9	-	-				
HCM Lane LOS	A	-	-	C	F	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.7	18.7	0.3	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Existing + Project PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021



Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations						
Traffic Volume (vph)	42	84	864	90	647	
Future Volume (vph)	42	84	864	90	647	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 50.7

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

Ø1	Ø2	Ø4
24 s	29 s	27 s
Ø5	Ø6	
17 s	36 s	

Existing + Project PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	42	84	0	864	86	90	647
Future Volume (veh/h)	42	84	0	864	86	90	647
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	1870	1870
Adj Flow Rate, veh/h	43	87		891	89	93	667
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	152	135		1329	133	120	2176
Arrive On Green	0.09	0.09		0.41	0.41	0.07	0.61
Sat Flow, veh/h	1781	1585		3356	326	1781	3647
Grp Volume(v), veh/h	43	87		485	495	93	667
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1812	1781	1777
Q Serve(g_s), s	0.8	1.9		8.1	8.1	1.9	3.3
Cycle Q Clear(g_c), s	0.8	1.9		8.1	8.1	1.9	3.3
Prop In Lane	1.00	1.00			0.18	1.00	
Lane Grp Cap(c), veh/h	152	135		724	738	120	2176
V/C Ratio(X)	0.28	0.64		0.67	0.67	0.77	0.31
Avail Cap(c_a), veh/h	1077	959		1123	1146	930	2931
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	15.6	16.1		8.8	8.8	16.7	3.4
Incr Delay (d2), s/veh	1.0	5.0		1.1	1.1	10.1	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	0.3	1.9		1.8	1.9	0.9	0.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	16.6	21.1		9.9	9.9	26.8	3.4
LnGrp LOS	B	C		A	A	C	A
Approach Vol, veh/h	130			980			760
Approach Delay, s/veh	19.6			9.9			6.3
Approach LOS	B			A			A
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	7.5	20.8		8.1		28.3	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	3.9	10.1		3.9		5.3	
Green Ext Time (p_c), s	0.2	4.7		0.3		4.3	
Intersection Summary							
HCM 6th Ctrl Delay			9.1				
HCM 6th LOS			A				
Notes							
User approved ignoring U-Turning movement.							

Existing + Project PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	331	69	242	614	117	90	366	161	122	619	161
Future Volume (vph)	80	331	69	242	614	117	90	366	161	122	619	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.3	35.0	35.0	25.0	34.7	34.7	19.4	44.3	44.3	10.7	35.6	35.6
Total Split (%)	22.0%	30.4%	30.4%	21.7%	30.2%	30.2%	16.9%	38.5%	38.5%	9.3%	31.0%	31.0%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 92.2

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
10.7 s	44.3 s	25 s	35 s
			
19.4 s	35.6 s	25.3 s	34.7 s

Existing + Project PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	80	331	69	242	614	117	90	366	161	122	619	161
Future Volume (veh/h)	80	331	69	242	614	117	90	366	161	122	619	161
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	86	356	74	260	660	126	97	394	173	131	666	173
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	543	242	310	938	418	126	886	395	140	914	408
Arrive On Green	0.06	0.15	0.15	0.17	0.26	0.26	0.07	0.25	0.25	0.08	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	86	356	74	260	660	126	97	394	173	131	666	173
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.4	6.7	2.9	10.0	11.9	4.5	3.8	6.7	6.5	5.2	12.2	6.5
Cycle Q Clear(g_c), s	3.4	6.7	2.9	10.0	11.9	4.5	3.8	6.7	6.5	5.2	12.2	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	543	242	310	938	418	126	886	395	140	914	408
V/C Ratio(X)	0.76	0.66	0.31	0.84	0.70	0.30	0.77	0.44	0.44	0.93	0.73	0.42
Avail Cap(c_a), veh/h	499	1390	620	491	1375	613	358	1875	836	140	1440	642
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	32.8	28.3	26.8	28.4	23.7	20.9	32.4	22.5	22.5	32.6	24.1	22.0
Incr Delay (d2), s/veh	10.0	1.3	0.7	7.1	1.0	0.4	9.3	0.4	0.8	56.1	1.1	0.7
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	1.7	2.7	1.1	4.5	4.6	1.5	1.8	2.5	2.3	4.3	4.7	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	29.7	27.5	35.5	24.6	21.3	41.7	22.9	23.2	88.7	25.3	22.7
LnGrp LOS	D	C	C	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		516			1046			664			970	
Approach Delay, s/veh		31.6			26.9			25.7			33.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	24.5	17.8	18.1	10.1	25.1	9.9	26.0				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.6	37.5	19.6	27.8	14.3	28.8	19.9	27.5				
Max Q Clear Time (g_c+I1), s	7.2	8.7	12.0	8.7	5.8	14.2	5.4	13.9				
Green Ext Time (p_c), s	0.0	3.0	0.4	2.2	0.1	4.1	0.1	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			29.4									
HCM 6th LOS			C									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	233	114	374	148	95	189	1293	669	85	766	29
Future Volume (vph)	33	233	114	374	148	95	189	1293	669	85	766	29
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 105.1

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Project PM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	233	114	374	148	95	189	1293	669	85	766	29
Future Volume (veh/h)	33	233	114	374	148	95	189	1293	669	85	766	29
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	35	251	123	402	159	102	203	1390	719	91	824	31
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	389	174	509	489	414	150	1497	901	118	1434	640
Arrive On Green	0.03	0.11	0.11	0.15	0.26	0.26	0.08	0.42	0.42	0.07	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	35	251	123	402	159	102	203	1390	719	91	824	31
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.8	6.3	6.9	10.4	6.3	4.7	7.8	34.4	33.1	4.6	16.6	1.1
Cycle Q Clear(g_c), s	1.8	6.3	6.9	10.4	6.3	4.7	7.8	34.4	33.1	4.6	16.6	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	389	174	509	489	414	150	1497	901	118	1434	640
V/C Ratio(X)	0.77	0.64	0.71	0.79	0.33	0.25	1.35	0.93	0.80	0.77	0.57	0.05
Avail Cap(c_a), veh/h	125	692	309	1066	874	741	150	1511	907	397	2003	893
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	44.8	39.4	39.7	38.0	27.6	26.9	42.3	25.4	15.7	42.4	21.4	16.8
Incr Delay (d2), s/veh	22.9	1.8	5.2	2.8	0.4	0.3	195.0	10.3	5.0	9.9	0.4	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	1.1	2.7	2.8	4.4	2.7	1.7	11.5	15.8	11.1	2.3	6.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	41.2	44.9	40.8	27.9	27.2	237.3	35.7	20.8	52.4	21.8	16.8
LnGrp LOS	E	D	D	D	C	C	F	D	C	D	C	B
Approach Vol, veh/h		409			663			2312			946	
Approach Delay, s/veh		44.6			35.6			48.8			24.6	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	45.9	19.4	15.5	13.2	44.3	5.4	29.6				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	6.6	36.4	12.4	8.9	9.8	18.6	3.8	8.3				
Green Ext Time (p_c), s	0.2	2.6	1.2	1.2	0.0	6.9	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh 12.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	201	23	11	131	103	23	186	16	76	117	35
Future Vol, veh/h	51	201	23	11	131	103	23	186	16	76	117	35
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	205	23	11	134	105	23	190	16	78	119	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.4	12.1	12.4	12.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	19%	4%	33%
Vol Thru, %	83%	73%	53%	51%
Vol Right, %	7%	8%	42%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	275	245	228
LT Vol	23	51	11	76
Through Vol	186	201	131	117
RT Vol	16	23	103	35
Lane Flow Rate	230	281	250	233
Geometry Grp	1	1	1	1
Degree of Util (X)	0.373	0.446	0.386	0.378
Departure Headway (Hd)	5.854	5.719	5.558	5.846
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	611	626	643	612
Service Time	3.938	3.796	3.639	3.928
HCM Lane V/C Ratio	0.376	0.449	0.389	0.381
HCM Control Delay	12.4	13.4	12.1	12.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.7	2.3	1.8	1.8

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	254	4	13	138	16	5	22	12	22	20	23
Future Vol, veh/h	39	254	4	13	138	16	5	22	12	22	20	23
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	265	4	14	144	17	5	23	13	23	21	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	8.8	8.3	8.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	13%	8%	34%
Vol Thru, %	56%	86%	83%	31%
Vol Right, %	31%	1%	10%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	297	167	65
LT Vol	5	39	13	22
Through Vol	22	254	138	20
RT Vol	12	4	16	23
Lane Flow Rate	41	309	174	68
Geometry Grp	1	1	1	1
Degree of Util (X)	0.056	0.379	0.217	0.093
Departure Headway (Hd)	4.95	4.409	4.491	4.924
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	817	798	726
Service Time	2.994	2.437	2.523	2.965
HCM Lane V/C Ratio	0.057	0.378	0.218	0.094
HCM Control Delay	8.3	10.1	8.8	8.5
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	1.8	0.8	0.3

APPENDIX G

INTERSECTION ANALYSIS WORKSHEETS – WEEKDAY EXISTING + NEAR-TERM CUMULATIVE PROJECTS

Existing + Cumulative AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	299	226	1047	644	296
Future Volume (vph)	299	226	1047	644	296
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	23.5	23.5	34.0	57.5	22.5
Total Split (%)	29.4%	29.4%	42.5%	71.9%	28.1%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

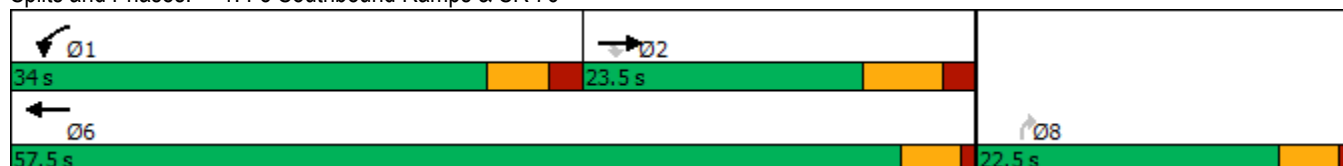
Cycle Length: 80

Actuated Cycle Length: 57.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing + Cumulative AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↑
Traffic Volume (vph)	299	226	1047	644	0	296
Future Volume (vph)	299	226	1047	644	0	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1562	3433	3539		1611
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1562	3433	3539		1611
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	305	231	1068	657	0	302
RTOR Reduction (vph)	0	186	0	0	0	273
Lane Group Flow (vph)	305	45	1068	657	0	29
Confl. Peds. (#/hr)		1				
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	11.1	11.1	23.7	42.8		5.6
Effective Green, g (s)	11.1	11.1	23.7	42.8		5.6
Actuated g/C Ratio	0.19	0.19	0.41	0.75		0.10
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	684	302	1417	2638		157
v/s Ratio Prot	c0.09		c0.31	0.19		
v/s Ratio Perm		0.03				c0.02
v/c Ratio	0.45	0.15	0.75	0.25		0.19
Uniform Delay, d1	20.4	19.2	14.4	2.3		23.8
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.2	2.3	0.0		0.6
Delay (s)	20.9	19.5	16.7	2.3		24.4
Level of Service	C	B	B	A		C
Approach Delay (s)	20.3			11.2	24.4	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			14.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			57.4		Sum of lost time (s)	17.0
Intersection Capacity Utilization			53.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Existing + Cumulative AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	488	107	1056	1435	99	584
Future Volume (vph)	488	107	1056	1435	99	584
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	26.6	24.1	29.3	55.9	24.1	24.1
Total Split (%)	33.3%	30.1%	36.6%	69.9%	30.1%	30.1%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 69

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
29.3 s	26.6 s	
← Ø6	↘ Ø8	
55.9 s	24.1 s	

Existing + Cumulative AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	488	107	1056	1435	99	584
Future Volume (veh/h)	488	107	1056	1435	99	584
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	1870	1870
Adj Flow Rate, veh/h	503	110	1089	1479	102	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	731	446	1263	2392	135	
Arrive On Green	0.21	0.21	0.37	0.67	0.08	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	503	110	1089	1479	102	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	7.3	3.0	16.4	13.1	3.1	0.0
Cycle Q Clear(g_c), s	7.3	3.0	16.4	13.1	3.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	731	446	1263	2392	135	
V/C Ratio(X)	0.69	0.25	0.86	0.62	0.76	
Avail Cap(c_a), veh/h	1179	646	1454	3036	572	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.6	15.6	16.5	5.1	25.4	0.0
Incr Delay (d2), s/veh	1.2	0.3	5.0	0.3	8.4	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	2.6	1.0	5.5	1.5	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.8	15.8	21.5	5.4	33.8	0.0
LnGrp LOS	C	B	C	A	C	
Approach Vol, veh/h	613			2568	102	A
Approach Delay, s/veh	20.7			12.2	33.8	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	26.2	19.5			45.7	10.3
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 24	18.6			47.9	18.0
Max Q Clear Time (g_c+I1), s	18.4	9.3			15.1	5.1
Green Ext Time (p_c), s	2.1	2.2			12.4	0.2

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	1055	17	14	2446	45	22
Future Volume (vph)	1055	17	14	2446	45	22
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	10.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	38.1	14.7	33.0	38.1	14.7
Total Split (s)	94.7	40.1	25.2	119.9	40.1	25.2
Total Split (%)	59.2%	25.1%	15.8%	74.9%	25.1%	15.8%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160

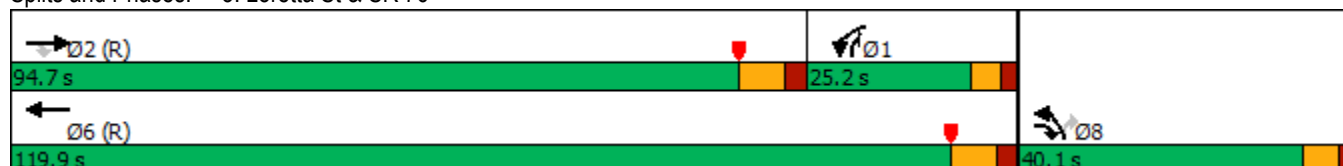
Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



Existing + Cumulative AM
3: Loretta St & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (veh/h)	1055	17	14	2446	45	22
Future Volume (veh/h)	1055	17	14	2446	45	22
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	1870	1870
Adj Flow Rate, veh/h	1088	18	14	2522	46	23
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1246	649	805	3029	106	811
Arrive On Green	0.35	0.35	0.45	0.85	0.06	0.06
Sat Flow, veh/h	3647	1583	1781	3647	1781	1585
Grp Volume(v), veh/h	1088	18	14	2522	46	23
Grp Sat Flow(s),veh/h/ln	1777	1583	1781	1777	1781	1585
Q Serve(g_s), s	45.9	1.1	0.7	57.8	4.0	0.0
Cycle Q Clear(g_c), s	45.9	1.1	0.7	57.8	4.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1246	649	805	3029	106	811
V/C Ratio(X)	0.87	0.03	0.02	0.83	0.43	0.03
Avail Cap(c_a), veh/h	1926	952	805	3029	379	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	28.2	24.2	6.0	72.6	19.4
Incr Delay (d2), s/veh	5.4	0.0	0.0	2.8	2.8	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	20.4	0.5	0.3	12.4	1.9	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.0	28.2	24.2	8.9	75.4	19.4
LnGrp LOS	D	C	C	A	E	B
Approach Vol, veh/h	1106			2536	69	
Approach Delay, s/veh	53.6			8.9	56.7	
Approach LOS	D			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	80.3	64.1			144.4	15.6
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	19.5	* 87			111.9	34.0
Max Q Clear Time (g_c+I1), s	2.7	47.9			59.8	6.0
Green Ext Time (p_c), s	0.0	8.2			36.9	0.2
Intersection Summary						
HCM 6th Ctrl Delay			23.1			
HCM 6th LOS			C			
Notes						

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

Existing + Cumulative AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1066	11	109	2437	23	117
Future Volume (vph)	1066	11	109	2437	23	117
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	39.1	15.7	33.0	39.1	15.7
Total Split (s)	87.2	37.1	35.7	122.9	37.1	35.7
Total Split (%)	54.5%	23.2%	22.3%	76.8%	23.2%	22.3%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 141 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing + Cumulative AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (veh/h)	1066	11	109	2437	23	117
Future Volume (veh/h)	1066	11	109	2437	23	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	1146	12	117	2620	25	126
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2527	1241	139	2931	301	262
Arrive On Green	0.71	0.71	0.08	0.82	0.09	0.09
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	1146	12	117	2620	25	126
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	22.0	0.3	10.4	78.6	1.1	11.5
Cycle Q Clear(g_c), s	22.0	0.3	10.4	78.6	1.1	11.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2527	1241	139	2931	301	262
V/C Ratio(X)	0.45	0.01	0.84	0.89	0.08	0.48
Avail Cap(c_a), veh/h	2527	1241	334	2931	670	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	9.9	3.3	72.7	9.3	67.2	60.6
Incr Delay (d2), s/veh	0.6	0.0	1.3	0.5	0.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.1	4.7	19.1	0.5	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.5	3.3	74.0	9.8	67.3	61.9
LnGrp LOS	B	A	E	A	E	E
Approach Vol, veh/h	1158			2737	151	
Approach Delay, s/veh	10.4			12.5	62.8	
Approach LOS	B			B	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	18.2	121.8			140.0	20.0
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 30	79.2			114.9	31.0
Max Q Clear Time (g_c+I1), s	12.4	24.0			80.6	13.5
Green Ext Time (p_c), s	0.2	9.2			28.0	0.4
Intersection Summary						
HCM 6th Ctrl Delay			13.8			
HCM 6th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Existing + Cumulative AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	993	111	43	2087	5	73	22	53	6	17	229
Future Volume (vph)	79	993	111	43	2087	5	73	22	53	6	17	229
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	23.7	50.1	50.1	20.7	21.1	20.7
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	14.8%	31.3%	31.3%	12.9%	13.2%	12.9%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

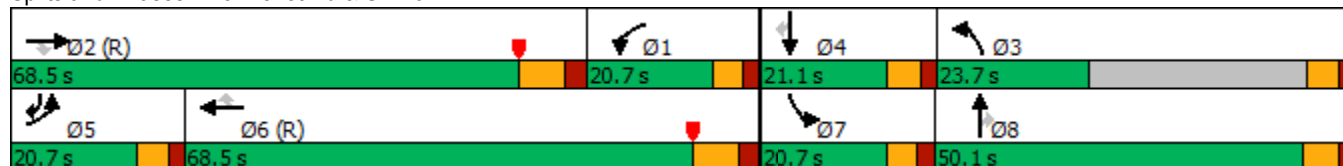
Actuated Cycle Length: 160

Offset: 69 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Cumulative AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	993	111	43	2087	5	73	22	53	6	17	229
Future Volume (veh/h)	79	993	111	43	2087	5	73	22	53	6	17	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
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	86	1079	121	47	2268	5	79	24	58	7	18	249
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1196	528	571	2104	939	130	279	236	36	175	271
Arrive On Green	0.08	0.34	0.34	0.64	1.00	1.00	0.07	0.15	0.15	0.02	0.09	0.09
Sat Flow, veh/h	1781	3554	1569	1781	3554	1585	1781	1870	1585	1781	1870	1542
Grp Volume(v), veh/h	86	1079	121	47	2268	5	79	24	58	7	18	249
Grp Sat Flow(s),veh/h/ln	1781	1777	1569	1781	1777	1585	1781	1870	1585	1781	1870	1542
Q Serve(g_s), s	7.5	46.3	8.9	1.6	94.7	0.0	6.9	1.8	2.7	0.6	1.4	15.0
Cycle Q Clear(g_c), s	7.5	46.3	8.9	1.6	94.7	0.0	6.9	1.8	2.7	0.6	1.4	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	1196	528	571	2104	939	130	279	236	36	175	271
V/C Ratio(X)	0.61	0.90	0.23	0.08	1.08	0.01	0.61	0.09	0.25	0.20	0.10	0.92
Avail Cap(c_a), veh/h	167	1344	593	571	2104	939	200	514	436	167	175	271
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.12	0.12	0.12	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	50.6	38.2	19.8	0.0	0.0	72.0	58.7	16.2	77.1	66.3	43.8
Incr Delay (d2), s/veh	4.1	10.1	0.9	0.0	36.4	0.0	4.6	0.1	0.5	2.6	0.3	34.3
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	3.5	21.4	3.6	0.7	10.6	0.0	3.3	0.9	2.1	0.3	0.7	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.3	60.6	39.1	19.8	36.4	0.0	76.5	58.8	16.8	79.8	66.6	78.1
LnGrp LOS	E	E	D	B	F	A	E	E	B	E	E	E
Approach Vol, veh/h		1286			2320			161			274	
Approach Delay, s/veh		59.6			36.0			52.4			77.4	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	59.3	61.8	17.7	21.1	18.4	102.7	8.9	29.9				
Change Period (Y+Rc), s	8.0	* 8	6.1	* 6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 61	18.0	* 15	* 15	60.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	3.6	48.3	8.9	17.0	9.5	96.7	2.6	4.7				
Green Ext Time (p_c), s	0.0	5.6	0.1	0.0	0.1	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			46.9									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	24	1323	37	30	2114	25	86	27	38	31	11
Future Volume (vph)	24	1323	37	30	2114	25	86	27	38	31	11
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	78.5	78.5	20.7	78.5	78.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	12.9%	49.1%	49.1%	12.9%	49.1%	49.1%	12.9%	28.2%	9.8%	13.2%	13.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160

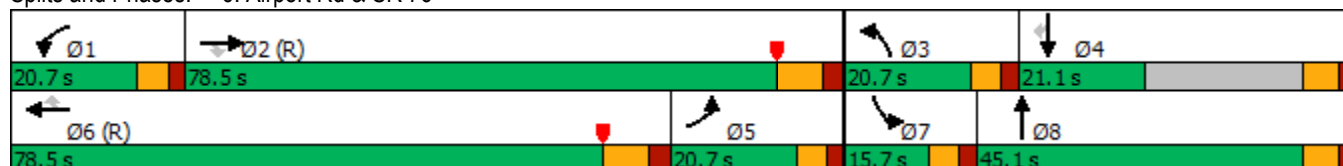
Actuated Cycle Length: 160

Offset: 83 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Existing + Cumulative AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1323	37	30	2114	25	86	27	86	38	31	11
Future Volume (veh/h)	24	1323	37	30	2114	25	86	27	86	38	31	11
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	25	1378	39	31	2202	26	90	28	90	40	32	11
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	439	2344	1045	75	1566	698	134	34	109	93	120	102
Arrive On Green	0.49	1.00	1.00	0.08	0.88	0.88	0.07	0.09	0.09	0.05	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	390	1254	1781	1870	1585
Grp Volume(v), veh/h	25	1378	39	31	2202	26	90	0	118	40	32	11
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1645	1781	1870	1585
Q Serve(g_s), s	1.2	0.0	0.0	2.6	70.5	0.2	7.9	0.0	11.3	3.5	2.6	0.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.6	70.5	0.2	7.9	0.0	11.3	3.5	2.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	439	2344	1045	75	1566	698	134	0	143	93	120	102
V/C Ratio(X)	0.06	0.59	0.04	0.41	1.41	0.04	0.67	0.00	0.82	0.43	0.27	0.11
Avail Cap(c_a), veh/h	439	2344	1045	167	1566	698	167	0	401	111	175	149
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.09	0.09	0.09	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	0.0	71.4	9.5	3.0	72.1	0.0	71.8	73.6	71.3	29.1
Incr Delay (d2), s/veh	0.0	0.9	0.1	0.3	183.2	0.0	7.2	0.0	10.9	3.2	1.2	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	0.5	0.3	0.0	1.2	43.7	0.1	3.9	0.0	5.2	1.7	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.9	0.1	71.7	192.7	3.0	79.3	0.0	82.7	76.7	72.5	29.6
LnGrp LOS	C	A	A	E	F	A	E	A	F	E	E	C
Approach Vol, veh/h		1442			2259			208			83	
Approach Delay, s/veh		1.4			188.8			81.2			68.8	
Approach LOS		A			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	113.5	17.7	16.4	47.4	78.5	14.0	20.0				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	70.5	* 15	15.0	15.0	* 71	* 10	39.0				
Max Q Clear Time (g_c+I1), s	4.6	2.0	9.9	4.6	3.2	72.5	5.5	13.3				
Green Ext Time (p_c), s	0.0	12.9	0.1	0.1	0.0	0.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	113.0
HCM 6th LOS	F

Notes

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

Existing + Cumulative AM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1371	71	79	2103	34	37	31	77	52	25	38
Future Volume (vph)	29	1371	71	79	2103	34	37	31	77	52	25	38
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	48.0	48.0	18.7	52.1	52.1	18.7	19.1	19.1
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	13.6%	32.6%	32.6%	11.7%	12.6%	12.6%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

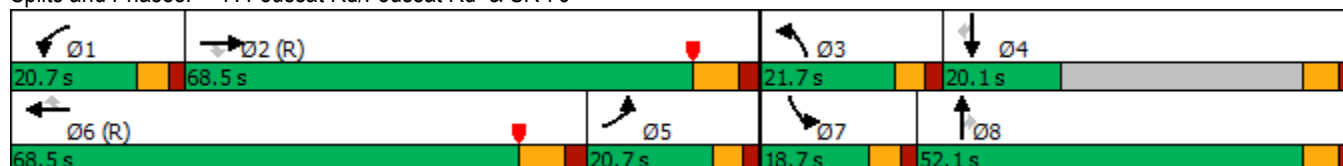
Actuated Cycle Length: 160

Offset: 53 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



Existing + Cumulative AM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1371	71	79	2103	34	37	31	77	52	25	38
Future Volume (veh/h)	29	1371	71	79	2103	34	37	31	77	52	25	38
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	29	1385	72	80	2124	34	37	31	78	53	25	38
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1035	2201	982	252	1344	599	227	267	119	254	295	231
Arrive On Green	0.60	1.00	1.00	0.07	0.38	0.38	0.07	0.07	0.07	0.07	0.08	0.08
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	29	1385	72	80	2124	34	37	31	78	53	25	38
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	0.5	0.0	0.0	3.5	60.5	1.6	1.6	1.3	7.7	2.3	1.0	1.2
Cycle Q Clear(g_c), s	0.5	0.0	0.0	3.5	60.5	1.6	1.6	1.3	7.7	2.3	1.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1035	2201	982	252	1344	599	227	267	119	254	295	231
V/C Ratio(X)	0.03	0.63	0.07	0.32	1.58	0.06	0.16	0.12	0.66	0.21	0.08	0.16
Avail Cap(c_a), veh/h	1035	2201	982	324	1344	599	346	1022	456	281	311	244
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	70.4	49.8	17.5	70.6	69.1	72.0	69.7	67.8	22.7
Incr Delay (d2), s/veh	0.0	1.0	0.1	0.7	264.9	0.2	0.3	0.2	5.8	0.4	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.0	1.5	75.0	0.9	0.7	0.6	3.3	1.0	0.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	1.0	0.1	71.1	314.6	17.7	70.9	69.2	77.8	70.1	67.9	23.1
LnGrp LOS	C	A	A	E	F	B	E	E	E	E	E	C
Approach Vol, veh/h		1486			2238			146			116	
Approach Delay, s/veh		1.4			301.4			74.2			54.2	
Approach LOS		A			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	107.1	16.2	19.4	55.9	68.5	17.5	18.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 16	14.0	15.0	* 61	* 13	46.0				
Max Q Clear Time (g_c+I1), s	5.5	2.0	3.6	3.2	2.5	62.5	4.3	9.7				
Green Ext Time (p_c), s	0.1	13.1	0.0	0.1	0.0	0.0	0.1	0.4				

Intersection Summary

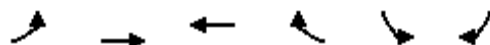
HCM 6th Ctrl Delay	174.1
HCM 6th LOS	F

Notes

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

Existing + Cumulative AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	283	852	1708	209	278	582	
Future Volume (vph)	283	852	1708	209	278	582	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	90.8	55.1	55.1	19.1	35.7	50.1
Total Split (%)	22.3%	56.8%	34.4%	34.4%	11.9%	22.3%	31%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 160

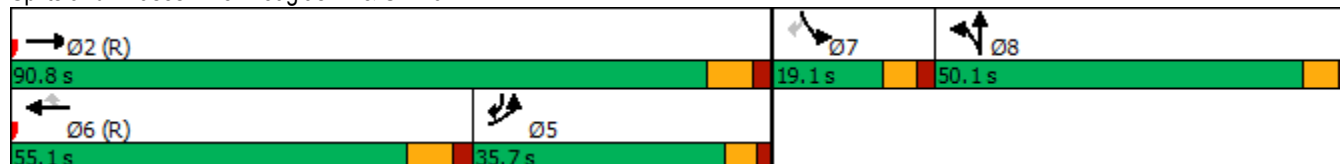
Actuated Cycle Length: 160

Offset: 131 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: Douglas Dr & SR 76



Existing + Cumulative AM
8: Douglas Dr & SR 76

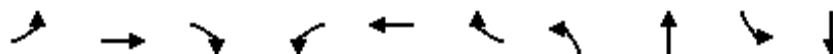
Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				 
Traffic Volume (veh/h)	283	852	0	0	1708	209	0	0	0	278	0	582
Future Volume (veh/h)	283	852	0	0	1708	209	0	0	0	278	0	582
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	308	926	0	0	1857	227	0	0	0	302	0	633
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	2093	3376	0	0	1046	467	0	1	0	0	0	0
Arrive On Green	0.61	0.95	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	308	926	0	0	1857	227	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	6.2	2.8	0.0	0.0	47.1	18.9	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	6.2	2.8	0.0	0.0	47.1	18.9	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	2093	3376	0	0	1046	467	0	1	0			
V/C Ratio(X)	0.15	0.27	0.00	0.00	1.78	0.49	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	2093	3376	0	0	1046	467	0	514	0			
HCM Platoon Ratio	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	0.09	0.09	0.00	0.00	0.00			
Uniform Delay (d), s/veh	13.7	0.3	0.0	0.0	56.4	46.5	0.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	349.2	0.3	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			
%ile BackOfQ(50%),veh/ln	2.3	0.1	0.0	0.0	71.8	7.6	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.5	0.0	0.0	405.6	46.8	0.0	0.0	0.0			
LnGrp LOS	B	A	A	A	F	D	A	A	A			
Approach Vol, veh/h	1234			2084			0					
Approach Delay, s/veh	3.8			366.5			0.0					
Approach LOS	A			F								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	160.0			104.9			55.1			0.0		
Change Period (Y+Rc), s	8.0			8.0			* 8			6.1		
Max Green Setting (Gmax), s	82.8			30.0			* 47			44.0		
Max Q Clear Time (g_c+I1), s	4.8			8.2			49.1			0.0		
Green Ext Time (p_c), s	7.0			1.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay			231.6									
HCM 6th LOS			F									
Notes												

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

Existing + Cumulative AM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	49	842	217	361	1514	81	270	362	49	298
Future Volume (vph)	49	842	217	361	1514	81	270	362	49	298
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	26.5	26.5	60.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	16.6%	16.6%	37.9%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

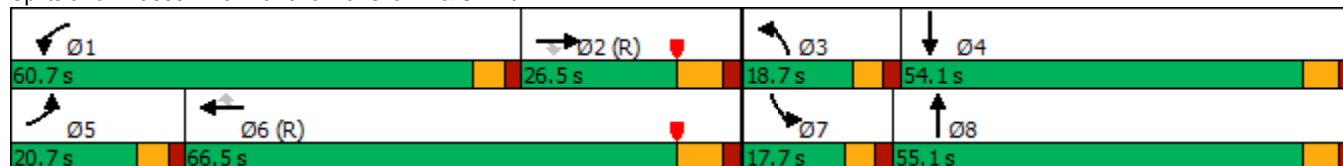
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing + Cumulative AM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	842	217	361	1514	81	270	362	365	49	298	64
Future Volume (veh/h)	49	842	217	361	1514	81	270	362	365	49	298	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	53	915	236	392	1646	88	293	393	384	53	324	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1302	573	456	1469	655	281	488	427	235	759	162
Arrive On Green	0.03	0.12	0.12	0.13	0.41	0.41	0.08	0.27	0.27	0.07	0.26	0.26
Sat Flow, veh/h	1781	3554	1564	3456	3554	1585	3456	1777	1554	3456	2905	619
Grp Volume(v), veh/h	53	915	236	392	1646	88	293	393	384	53	196	198
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1777	1585	1728	1777	1554	1728	1777	1747
Q Serve(g_s), s	4.7	39.6	22.3	17.8	66.1	5.5	13.0	33.0	38.1	2.3	14.7	15.1
Cycle Q Clear(g_c), s	4.7	39.6	22.3	17.8	66.1	5.5	13.0	33.0	38.1	2.3	14.7	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	151	1302	573	456	1469	655	281	488	427	235	464	456
V/C Ratio(X)	0.35	0.70	0.41	0.86	1.12	0.13	1.04	0.81	0.90	0.23	0.42	0.43
Avail Cap(c_a), veh/h	167	1302	573	1188	1469	655	281	544	476	259	533	524
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	73.4	62.0	54.4	68.0	46.9	29.2	73.5	54.1	55.9	70.6	49.1	49.2
Incr Delay (d2), s/veh	0.7	1.6	1.1	4.9	63.9	0.4	65.5	7.9	18.7	0.4	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	19.2	9.6	8.0	40.7	2.2	8.2	15.5	16.9	1.0	6.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	63.6	55.5	72.9	110.9	29.6	139.0	62.0	74.7	71.0	49.6	49.8
LnGrp LOS	E	E	E	E	F	C	F	E	E	E	D	D
Approach Vol, veh/h		1204			2126			1070			447	
Approach Delay, s/veh		62.5			100.5			87.6			52.2	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.8	66.6	18.7	47.9	19.3	74.1	16.6	50.0				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 55	18.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	19.8	41.6	15.0	17.1	6.7	68.1	4.3	40.1				
Green Ext Time (p_c), s	1.3	0.0	0.0	2.2	0.0	0.0	0.1	3.1				

Intersection Summary

HCM 6th Ctrl Delay	83.8
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	65	502	144	101	1072	146	278	96	143	149
Future Volume (vph)	65	502	144	101	1072	146	278	96	143	149
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	7.0	6.0	6.0	7.0	7.0	6.0	8.0	6.0	8.0
Minimum Split (s)	11.1	36.8	11.1	11.4	36.4	36.4	11.1	34.8	11.1	34.8
Total Split (s)	18.0	24.0	17.0	27.0	33.0	33.0	17.0	52.0	17.0	52.0
Total Split (%)	15.0%	20.0%	14.2%	22.5%	27.5%	27.5%	14.2%	43.3%	14.2%	43.3%
Yellow Time (s)	4.1	4.8	4.1	4.4	4.4	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.4	5.4	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Min	None	Min

Intersection Summary

Cycle Length: 120

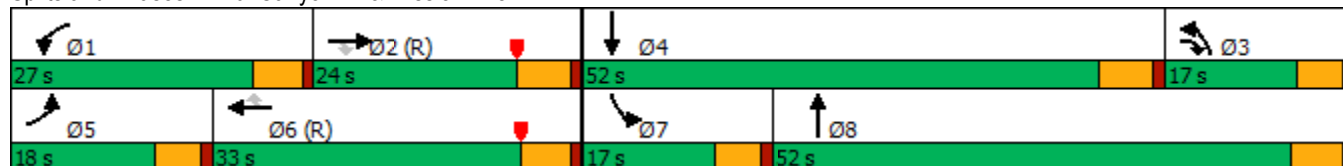
Actuated Cycle Length: 120

Offset: 89.4 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Timings

N:\3145\Analysis\Synchro\05 Ex + C AM.syn

Synchro 10 Report

Existing + Cumulative AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	502	144	101	1072	146	278	96	59	143	149	45
Future Volume (veh/h)	65	502	144	101	1072	146	278	96	59	143	149	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.85	1.00		0.89	1.00		0.90
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	77	598	171	120	1276	174	331	114	70	170	177	54
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1414	760	148	1521	575	343	569	311	229	608	176
Arrive On Green	0.06	0.40	0.40	0.08	0.43	0.43	0.10	0.27	0.27	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1516	1781	3554	1344	3456	2117	1157	3456	2643	767
Grp Volume(v), veh/h	77	598	171	120	1276	174	331	93	91	170	116	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1516	1781	1777	1344	1728	1777	1497	1728	1777	1633
Q Serve(g_s), s	5.1	14.6	2.0	7.9	38.4	10.2	11.5	4.9	5.7	5.8	6.5	7.0
Cycle Q Clear(g_c), s	5.1	14.6	2.0	7.9	38.4	10.2	11.5	4.9	5.7	5.8	6.5	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.47
Lane Grp Cap(c), veh/h	98	1414	760	148	1521	575	343	477	402	229	409	376
V/C Ratio(X)	0.78	0.42	0.22	0.81	0.84	0.30	0.97	0.20	0.23	0.74	0.28	0.31
Avail Cap(c_a), veh/h	191	1414	760	321	1521	575	343	684	576	343	684	629
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(l)	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	56.0	26.2	6.3	54.1	30.6	22.5	53.8	33.9	34.2	55.0	38.1	38.3
Incr Delay (d2), s/veh	12.6	0.9	0.7	10.1	5.7	1.4	39.4	0.2	0.3	4.7	0.4	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	2.6	6.2	1.4	3.9	16.9	3.4	6.8	2.1	2.1	2.7	2.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.5	27.1	7.0	64.2	36.3	23.9	93.3	34.1	34.4	59.7	38.4	38.7
LnGrp LOS	E	C	A	E	D	C	F	C	C	E	D	D
Approach Vol, veh/h		846			1570			515			401	
Approach Delay, s/veh		26.8			37.1			72.2			47.5	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	53.5	17.7	33.4	11.7	57.2	13.1	38.0				
Change Period (Y+Rc), s	5.4	5.8	5.8	* 5.8	5.1	* 5.8	5.1	5.8				
Max Green Setting (Gmax), s	21.6	18.2	11.9	* 46	12.9	* 28	11.9	46.2				
Max Q Clear Time (g_c+I1), s	9.9	16.6	13.5	9.0	7.1	40.4	7.8	7.7				
Green Ext Time (p_c), s	0.2	0.7	0.0	1.5	0.1	0.0	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			41.2									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
User approved changes to right turn type.												

Existing + Cumulative AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø7
Lane Configurations									
Traffic Volume (vph)	3	413	131	45	1016	0	0		
Future Volume (vph)	3	413	131	45	1016	0	0		
Turn Type	Prot	NA	Perm	Prot	NA	NA	NA		
Protected Phases	5	2		1	6	8	4	3	7
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	4		
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	3.0	3.0
Minimum Split (s)	10.4	43.2	43.2	10.4	43.2	25.2	25.2	10.4	10.4
Total Split (s)	10.4	43.4	43.4	11.0	44.0	25.2	25.2	10.4	10.4
Total Split (%)	11.6%	48.2%	48.2%	12.2%	48.9%	28.0%	28.0%	12%	12%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	3.6	3.6	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.4	6.2	6.2	5.4	6.2	4.6	4.6		
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 61.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

Ø1	Ø2	Ø3	Ø4
11 s	43.4 s	10.4 s	25.2 s
Ø5	Ø6	Ø7	Ø8
10.4 s	44 s	10.4 s	25.2 s

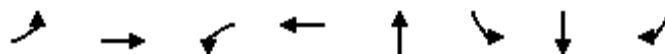
Existing + Cumulative AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	413	131	45	1016	3	195	0	24	1	0	1
Future Volume (veh/h)	3	413	131	45	1016	3	195	0	24	1	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
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	3	469	149	51	1155	3	222	0	27	1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	1560	679	94	1774	5	0	0	214	0	0	211
Arrive On Green	0.00	0.44	0.44	0.05	0.49	0.49	0.00	0.00	0.14	0.00	0.00	0.14
Sat Flow, veh/h	1781	3554	1546	1781	3636	9	0	0	1582	0	0	1560
Grp Volume(v), veh/h	3	469	149	51	564	594	0	0	27	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1777	1869	0	0	1582	0	0	1560
Q Serve(g_s), s	0.1	3.7	2.6	1.2	10.4	10.4	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.7	2.6	1.2	10.4	10.4	0.0	0.0	0.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	7	1560	679	94	867	911	0	0	214	0	0	211
V/C Ratio(X)	0.41	0.30	0.22	0.54	0.65	0.65	0.00	0.00	0.13	0.00	0.00	0.00
Avail Cap(c_a), veh/h	205	3044	1324	230	1546	1626	0	0	750	0	0	740
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	7.9	7.6	20.1	8.4	8.4	0.0	0.0	16.5	0.0	0.0	16.3
Incr Delay (d2), s/veh	33.2	0.1	0.2	4.8	0.8	0.8	0.0	0.0	0.3	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	0.1	0.9	0.6	0.5	2.5	2.7	0.0	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	8.0	7.7	24.8	9.2	9.1	0.0	0.0	16.8	0.0	0.0	16.3
LnGrp LOS	D	A	A	C	A	A	A	A	B	A	A	B
Approach Vol, veh/h		621			1209			27			1	
Approach Delay, s/veh		8.1			9.8			16.8			16.3	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	25.3	0.0	10.5	5.6	27.4	0.0	10.5				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	3.2	5.7	0.0	2.0	2.1	12.4	0.0	2.7				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.0	0.0	8.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Existing + Cumulative AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	25	571	7	1071	20	32	17	16
Future Volume (vph)	25	571	7	1071	20	32	17	16
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	5.0	5.0	5.0
Minimum Split (s)	10.4	30.8	10.4	30.8	25.0	23.4	23.4	23.4
Total Split (s)	20.0	30.0	20.0	30.0	25.0	25.0	25.0	25.0
Total Split (%)	20.0%	30.0%	20.0%	30.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	30 s	25 s	25 s
Ø5	Ø6 (R)		
20 s	30 s		

Timings

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Synchro 10 Report

Existing + Cumulative AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	571	6	7	1071	85	13	20	19	32	17	16
Future Volume (veh/h)	25	571	6	7	1071	85	13	20	19	32	17	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	26	589	6	7	1104	88	13	21	20	26	28	16
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	46	2448	25	16	2208	176	26	42	40	76	80	68
Arrive On Green	0.03	0.68	0.68	0.01	0.88	0.88	0.06	0.06	0.06	0.04	0.04	0.04
Sat Flow, veh/h	1781	3604	37	1781	3334	266	417	674	642	1781	1870	1585
Grp Volume(v), veh/h	26	290	305	7	588	604	54	0	0	26	28	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1823	1734	0	0	1781	1870	1585
Q Serve(g_s), s	1.4	6.3	6.3	0.4	7.0	7.1	3.0	0.0	0.0	1.4	1.5	1.0
Cycle Q Clear(g_c), s	1.4	6.3	6.3	0.4	7.0	7.1	3.0	0.0	0.0	1.4	1.5	1.0
Prop In Lane	1.00		0.02	1.00		0.15	0.24		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	46	1207	1266	16	1177	1207	108	0	0	76	80	68
V/C Ratio(X)	0.57	0.24	0.24	0.44	0.50	0.50	0.50	0.00	0.00	0.34	0.35	0.24
Avail Cap(c_a), veh/h	260	1207	1266	260	1177	1207	354	0	0	365	383	325
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.00	0.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	48.2	6.2	6.2	49.2	2.4	2.4	45.4	0.0	0.0	46.5	46.5	46.3
Incr Delay (d2), s/veh	10.6	0.5	0.5	16.3	1.3	1.3	3.6	0.0	0.0	2.6	2.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.1	2.2	0.2	1.8	1.9	1.4	0.0	0.0	0.7	0.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	6.6	6.6	65.5	3.8	3.7	49.0	0.0	0.0	49.1	49.1	48.0
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	D	D
Approach Vol, veh/h		621			1199			54			70	
Approach Delay, s/veh		8.8			4.1			49.0			48.8	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	74.1		8.8	8.0	72.4		10.8				
Change Period (Y+Rc), s	5.4	6.2		4.5	5.4	6.2		4.6				
Max Green Setting (Gmax), s	14.6	23.8		20.5	14.6	23.8		20.4				
Max Q Clear Time (g_c+I1), s	2.4	8.3		3.5	3.4	9.1		5.0				
Green Ext Time (p_c), s	0.0	3.0		0.2	0.0	6.6		0.2				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Existing + Cumulative AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	39	554	56	1137	22	0	46	66	0	10
Future Volume (vph)	39	554	56	1137	22	0	46	66	0	10
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	32.9	32.9	32.9	32.9	32.9	32.9
Total Split (s)	26.0	40.0	26.0	40.0	34.0	34.0	34.0	34.0	34.0	34.0
Total Split (%)	26.0%	40.0%	26.0%	40.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 72 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Existing + Cumulative AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	554	22	56	1137	19	22	0	46	66	0	10
Future Volume (veh/h)	39	554	22	56	1137	19	22	0	46	66	0	10
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	40	571	23	58	1172	20	23	0	47	68	0	10
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	60	1772	71	75	1851	32	73	0	464	73	0	464
Arrive On Green	0.07	1.00	1.00	0.08	1.00	1.00	0.29	0.00	0.29	0.29	0.00	0.29
Sat Flow, veh/h	1781	3482	140	1781	3575	61	3	0	1585	3	0	1585
Grp Volume(v), veh/h	40	291	303	58	582	610	23	0	47	68	0	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1845	1781	1777	1859	3	0	1585	3	0	1585
Q Serve(g_s), s	2.2	0.0	0.0	3.2	0.0	0.0	0.1	0.0	2.2	0.1	0.0	0.4
Cycle Q Clear(g_c), s	2.2	0.0	0.0	3.2	0.0	0.0	29.3	0.0	2.2	29.3	0.0	0.4
Prop In Lane	1.00		0.08	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	904	939	75	920	962	73	0	464	73	0	464
V/C Ratio(X)	0.67	0.32	0.32	0.77	0.63	0.63	0.32	0.00	0.10	0.93	0.00	0.02
Avail Cap(c_a), veh/h	372	904	939	372	920	962	73	0	464	73	0	464
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.80	0.80	0.80	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	0.0	0.0	45.3	0.0	0.0	50.0	0.0	25.8	50.0	0.0	25.2
Incr Delay (d2), s/veh	12.0	0.9	0.9	12.5	2.7	2.5	2.4	0.0	0.1	82.0	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	1.1	0.2	0.2	1.6	0.7	0.7	0.6	0.0	0.8	3.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	0.9	0.9	57.8	2.7	2.5	52.4	0.0	25.9	132.0	0.0	25.2
LnGrp LOS	E	A	A	E	A	A	D	A	C	F	A	C
Approach Vol, veh/h	634				1250				70			
Approach Delay, s/veh	4.5				5.2				34.6			
Approach LOS	A				A				C			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	56.7		34.0	8.5	57.6		34.0				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	20.9	34.2		* 29	20.9	34.2		* 29				
Max Q Clear Time (g_c+I1), s	5.2	2.0		31.3	4.2	2.0		31.3				
Green Ext Time (p_c), s	0.1	3.6		0.0	0.1	8.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	75	542	22	1088	30	42	79	32	70	65
Future Volume (vph)	75	542	22	1088	30	42	79	32	70	65
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	30.7	10.6	11.1	30.5	10.6	30.5	11.1
Total Split (s)	20.0	35.0	15.0	30.0	20.0	20.0	30.0	20.0	30.0	20.0
Total Split (%)	20.0%	35.0%	15.0%	30.0%	20.0%	20.0%	30.0%	20.0%	30.0%	20.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	Min	None

Intersection Summary

Cycle Length: 100

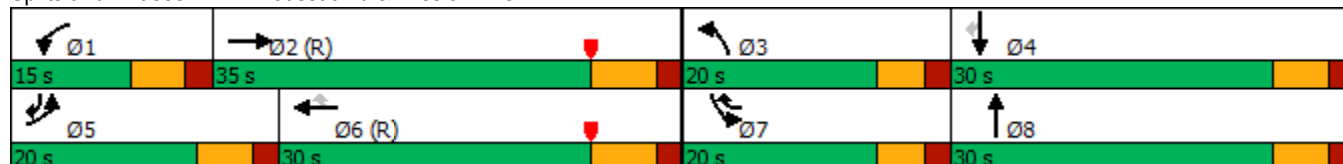
Actuated Cycle Length: 100

Offset: 52 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



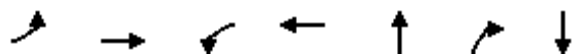
Existing + Cumulative AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	542	43	22	1088	30	42	79	35	32	70	65
Future Volume (veh/h)	75	542	43	22	1088	30	42	79	35	32	70	65
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	78	565	45	23	1133	31	44	82	36	33	73	68
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	100	2136	170	42	2161	1012	122	146	61	104	193	308
Arrive On Green	0.11	1.00	1.00	0.05	1.00	1.00	0.04	0.06	0.06	0.03	0.05	0.05
Sat Flow, veh/h	1781	3334	265	1781	3554	1585	3456	2448	1016	3456	3554	2790
Grp Volume(v), veh/h	78	301	309	23	1133	31	44	58	60	33	73	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1823	1781	1777	1585	1728	1777	1687	1728	1777	1395
Q Serve(g_s), s	4.3	0.0	0.0	1.3	0.0	0.0	1.2	3.2	3.5	0.9	2.0	2.2
Cycle Q Clear(g_c), s	4.3	0.0	0.0	1.3	0.0	0.0	1.2	3.2	3.5	0.9	2.0	2.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	100	1138	1168	42	2161	1012	122	106	101	104	193	308
V/C Ratio(X)	0.78	0.26	0.26	0.55	0.52	0.03	0.36	0.55	0.59	0.32	0.38	0.22
Avail Cap(c_a), veh/h	248	1138	1168	159	2161	1012	498	425	403	498	849	823
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.91	0.91	0.91	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	43.8	0.0	0.0	47.1	0.0	0.0	47.1	45.7	45.8	47.5	45.6	40.5
Incr Delay (d2), s/veh	12.1	0.6	0.5	9.7	0.8	0.1	1.8	4.4	5.5	1.7	1.2	0.4
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	2.1	0.2	0.2	0.6	0.2	0.0	0.6	1.5	1.6	0.4	0.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	0.6	0.5	56.8	0.8	0.1	48.9	50.1	51.3	49.2	46.8	40.9
LnGrp LOS	E	A	A	E	A	A	D	D	D	D	D	D
Approach Vol, veh/h		688			1187			162			174	
Approach Delay, s/veh		6.8			1.9			50.2			45.0	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	70.9	9.1	11.5	11.7	67.6	8.6	12.1				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.1	6.8	5.6	6.1				
Max Green Setting (Gmax), s	8.9	28.2	14.4	23.9	13.9	23.2	14.4	23.9				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.2	4.2	6.3	2.0	2.9	5.5				
Green Ext Time (p_c), s	0.0	3.4	0.1	0.6	0.1	7.9	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing + Cumulative AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	7	489	91	1068	6	41	0
Future Volume (vph)	7	489	91	1068	6	41	0
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	20.8	30.0	9.5	13.8
Total Split (s)	20.0	35.0	20.0	35.0	30.0	20.0	15.0
Total Split (%)	20.0%	35.0%	20.0%	35.0%	30.0%	20.0%	15.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 60 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	35 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	35 s		

Existing + Cumulative AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	489	90	91	1068	8	47	6	41	4	0	7
Future Volume (veh/h)	7	489	90	91	1068	8	47	6	41	4	0	7
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	7	504	93	94	1101	8	48	6	42	4	0	7
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	9	1980	364	119	2611	19	78	10	184	11	0	19
Arrive On Green	0.01	1.00	1.00	0.13	1.00	1.00	0.05	0.05	0.05	0.02	0.00	0.02
Sat Flow, veh/h	1781	2998	551	1781	3616	26	1592	199	1585	600	0	1051
Grp Volume(v), veh/h	7	298	299	94	541	568	54	0	42	11	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1771	1781	1777	1866	1791	0	1585	1651	0	0
Q Serve(g_s), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.01	0.89		1.00	0.36		0.64
Lane Grp Cap(c), veh/h	9	1174	1170	119	1283	1347	88	0	184	30	0	0
V/C Ratio(X)	0.74	0.25	0.26	0.79	0.42	0.42	0.61	0.00	0.23	0.36	0.00	0.00
Avail Cap(c_a), veh/h	265	1174	1170	265	1283	1347	455	0	509	165	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	42.6	0.0	0.0	46.6	0.0	40.1	48.5	0.0	0.0
Incr Delay (d2), s/veh	71.1	0.5	0.5	10.2	0.9	0.9	6.7	0.0	0.6	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.2	2.4	0.3	0.3	1.5	0.0	1.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.5	0.5	0.5	52.8	0.9	0.9	53.3	0.0	40.8	55.6	0.0	0.0
LnGrp LOS	F	A	A	D	A	A	D	A	D	E	A	A
Approach Vol, veh/h		604			1203			96			11	
Approach Delay, s/veh		1.9			5.0			47.8			55.6	
Approach LOS		A			A			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	71.9		6.8	5.6	78.0		9.5				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	29.2		10.0	14.9	29.2		25.4				
Max Q Clear Time (g_c+I1), s	7.1	2.0		2.7	2.4	2.0		5.0				
Green Ext Time (p_c), s	0.1	3.4		0.0	0.0	7.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			6.4									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing + Cumulative AM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑
Traffic Volume (vph)	481	63	1131	39
Future Volume (vph)	481	63	1131	39
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	40.0	30.0	70.0	30.0
Total Split (%)	40.0%	30.0%	70.0%	30.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



Existing + Cumulative AM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	481	45	63	1131	39	43
Future Volume (veh/h)	481	45	63	1131	39	43
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	1870	1870
Adj Flow Rate, veh/h	501	47	66	1178	41	45
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2398	224	86	2948	52	58
Arrive On Green	1.00	1.00	0.06	1.00	0.07	0.07
Sat Flow, veh/h	3378	307	1781	3647	789	866
Grp Volume(v), veh/h	270	278	66	1178	87	0
Grp Sat Flow(s),veh/h/ln	1777	1815	1781	1777	1675	0
Q Serve(g_s), s	0.0	0.0	3.6	0.0	5.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.6	0.0	5.1	0.0
Prop In Lane		0.17	1.00		0.47	0.52
Lane Grp Cap(c), veh/h	1297	1325	86	2948	111	0
V/C Ratio(X)	0.21	0.21	0.77	0.40	0.78	0.00
Avail Cap(c_a), veh/h	1297	1325	444	2948	425	0
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.91	0.91	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	46.2	0.0	46.0	0.0
Incr Delay (d2), s/veh	0.4	0.3	12.0	0.4	11.2	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	0.1	0.1	1.8	0.2	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.4	0.3	58.3	0.4	57.2	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	548			1244	87	
Approach Delay, s/veh	0.4			3.4	57.2	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.9	78.8			88.8	11.2
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	34.2			64.2	25.4
Max Q Clear Time (g_c+I1), s	5.6	2.0			2.0	7.1
Green Ext Time (p_c), s	0.1	3.1			10.5	0.2
Intersection Summary						
HCM 6th Ctrl Delay			5.0			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative AM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBR
Lane Configurations				
Traffic Volume (vph)	6	513	1253	4
Future Volume (vph)	6	513	1253	4
Turn Type	Prot	NA	NA	Perm
Protected Phases	5	2	6	
Permitted Phases				4
Detector Phase	5	2	6	4
Switch Phase				
Minimum Initial (s)	3.0	10.0	10.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8
Total Split (s)	30.0	70.0	40.0	30.0
Total Split (%)	30.0%	70.0%	40.0%	30.0%
Yellow Time (s)	4.1	4.8	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing + Cumulative AM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	513	1253	2	0	4
Future Volume (veh/h)	6	513	1253	2	0	4
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	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	1870	1870
Adj Flow Rate, veh/h	6	523	1279	2	0	4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	8	3165	3040	5	18	8
Arrive On Green	0.01	1.00	1.00	1.00	0.00	0.01
Sat Flow, veh/h	1781	3647	3734	6	3456	1585
Grp Volume(v), veh/h	6	523	624	657	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1869	1728	1585
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.0	0.0	0.3
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	8	3165	1484	1561	18	8
V/C Ratio(X)	0.73	0.17	0.42	0.42	0.00	0.48
Avail Cap(c_a), veh/h	444	3165	1484	1561	878	403
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.90	0.90	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	0.0	0.0	49.6
Incr Delay (d2), s/veh	77.2	0.1	0.8	0.8	0.0	37.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.3	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	126.7	0.1	0.8	0.8	0.0	86.8
LnGrp LOS	F	A	A	A	A	F
Approach Vol, veh/h		529	1281		4	
Approach Delay, s/veh		1.5	0.8		86.8	
Approach LOS		A	A		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		94.9		5.1	5.6	89.3
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		64.2		25.4	24.9	34.2
Max Q Clear Time (g_c+I1), s		2.0		2.3	2.3	2.0
Green Ext Time (p_c), s		3.5		0.0	0.0	9.6
Intersection Summary						
HCM 6th Ctrl Delay			1.2			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	17	531	1133	31	54	
Future Volume (vph)	17	531	1133	31	54	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	30.0	45.0	40.0	30.0	30.0	25.0
Total Split (%)	30.0%	45.0%	40.0%	30.0%	30.0%	25%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 8 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing + Cumulative AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	17	531	0	1133	9	31	54
Future Volume (veh/h)	17	531	0	1133	9	31	54
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	1870	1870
Adj Flow Rate, veh/h	18	559		1193	9	33	57
Peak Hour Factor	0.95	0.95		0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	53	2997		2756	21	94	83
Arrive On Green	0.06	1.00		0.76	0.76	0.05	0.05
Sat Flow, veh/h	1781	3647		3709	27	1781	1585
Grp Volume(v), veh/h	18	559		586	616	33	57
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1865	1781	1585
Q Serve(g_s), s	1.0	0.0		11.7	11.7	1.8	3.5
Cycle Q Clear(g_c), s	1.0	0.0		11.7	11.7	1.8	3.5
Prop In Lane	1.00				0.01	1.00	1.00
Lane Grp Cap(c), veh/h	53	2997		1355	1422	94	83
V/C Ratio(X)	0.34	0.19		0.43	0.43	0.35	0.68
Avail Cap(c_a), veh/h	444	2997		1355	1422	452	403
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99		0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0		4.2	4.2	45.7	46.5
Incr Delay (d2), s/veh	3.6	0.1		0.8	0.8	2.2	9.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1		3.0	3.1	0.8	3.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	49.7	0.1		5.0	5.0	48.0	56.0
LnGrp LOS	D	A		A	A	D	E
Approach Vol, veh/h		577		1202		90	
Approach Delay, s/veh		1.7		5.0		53.0	
Approach LOS		A		A		D	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		90.1		9.9	8.1	82.0	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		39.2		25.4	24.9	34.2	
Max Q Clear Time (g_c+I1), s		2.0		5.5	3.0	13.7	
Green Ext Time (p_c), s		3.7		0.2	0.0	7.5	
Intersection Summary							
HCM 6th Ctrl Delay			6.3				
HCM 6th LOS			A				
Notes							
User approved pedestrian interval to be less than phase max green.							
User approved ignoring U-Turning movement.							

Existing + Cumulative AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	157	269	122	152	484	159	220	104	95	735	429
Future Volume (vph)	157	269	122	152	484	159	220	104	95	735	429
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

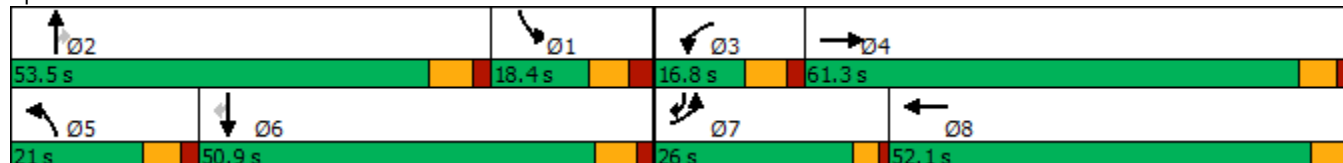
Cycle Length: 150

Actuated Cycle Length: 125.7

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing + Cumulative AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	269	122	152	484	26	159	220	104	95	735	429
Future Volume (veh/h)	157	269	122	152	484	26	159	220	104	95	735	429
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	164	280	0	158	504	27	132	277	108	99	766	447
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	252	439		393	675	36	198	450	191	581	1211	656
Arrive On Green	0.07	0.12	0.00	0.11	0.20	0.20	0.11	0.12	0.12	0.33	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	3431	183	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	164	280	0	158	261	270	132	277	108	99	766	447
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1837	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	4.0	6.4	0.0	3.7	11.9	11.9	6.1	6.0	3.8	3.4	15.6	19.8
Cycle Q Clear(g_c), s	4.0	6.4	0.0	3.7	11.9	11.9	6.1	6.0	3.8	3.4	15.6	19.8
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	439		393	350	362	198	450	191	581	1211	656
V/C Ratio(X)	0.65	0.64		0.40	0.74	0.75	0.67	0.61	0.57	0.17	0.63	0.68
Avail Cap(c_a), veh/h	884	2274		402	974	1007	305	2032	861	581	1823	929
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	35.8	0.0	35.4	32.5	32.5	36.7	35.9	17.0	20.7	23.8	20.6
Incr Delay (d2), s/veh	2.8	1.5	0.0	0.7	3.2	3.1	3.8	1.4	2.6	0.1	0.6	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	1.7	2.7	0.0	1.5	5.1	5.3	2.8	2.8	2.1	1.4	6.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	37.4	0.0	36.0	35.6	35.6	40.5	37.3	19.7	20.8	24.4	21.8
LnGrp LOS	D	D		D	D	D	D	D	B	C	C	C
Approach Vol, veh/h		444	A		689			517			1312	
Approach Delay, s/veh		39.0			35.7			34.4			23.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.3	17.2	16.6	16.9	15.9	36.6	10.3	23.2				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	5.4	8.0	5.7	8.4	8.1	21.8	6.0	13.9				
Green Ext Time (p_c), s	0.1	2.3	0.2	1.7	0.2	7.5	0.4	3.0				

Intersection Summary

HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	 	 			 		 		 
Traffic Volume (vph)	53	400	55	29	602	50	116	40	137
Future Volume (vph)	53	400	55	29	602	50	116	40	137
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 56.3

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Dr & Mission Ave

 Ø1	 Ø2	 Ø3	 Ø4
10.6 s	38.3 s	10.1 s	41 s
 Ø5	 Ø6	 Ø7	 Ø8
12 s	36.9 s	10.4 s	40.7 s

Timings

N:\3145\Analysis\Synchro\05 Ex + C AM.syn

Synchro 10 Report

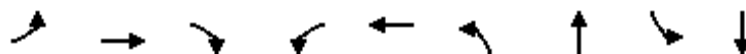
Existing + Cumulative AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	53	400	55	29	602	39	50	116	23	40	137	68
Future Volume (veh/h)	53	400	55	29	602	39	50	116	23	40	137	68
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	56	421	58	31	634	41	53	122	24	42	144	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	1084	483	63	968	63	94	514	99	79	385	183
Arrive On Green	0.05	0.30	0.30	0.04	0.29	0.29	0.05	0.17	0.17	0.04	0.16	0.16
Sat Flow, veh/h	3456	3554	1585	1781	3389	219	1781	2973	571	1781	2336	1111
Grp Volume(v), veh/h	56	421	58	31	332	343	53	72	74	42	108	108
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1831	1781	1777	1768	1781	1777	1670
Q Serve(g_s), s	0.8	4.5	1.3	0.8	7.9	8.0	1.4	1.7	1.8	1.1	2.6	2.8
Cycle Q Clear(g_c), s	0.8	4.5	1.3	0.8	7.9	8.0	1.4	1.7	1.8	1.1	2.6	2.8
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.32	1.00		0.66
Lane Grp Cap(c), veh/h	189	1084	483	63	507	523	94	307	305	79	293	275
V/C Ratio(X)	0.30	0.39	0.12	0.49	0.65	0.66	0.57	0.23	0.24	0.53	0.37	0.39
Avail Cap(c_a), veh/h	379	2616	1167	184	1297	1336	254	1194	1188	203	1143	1074
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	22.0	13.3	12.1	22.9	15.2	15.2	22.4	17.2	17.3	22.6	18.0	18.0
Incr Delay (d2), s/veh	0.9	0.2	0.1	5.9	1.4	1.4	5.2	0.4	0.4	5.4	0.8	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	0.3	1.4	0.4	0.4	2.7	2.7	0.7	0.6	0.7	0.5	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	13.5	12.2	28.8	16.6	16.6	27.6	17.6	17.7	28.0	18.7	19.0
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		535			706			199			258	
Approach Delay, s/veh		14.3			17.1			20.3			20.3	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	14.2	6.8	20.1	7.6	13.8	7.7	19.2				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	3.1	3.8	2.8	6.5	3.4	4.8	2.8	10.0				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.8	0.0	1.2	0.0	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									

Existing + Cumulative AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←	→	→	←	→	←	→	←	→
Traffic Volume (vph)	40	500	234	164	584	295	44	2	4
Future Volume (vph)	40	500	234	164	584	295	44	2	4
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	3.0	6.0	6.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	10.1	28.0	23.1	24.0
Total Split (s)	11.1	33.1	33.1	15.8	37.8	26.8	28.0	23.1	24.3
Total Split (%)	11.1%	33.1%	33.1%	15.8%	37.8%	26.8%	28.0%	23.1%	24.3%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	3.0	4.8	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	4.0	5.8	5.1	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 78.3

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

← Ø1	→ Ø2	← Ø3	↓ Ø4
15.8 s	33.1 s	26.8 s	24.3 s
↑ Ø5	← Ø6	← Ø7	↑ Ø8
11.1 s	37.8 s	23.1 s	28 s

Existing + Cumulative AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	500	234	164	584	18	295	44	115	2	4	8
Future Volume (veh/h)	40	500	234	164	584	18	295	44	115	2	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.98
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	43	543	254	178	635	20	321	48	125	2	4	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	595	496	215	721	23	367	95	246	133	47	107
Arrive On Green	0.04	0.32	0.32	0.12	0.40	0.40	0.21	0.21	0.21	0.07	0.09	0.09
Sat Flow, veh/h	1781	1870	1558	1781	1801	57	1781	446	1162	1781	503	1133
Grp Volume(v), veh/h	43	543	254	178	0	655	321	0	173	2	0	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1558	1781	0	1858	1781	0	1609	1781	0	1636
Q Serve(g_s), s	1.9	22.4	10.6	7.8	0.0	26.2	14.0	0.0	7.6	0.1	0.0	0.6
Cycle Q Clear(g_c), s	1.9	22.4	10.6	7.8	0.0	26.2	14.0	0.0	7.6	0.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.72	1.00		0.69
Lane Grp Cap(c), veh/h	68	595	496	215	0	744	367	0	341	133	0	154
V/C Ratio(X)	0.63	0.91	0.51	0.83	0.00	0.88	0.87	0.00	0.51	0.02	0.00	0.08
Avail Cap(c_a), veh/h	133	632	527	238	0	744	507	0	446	400	0	394
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	26.3	22.3	34.4	0.0	22.2	30.8	0.0	27.9	34.3	0.0	33.1
Incr Delay (d2), s/veh	9.1	17.1	0.8	19.5	0.0	11.9	12.0	0.0	1.2	0.0	0.0	0.2
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	1.0	11.7	3.6	4.4	0.0	12.6	6.7	0.0	2.8	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	43.4	23.1	53.9	0.0	34.1	42.8	0.0	29.1	34.4	0.0	33.4
LnGrp LOS	D	D	C	D	A	C	D	A	C	C	A	C
Approach Vol, veh/h		840			833			494			15	
Approach Delay, s/veh		37.4			38.3			38.0			33.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	31.5	20.5	13.4	8.2	38.1	11.1	22.8				
Change Period (Y+Rc), s	5.1	6.0	4.0	* 5.8	5.1	6.0	5.1	5.8				
Max Green Setting (Gmax), s	10.7	27.1	22.8	* 19	6.0	31.8	18.0	22.2				
Max Q Clear Time (g_c+I1), s	9.8	24.4	16.0	2.6	3.9	28.2	2.1	9.6				
Green Ext Time (p_c), s	0.0	1.1	0.5	0.0	0.0	1.4	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			37.9									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	89	257	88	319	1326	
Future Volume (vph)	89	257	88	319	1326	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	3
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	12.0	12.0	6.0
Minimum Split (s)	29.7	29.7	11.1	23.8	30.8	10.6
Total Split (s)	29.7	29.7	11.1	64.6	53.5	10.7
Total Split (%)	28.3%	28.3%	10.6%	61.5%	51.0%	10%
Yellow Time (s)	3.7	3.7	4.1	4.3	4.3	3.6
All-Red Time (s)	1.0	1.0	1.0	1.5	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	5.1	5.8	5.8	
Lead/Lag	Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 82.8

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

	Ø2		Ø3		Ø4
64.6 s		10.7 s		29.7 s	
	Ø5		Ø6		
11.1 s		53.5 s			

Existing + Cumulative AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	LT	LT	LT	LT	LT	LT	LT	LT
Traffic Volume (vph)	89	257	88	319	1326	45	0	0
Future Volume (vph)	89	257	88	319	1326	45	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.1	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	1.00			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1549	1770	3539	3517			
Flt Permitted	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	1549	1770	3539	3517			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	106	306	105	380	1579	54	0	0
RTOR Reduction (vph)	0	161	0	0	0	0	0	0
Lane Group Flow (vph)	106	145	105	380	1633	0	0	0
Confl. Peds. (#/hr)		7				14		
Confl. Bikes (#/hr)		2						
Turn Type	Prot	Perm	Prot	NA	NA		Prot	Perm
Protected Phases	4		5	2	6		3	
Permitted Phases		4						3
Actuated Green, G (s)	13.1	13.1	6.0	59.2	48.1			
Effective Green, g (s)	13.1	13.1	6.0	59.2	48.1			
Actuated g/C Ratio	0.16	0.16	0.07	0.71	0.58			
Clearance Time (s)	4.7	4.7	5.1	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	543	245	128	2530	2043			
v/s Ratio Prot	0.03		c0.06	0.11	c0.46			
v/s Ratio Perm		c0.09						
v/c Ratio	0.20	0.59	0.82	0.15	0.80			
Uniform Delay, d1	30.3	32.4	37.9	3.8	13.6			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.2	3.8	32.6	0.0	2.3			
Delay (s)	30.4	36.2	70.4	3.8	15.9			
Level of Service	C	D	E	A	B			
Approach Delay (s)	34.7			18.2	15.9		0.0	
Approach LOS	C			B	B		A	
Intersection Summary								
HCM 2000 Control Delay			19.4		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.82					
Actuated Cycle Length (s)			82.8		Sum of lost time (s)		20.2	
Intersection Capacity Utilization			73.3%		ICU Level of Service		D	
Analysis Period (min)			15					
c Critical Lane Group								

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	25	101	3	9	8	10	90	12	22	0
Future Vol, veh/h	0	4	25	101	3	9	8	10	90	12	22	0
Conflicting Peds, #/hr	0	0	0	0	0	3	0	0	8	10	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	39	158	5	14	13	16	141	19	34	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	45	0	0	371	364	36	445	376	15
Stage 1	-	-	-	-	-	-	26	26	-	331	331	-
Stage 2	-	-	-	-	-	-	345	338	-	114	45	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1563	-	-	586	564	1037	523	555	1065
Stage 1	-	-	-	-	-	-	992	874	-	682	645	-
Stage 2	-	-	-	-	-	-	671	641	-	891	857	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1588	-	-	1563	-	-	512	505	1027	402	497	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	505	-	402	497	-
Stage 1	-	-	-	-	-	-	992	874	-	680	577	-
Stage 2	-	-	-	-	-	-	567	574	-	748	857	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.8			10.1			13.9		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	878	1588	-	-	1563	-	-	459				
HCM Lane V/C Ratio	0.192	-	-	-	0.101	-	-	0.116				
HCM Control Delay (s)	10.1	0	-	-	7.6	0	-	13.9				
HCM Lane LOS	B	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.7	0	-	-	0.3	-	-	0.4				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	97	5	0	266	7	0
Future Vol, veh/h	97	5	0	266	7	0
Conflicting Peds, #/hr	0	1	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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	6	0	320	8	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	124	0	441	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	320	-
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	-	-	1463	-	574	930
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	736	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1462	-	573	929
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	736	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		11.4	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	573	-	-	1462	-	
HCM Lane V/C Ratio	0.015	-	-	-	-	
HCM Control Delay (s)	11.4	-	-	0	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	13	34	102	271	2
Future Vol, veh/h	2	13	34	102	271	2
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	15	40	121	323	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	527	326	327	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	201	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	512	715	1233	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	494	714	1231	-	-	-
Mov Cap-2 Maneuver	494	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.5	2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1231	-	674	-	-	
HCM Lane V/C Ratio	0.033	-	0.026	-	-	
HCM Control Delay (s)	8	-	10.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

Existing + Cumulative AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

	↖	↗	↑	↘	↓	
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations	↖	↗	↕	↖	↕	
Traffic Volume (vph)	207	269	495	253	839	
Future Volume (vph)	207	269	495	253	839	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 72.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

↖ Ø1	↕ Ø2	↖ Ø4
24 s	29 s	27 s
↗ Ø5	↓ Ø6	
17 s	36 s	

Existing + Cumulative AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	207	269	0	495	126	253	839
Future Volume (veh/h)	207	269	0	495	126	253	839
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.98	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	1870	1870
Adj Flow Rate, veh/h	296	384		707	180	361	1199
Peak Hour Factor	0.70	0.70		0.70	0.70	0.70	0.70
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	481	428		805	205	404	2070
Arrive On Green	0.27	0.27		0.29	0.29	0.23	0.58
Sat Flow, veh/h	1781	1585		2884	710	1781	3647
Grp Volume(v), veh/h	296	384		450	437	361	1199
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1724	1781	1777
Q Serve(g_s), s	10.8	17.4		18.0	18.0	14.6	15.8
Cycle Q Clear(g_c), s	10.8	17.4		18.0	18.0	14.6	15.8
Prop In Lane	1.00	1.00			0.41	1.00	
Lane Grp Cap(c), veh/h	481	428		512	497	404	2070
V/C Ratio(X)	0.62	0.90		0.88	0.88	0.89	0.58
Avail Cap(c_a), veh/h	526	468		548	532	454	2070
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	23.8	26.2		25.3	25.3	27.9	9.8
Incr Delay (d2), s/veh	1.9	18.8		14.4	14.9	18.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.2		8.8	8.6	7.7	4.7
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	25.7	45.0		39.7	40.1	46.2	10.2
LnGrp LOS	C	D		D	D	D	B
Approach Vol, veh/h	680			887			1560
Approach Delay, s/veh	36.6			39.9			18.5
Approach LOS	D			D			B
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	21.9	27.5		25.1		49.4	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	16.6	20.0		19.4		17.8	
Green Ext Time (p_c), s	0.3	1.5		0.7		6.1	
Intersection Summary							
HCM 6th Ctrl Delay			28.5				
HCM 6th LOS			C				

Notes

User approved ignoring U-Turning movement.

Existing + Cumulative AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	487	251	257	205	123	144	647	279	64	382	117
Future Volume (vph)	236	487	251	257	205	123	144	647	279	64	382	117
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.6	34.0	34.0	25.0	33.4	33.4	18.2	45.0	45.0	11.0	37.8	37.8
Total Split (%)	22.3%	29.6%	29.6%	21.7%	29.0%	29.0%	15.8%	39.1%	39.1%	9.6%	32.9%	32.9%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 99.1

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
11 s	45 s	25 s	34 s
			
18.2 s	37.8 s	25.6 s	33.4 s

Existing + Cumulative AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	487	251	257	205	123	144	647	279	64	382	117
Future Volume (veh/h)	236	487	251	257	205	123	144	647	279	64	382	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.94
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	262	541	279	286	228	137	160	719	310	71	424	130
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	299	847	370	322	892	383	194	950	412	91	746	311
Arrive On Green	0.17	0.24	0.24	0.18	0.25	0.25	0.11	0.27	0.27	0.05	0.21	0.21
Sat Flow, veh/h	1781	3554	1551	1781	3554	1528	1781	3554	1540	1781	3554	1484
Grp Volume(v), veh/h	262	541	279	286	228	137	160	719	310	71	424	130
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1528	1781	1777	1540	1781	1777	1484
Q Serve(g_s), s	13.4	12.8	15.6	14.6	4.8	6.9	8.2	17.4	17.3	3.7	10.0	7.1
Cycle Q Clear(g_c), s	13.4	12.8	15.6	14.6	4.8	6.9	8.2	17.4	17.3	3.7	10.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	299	847	370	322	892	383	194	950	412	91	746	311
V/C Ratio(X)	0.88	0.64	0.75	0.89	0.26	0.36	0.83	0.76	0.75	0.78	0.57	0.42
Avail Cap(c_a), veh/h	385	1020	445	374	997	428	250	1453	630	113	1179	492
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	37.9	32.0	33.0	37.3	28.0	28.8	40.8	31.4	31.4	43.8	33.1	32.0
Incr Delay (d2), s/veh	16.3	1.0	5.9	20.1	0.1	0.6	16.0	1.3	2.8	23.7	0.7	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	6.9	5.3	6.1	7.8	2.0	2.4	4.3	7.1	6.3	2.2	4.1	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.2	32.9	38.9	57.5	28.1	29.3	56.8	32.7	34.2	67.4	33.8	32.8
LnGrp LOS	D	C	D	E	C	C	E	C	C	E	C	C
Approach Vol, veh/h		1082			651			1189			625	
Approach Delay, s/veh		39.6			41.3			36.3			37.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	31.8	22.3	29.5	15.3	26.4	21.1	30.6				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.9	38.2	19.6	26.8	13.1	31.0	20.2	26.2				
Max Q Clear Time (g_c+I1), s	5.7	19.4	16.6	17.6	10.2	12.0	15.4	8.9				
Green Ext Time (p_c), s	0.0	5.5	0.2	2.9	0.1	2.8	0.3	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			38.4									
HCM 6th LOS			D									

Existing + Cumulative AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	208	141	587	216	92	81	393	238	149	1255	37
Future Volume (vph)	24	208	141	587	216	92	81	393	238	149	1255	37
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 122.5

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Cumulative AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	208	141	587	216	92	81	393	238	149	1255	37
Future Volume (veh/h)	24	208	141	587	216	92	81	393	238	149	1255	37
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	26	226	153	638	235	100	88	427	259	162	1364	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	417	186	712	612	518	110	1324	916	192	1486	660
Arrive On Green	0.02	0.12	0.12	0.21	0.33	0.33	0.06	0.37	0.37	0.11	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	3456	1870	1582	1781	3554	1581	1781	3554	1579
Grp Volume(v), veh/h	26	226	153	638	235	100	88	427	259	162	1364	40
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1582	1781	1777	1581	1781	1777	1579
Q Serve(g_s), s	1.7	7.2	11.3	21.6	11.6	5.4	5.9	10.3	9.9	10.7	43.5	1.8
Cycle Q Clear(g_c), s	1.7	7.2	11.3	21.6	11.6	5.4	5.9	10.3	9.9	10.7	43.5	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	417	186	712	612	518	110	1324	916	192	1486	660
V/C Ratio(X)	0.76	0.54	0.82	0.90	0.38	0.19	0.80	0.32	0.28	0.85	0.92	0.06
Avail Cap(c_a), veh/h	96	533	238	821	673	570	116	1324	916	306	1543	686
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	58.6	49.9	51.8	46.4	31.1	29.0	55.5	26.8	12.7	52.6	33.0	20.8
Incr Delay (d2), s/veh	27.9	1.1	16.5	11.4	0.4	0.2	30.1	0.1	0.2	11.6	8.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.2	5.2	10.1	5.1	2.0	3.6	4.4	3.3	5.4	20.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.4	51.0	68.3	57.8	31.5	29.2	85.7	27.0	12.9	64.2	41.9	20.9
LnGrp LOS	F	D	E	E	C	C	F	C	B	E	D	C
Approach Vol, veh/h	405			973			774			1566		
Approach Delay, s/veh	59.8			48.5			28.9			43.7		
Approach LOS	E			D			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.3	51.7	30.5	19.5	12.8	57.2	5.3	44.7				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	12.7	12.3	23.6	13.3	7.9	45.5	3.7	13.6				
Green Ext Time (p_c), s	0.2	4.0	1.1	0.7	0.0	4.7	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh14.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	28	138	26	44	199	81	14	90	3	80	243	35
Future Vol, veh/h	28	138	26	44	199	81	14	90	3	80	243	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	145	27	46	209	85	15	95	3	84	256	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12	15.1	10.9	16.9
HCM LOS	B	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	15%	14%	22%
Vol Thru, %	84%	72%	61%	68%
Vol Right, %	3%	14%	25%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	192	324	358
LT Vol	14	28	44	80
Through Vol	90	138	199	243
RT Vol	3	26	81	35
Lane Flow Rate	113	202	341	377
Geometry Grp	1	1	1	1
Degree of Util (X)	0.195	0.334	0.534	0.596
Departure Headway (Hd)	6.246	5.953	5.636	5.697
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	569	598	634	629
Service Time	4.346	4.04	3.71	3.768
HCM Lane V/C Ratio	0.199	0.338	0.538	0.599
HCM Control Delay	10.9	12	15.1	16.9
HCM Lane LOS	B	B	C	C
HCM 95th-tile Q	0.7	1.5	3.2	3.9

Intersection

Intersection Delay, s/veh 9.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	150	4	11	239	9	7	16	6	18	18	44
Future Vol, veh/h	18	150	4	11	239	9	7	16	6	18	18	44
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	20	163	4	12	260	10	8	17	7	20	20	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	8.3	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	10%	4%	23%
Vol Thru, %	55%	87%	92%	22%
Vol Right, %	21%	2%	3%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	172	259	80
LT Vol	7	18	11	18
Through Vol	16	150	239	18
RT Vol	6	4	9	44
Lane Flow Rate	32	187	282	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.235	0.345	0.115
Departure Headway (Hd)	5.029	4.531	4.415	4.741
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	710	793	814	755
Service Time	3.072	2.562	2.443	2.778
HCM Lane V/C Ratio	0.045	0.236	0.346	0.115
HCM Control Delay	8.3	9	9.8	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.9	1.5	0.4

Existing + Cumulative PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	628	299	637	772	653
Future Volume (vph)	628	299	637	772	653
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	24.0	24.0	22.0	46.0	24.0
Total Split (%)	34.3%	34.3%	31.4%	65.7%	34.3%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 62.2

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing + Cumulative PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	628	299	637	772	0	653
Future Volume (vph)	628	299	637	772	0	653
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1583	3433	3539		1589
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1583	3433	3539		1589
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	661	315	671	813	0	687
RTOR Reduction (vph)	0	234	0	0	0	425
Lane Group Flow (vph)	661	81	671	813	0	262
Confl. Bikes (#/hr)						2
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	16.0	16.0	15.3	39.3		13.7
Effective Green, g (s)	16.0	16.0	15.3	39.3		13.7
Actuated g/C Ratio	0.26	0.26	0.25	0.63		0.22
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	913	408	847	2243		351
v/s Ratio Prot	c0.19		c0.20	0.23		
v/s Ratio Perm		0.05				c0.17
v/c Ratio	0.72	0.20	0.79	0.36		0.75
Uniform Delay, d1	21.0	18.0	21.9	5.4		22.5
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	2.9	0.2	5.1	0.1		8.4
Delay (s)	23.9	18.2	27.0	5.5		31.0
Level of Service	C	B	C	A		C
Approach Delay (s)	22.0			15.2	31.0	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			20.8		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			62.0		Sum of lost time (s)	17.0
Intersection Capacity Utilization			67.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing + Cumulative PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	1182	99	289	1081	247	1025
Future Volume (vph)	1182	99	289	1081	247	1025
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	55.0	78.0	17.0	72.0	78.0	78.0
Total Split (%)	36.7%	52.0%	11.3%	48.0%	52.0%	52.0%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
17 s	55 s	
← Ø6		↖ Ø8
72 s		78 s

Existing + Cumulative PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	1182	99	289	1081	247	1025
Future Volume (veh/h)	1182	99	289	1081	247	1025
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	1870	1870
Adj Flow Rate, veh/h	1219	102	298	1114	255	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1563	974	397	2247	312	
Arrive On Green	0.44	0.44	0.11	0.63	0.17	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	1219	102	298	1114	255	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	21.4	1.9	6.1	12.3	10.1	0.0
Cycle Q Clear(g_c), s	21.4	1.9	6.1	12.3	10.1	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1563	974	397	2247	312	
V/C Ratio(X)	0.78	0.10	0.75	0.50	0.82	
Avail Cap(c_a), veh/h	2283	1295	534	3108	1750	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.5	5.8	31.4	7.2	29.1	0.0
Incr Delay (d2), s/veh	1.1	0.0	4.1	0.2	5.3	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	7.1	0.8	2.5	2.9	4.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.6	5.9	35.4	7.4	34.4	0.0
LnGrp LOS	B	A	D	A	C	
Approach Vol, veh/h	1321			1412	255	A
Approach Delay, s/veh	17.6			13.3	34.4	
Approach LOS	B			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.1	40.2			54.3	18.9
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 11	47.0			64.0	71.9
Max Q Clear Time (g_c+I1), s	8.1	23.4			14.3	12.1
Green Ext Time (p_c), s	0.3	8.8			8.7	0.8

Intersection Summary

HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative PM
3: Loretta St & SR 76

Ocean Kamp
02/16/2021

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↖	↑↑	↙	↗
Traffic Volume (vph)	2053	30	1345	25	23
Future Volume (vph)	2053	30	1345	25	23
Turn Type	NA	Prot	NA	Prot	pm+ov
Protected Phases	2	1	6	8	1
Permitted Phases					8
Detector Phase	2	1	6	8	1
Switch Phase					
Minimum Initial (s)	25.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	14.7	33.0	38.1	14.7
Total Split (s)	114.7	25.2	139.9	40.1	25.2
Total Split (%)	63.7%	14.0%	77.7%	22.3%	14.0%
Yellow Time (s)	5.5	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.7	8.0	6.1	5.7
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Min	None	C-Min	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



Timings

N:\3145\Analysis\Synchro\06 Ex + C PM.syn

Synchro 10 Report

Existing + Cumulative PM
3: Loretta St & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	2053	0	30	1345	25	23
Future Volume (veh/h)	2053	0	30	1345	25	23
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	1870	1870
Adj Flow Rate, veh/h	2161	0	32	1416	26	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2840	1267	71	3094	91	144
Arrive On Green	0.80	0.00	0.04	0.87	0.05	0.05
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	2161	0	32	1416	26	24
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	56.1	0.0	3.2	15.4	2.5	2.5
Cycle Q Clear(g_c), s	56.1	0.0	3.2	15.4	2.5	2.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2840	1267	71	3094	91	144
V/C Ratio(X)	0.76	0.00	0.45	0.46	0.29	0.17
Avail Cap(c_a), veh/h	2840	1267	193	3094	336	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	0.0	84.5	2.5	82.3	75.5
Incr Delay (d2), s/veh	0.2	0.0	4.4	0.5	1.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	0.0	1.5	3.1	1.2	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.5	0.0	88.9	3.0	84.0	76.1
LnGrp LOS	A	A	F	A	F	E
Approach Vol, veh/h	2161			1448	50	
Approach Delay, s/veh	9.5			4.9	80.2	
Approach LOS	A			A	F	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.9	151.8			164.7	15.3
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 20	106.7			131.9	34.0
Max Q Clear Time (g_c+I1), s	5.2	58.1			17.4	4.5
Green Ext Time (p_c), s	0.0	27.5			13.6	0.1
Intersection Summary						
HCM 6th Ctrl Delay			8.6			
HCM 6th LOS			A			
Notes						

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

Existing + Cumulative PM
4: Canyon Dr & SR 76

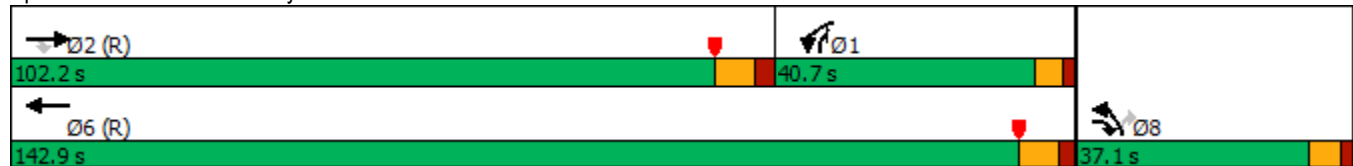
Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	2170	56	149	1367	8	85
Future Volume (vph)	2170	56	149	1367	8	85
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	37.1	15.7	33.0	37.1	15.7
Total Split (s)	102.2	37.1	40.7	142.9	37.1	40.7
Total Split (%)	56.8%	20.6%	22.6%	79.4%	20.6%	22.6%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 82 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing + Cumulative PM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (veh/h)	2170	56	149	1367	8	85
Future Volume (veh/h)	2170	56	149	1367	8	85
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	2333	60	160	1470	9	91
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1860	891	542	3099	172	561
Arrive On Green	0.52	0.52	0.30	0.87	0.05	0.05
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	2333	60	160	1470	9	91
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	94.2	3.1	12.4	16.3	0.4	0.0
Cycle Q Clear(g_c), s	94.2	3.1	12.4	16.3	0.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1860	891	542	3099	172	561
V/C Ratio(X)	1.25	0.07	0.30	0.47	0.05	0.16
Avail Cap(c_a), veh/h	1860	891	542	3099	595	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.50	0.50	1.00	1.00
Uniform Delay (d), s/veh	42.9	17.1	47.9	2.5	81.5	39.9
Incr Delay (d2), s/veh	119.1	0.1	0.2	0.3	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	69.4	1.3	5.4	3.1	0.2	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	162.0	17.2	48.0	2.8	81.6	40.0
LnGrp LOS	F	B	D	A	F	D
Approach Vol, veh/h	2393			1630	100	
Approach Delay, s/veh	158.4			7.2	43.7	
Approach LOS	F			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	62.8	102.2			165.0	15.0
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	35.0	* 94			134.9	31.0
Max Q Clear Time (g_c+I1), s	14.4	96.2			18.3	2.4
Green Ext Time (p_c), s	0.4	0.0			14.6	0.3

Intersection Summary

HCM 6th Ctrl Delay	95.8
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	1722	101	38	1268	6	136	16	107	26	17	112
Future Volume (vph)	198	1722	101	38	1268	6	136	16	107	26	17	112
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	45.7	88.5	88.5	20.7	63.5	63.5	23.7	50.1	50.1	20.7	21.1	45.7
Total Split (%)	25.4%	49.2%	49.2%	11.5%	35.3%	35.3%	13.2%	27.8%	27.8%	11.5%	11.7%	25.4%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 47 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Cumulative PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1722	101	38	1268	6	136	16	107	26	17	112
Future Volume (veh/h)	198	1722	101	38	1268	6	136	16	107	26	17	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	215	1872	110	41	1378	7	148	17	116	28	18	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	678	2287	994	103	1096	476	166	199	164	89	114	697
Arrive On Green	0.38	0.64	0.64	0.04	0.21	0.21	0.09	0.11	0.11	0.05	0.06	0.06
Sat Flow, veh/h	1781	3554	1544	1781	3554	1543	1781	1870	1538	1781	1870	1541
Grp Volume(v), veh/h	215	1872	110	41	1378	7	148	17	116	28	18	122
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1781	1777	1543	1781	1870	1538	1781	1870	1541
Q Serve(g_s), s	15.3	71.4	2.6	4.0	55.5	0.5	14.8	1.5	13.1	2.7	1.6	0.0
Cycle Q Clear(g_c), s	15.3	71.4	2.6	4.0	55.5	0.5	14.8	1.5	13.1	2.7	1.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	678	2287	994	103	1096	476	166	199	164	89	114	697
V/C Ratio(X)	0.32	0.82	0.11	0.40	1.26	0.01	0.89	0.09	0.71	0.31	0.16	0.17
Avail Cap(c_a), veh/h	678	2287	994	148	1096	476	178	457	376	148	156	731
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	24.2	3.3	83.4	71.4	33.2	80.7	72.5	77.7	82.5	80.1	30.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.7	121.2	0.0	36.7	0.2	5.5	2.0	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	27.5	1.7	1.9	44.0	0.3	8.5	0.7	5.5	1.3	0.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	24.8	3.3	85.1	192.6	33.2	117.4	72.7	83.2	84.5	80.7	30.5
LnGrp LOS	D	C	A	F	F	C	F	E	F	F	F	C
Approach Vol, veh/h		2197			1426			281			168	
Approach Delay, s/veh		25.2			188.8			100.6			44.9	
Approach LOS		C			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	123.8	22.9	17.1	76.5	63.5	14.7	25.3				
Change Period (Y+Rc), s	* 5.7	8.0	6.1	* 6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	80.5	18.0	* 15	40.0	* 56	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.0	73.4	16.8	3.6	17.3	57.5	4.7	15.1				
Green Ext Time (p_c), s	0.0	5.8	0.0	0.3	0.5	0.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			88.5									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations		 			 			 			
Traffic Volume (vph)	23	2103	46	74	1344	25	102	93	39	69	40
Future Volume (vph)	23	2103	46	74	1344	25	102	93	39	69	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	98.5	98.5	20.7	98.5	98.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	11.5%	54.7%	54.7%	11.5%	54.7%	54.7%	11.5%	25.1%	8.7%	11.7%	11.7%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180

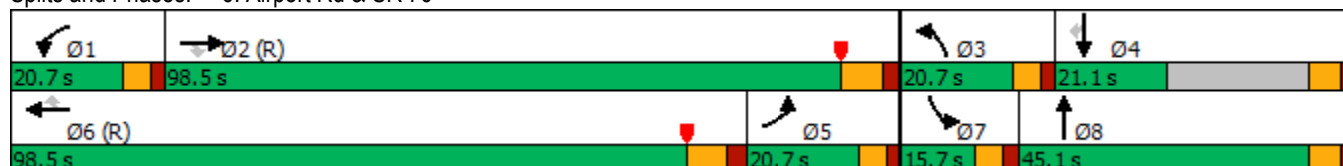
Actuated Cycle Length: 180

Offset: 87 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Timings

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Synchro 10 Report

Existing + Cumulative PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2103	46	74	1344	25	102	93	84	39	69	40
Future Volume (veh/h)	23	2103	46	74	1344	25	102	93	84	39	69	40
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	24	2237	49	79	1430	27	109	99	89	41	73	43
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	389	2245	1001	97	1617	721	128	112	101	86	188	159
Arrive On Green	0.29	0.84	0.84	0.02	0.15	0.15	0.07	0.12	0.12	0.05	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	908	816	1781	1870	1585
Grp Volume(v), veh/h	24	2237	49	79	1430	27	109	0	188	41	73	43
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1723	1781	1870	1585
Q Serve(g_s), s	1.8	111.3	0.9	8.0	71.0	2.0	10.9	0.0	19.3	4.0	6.6	3.0
Cycle Q Clear(g_c), s	1.8	111.3	0.9	8.0	71.0	2.0	10.9	0.0	19.3	4.0	6.6	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	389	2245	1001	97	1617	721	128	0	213	86	188	159
V/C Ratio(X)	0.06	1.00	0.05	0.81	0.88	0.04	0.85	0.00	0.88	0.48	0.39	0.27
Avail Cap(c_a), veh/h	389	2245	1001	148	1787	797	148	0	373	99	188	159
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	0.79	0.79	0.79	0.97	0.00	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	14.2	5.4	87.5	71.8	25.5	82.6	0.0	77.6	83.4	75.8	33.6
Incr Delay (d2), s/veh	0.0	12.2	0.0	14.5	6.0	0.1	31.1	0.0	11.2	4.0	1.3	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	0.8	22.2	0.3	4.1	35.3	1.1	6.2	0.0	9.3	2.0	3.3	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	26.4	5.4	102.0	77.9	25.6	113.7	0.0	88.7	87.4	77.1	34.5
LnGrp LOS	D	C	A	F	E	C	F	A	F	F	E	C
Approach Vol, veh/h	2310			1536				297		157		
Approach Delay, s/veh	26.2			78.2				97.9		68.2		
Approach LOS	C			E				F		E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	121.7	18.6	24.1	47.3	89.9	14.4	28.4				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	90.5	* 15	15.0	15.0	* 91	* 10	39.0				
Max Q Clear Time (g_c+I1), s	10.0	113.3	12.9	8.6	3.8	73.0	6.0	21.3				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.2	0.0	8.9	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			51.3									
HCM 6th LOS			D									
Notes												

Existing + Cumulative PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	2013	119	144	1336	86	62	54	126	58	91	64
Future Volume (vph)	104	2013	119	144	1336	86	62	54	126	58	91	64
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	18.7	54.0	54.0	18.7	52.1	52.1	18.7	20.1	20.1
Total Split (s)	20.7	88.5	88.5	20.7	88.5	88.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	11.5%	49.2%	49.2%	11.5%	49.2%	49.2%	12.1%	28.9%	28.9%	10.4%	11.2%	11.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

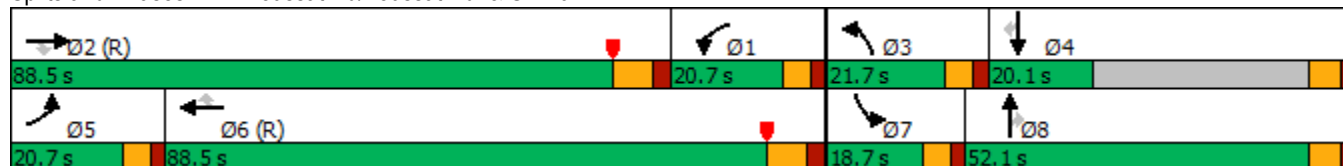
Actuated Cycle Length: 180

Offset: 151 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



Timings

N:\3145\Analysis\Synchro\06 Ex + C PM.syn

Synchro 10 Report

Existing + Cumulative PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	2013	119	144	1336	86	62	54	126	58	91	64
Future Volume (veh/h)	104	2013	119	144	1336	86	62	54	126	58	91	64
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	108	2097	124	150	1392	90	65	56	131	60	95	67
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	248	1589	709	887	2291	1022	240	259	116	237	257	201
Arrive On Green	0.05	0.30	0.30	0.26	0.64	0.64	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	108	2097	124	150	1392	90	65	56	131	60	95	67
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	5.5	80.5	7.7	6.1	41.2	3.8	3.2	2.7	8.4	3.0	4.6	4.1
Cycle Q Clear(g_c), s	5.5	80.5	7.7	6.1	41.2	3.8	3.2	2.7	8.4	3.0	4.6	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	1589	709	887	2291	1022	240	259	116	237	257	201
V/C Ratio(X)	0.43	1.32	0.17	0.17	0.61	0.09	0.27	0.22	1.13	0.25	0.37	0.33
Avail Cap(c_a), veh/h	288	1589	709	887	2291	1022	307	908	405	250	276	217
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.1	63.0	20.9	52.0	18.7	12.0	79.4	78.6	34.0	79.5	79.6	79.4
Incr Delay (d2), s/veh	0.1	144.2	0.0	0.1	1.2	0.2	0.6	0.4	80.2	0.6	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	68.5	3.1	2.6	16.1	1.5	1.5	1.3	5.9	1.4	2.2	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	207.2	20.9	52.1	19.9	12.2	80.0	79.0	114.3	80.0	80.5	80.3
LnGrp LOS	F	F	C	D	B	B	F	E	F	F	F	F
Approach Vol, veh/h	2329				1632				252			
Approach Delay, s/veh	191.5				22.4				97.6			
Approach LOS	F				C				F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	54.2	88.5	18.2	19.1	18.6	124.1	18.1	19.2				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 81	* 16	14.0	* 15	80.5	* 13	46.0				
Max Q Clear Time (g_c+I1), s	8.1	82.5	5.2	6.6	7.5	43.2	5.0	10.4				
Green Ext Time (p_c), s	0.2	0.0	0.1	0.4	0.1	12.2	0.1	0.8				

Intersection Summary

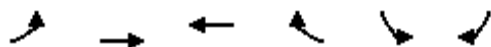
HCM 6th Ctrl Delay	118.4
HCM 6th LOS	F

Notes

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

Existing + Cumulative PM
8: SR 76 & Douglas Drive

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations	↔↔	↑↑	↑↑	↔	↔	↔↔	
Traffic Volume (vph)	595	1902	1317	246	250	357	
Future Volume (vph)	595	1902	1317	246	250	357	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	110.8	75.1	75.1	19.1	35.7	50.1
Total Split (%)	19.8%	61.6%	41.7%	41.7%	10.6%	19.8%	28%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lead		Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 95 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 76 & Douglas Drive



Existing + Cumulative PM
8: SR 76 & Douglas Drive

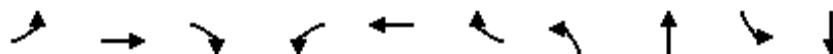
Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				 
Traffic Volume (veh/h)	595	1902	0	0	1317	246	0	0	0	250	0	357
Future Volume (veh/h)	595	1902	0	0	1317	246	0	0	0	250	0	357
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	647	2067	0	0	1432	267	0	0	0	272	0	388
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	576	3396	0	0	2691	1200	0	1	0	0	0	0
Arrive On Green	0.17	0.96	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	647	2067	0	0	1432	267	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	30.0	11.1	0.0	0.0	49.0	16.8	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	30.0	11.1	0.0	0.0	49.0	16.8	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	576	3396	0	0	2691	1200	0	1	0			
V/C Ratio(X)	1.12	0.61	0.00	0.00	0.53	0.22	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	576	3396	0	0	2691	1200	0	457	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.71	0.71	0.00	0.00	0.00			
Uniform Delay (d), s/veh	75.0	0.4	0.0	0.0	22.8	14.9	0.0	0.0	0.0			
Incr Delay (d2), s/veh	76.2	0.8	0.0	0.0	0.5	0.3	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			
%ile BackOfQ(50%),veh/ln	19.1	0.4	0.0	0.0	21.8	6.7	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.2	1.2	0.0	0.0	23.4	15.2	0.0	0.0	0.0			
LnGrp LOS	F	A	A	A	C	B	A	A	A			
Approach Vol, veh/h	2714				1699				0			
Approach Delay, s/veh	37.0				22.1				0.0			
Approach LOS	D				C							
Timer - Assigned Phs	2				5		6		8			
Phs Duration (G+Y+Rc), s	180.0				35.7		144.3		0.0			
Change Period (Y+Rc), s	8.0				* 5.7		8.0		6.1			
Max Green Setting (Gmax), s	102.8				* 30		67.1		44.0			
Max Q Clear Time (g_c+I1), s	13.1				32.0		51.0		0.0			
Green Ext Time (p_c), s	31.8				0.0		9.2		0.0			
Intersection Summary												
HCM 6th Ctrl Delay	31.3											
HCM 6th LOS	C											
Notes												

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

Existing + Cumulative PM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	69	1610	283	277	1040	61	236	276	72	233
Future Volume (vph)	69	1610	283	277	1040	61	236	276	72	233
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	25.0	25.0	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	54.1	54.1	21.7	55.1	55.1	18.7	55.1	17.7	54.1
Total Split (s)	20.7	80.5	80.5	26.7	86.5	86.5	18.7	55.1	17.7	54.1
Total Split (%)	11.5%	44.7%	44.7%	14.8%	48.1%	48.1%	10.4%	30.6%	9.8%	30.1%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 180

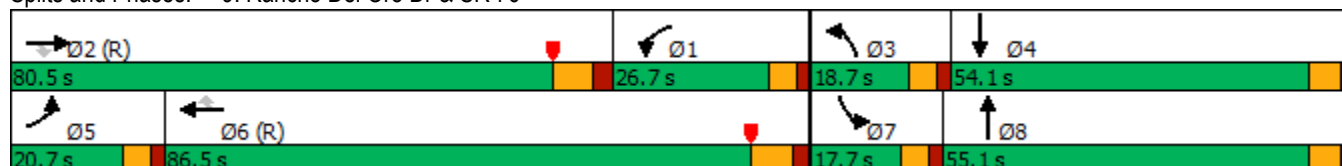
Actuated Cycle Length: 180

Offset: 73 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing + Cumulative PM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1610	283	277	1040	61	236	276	321	72	233	63
Future Volume (veh/h)	69	1610	283	277	1040	61	236	276	321	72	233	63
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		0.98	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	71	1660	292	286	1072	63	243	285	331	74	240	65
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	144	1431	637	475	1678	748	250	427	372	225	647	172
Arrive On Green	0.03	0.13	0.13	0.14	0.47	0.47	0.07	0.24	0.24	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1582	3456	3554	1585	3456	1777	1548	3456	2778	736
Grp Volume(v), veh/h	71	1660	292	286	1072	63	243	285	331	74	152	153
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	1585	1728	1777	1548	1728	1777	1737
Q Serve(g_s), s	7.1	72.5	23.1	14.0	41.0	3.9	12.6	26.1	37.2	3.7	12.9	13.4
Cycle Q Clear(g_c), s	7.1	72.5	23.1	14.0	41.0	3.9	12.6	26.1	37.2	3.7	12.9	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	144	1431	637	475	1678	748	250	427	372	225	414	405
V/C Ratio(X)	0.49	1.16	0.46	0.60	0.64	0.08	0.97	0.67	0.89	0.33	0.37	0.38
Avail Cap(c_a), veh/h	148	1431	637	475	1678	748	250	484	421	230	474	463
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	0.21	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	83.9	78.0	33.8	73.0	35.9	26.1	83.3	61.9	66.1	80.4	57.9	58.1
Incr Delay (d2), s/veh	0.5	73.8	0.5	2.1	1.9	0.2	49.4	3.0	18.9	0.7	0.4	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	3.3	49.4	9.9	6.2	17.6	1.5	7.3	12.0	16.4	1.7	5.8	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	151.8	34.3	75.1	37.8	26.3	132.8	64.8	85.0	81.1	58.3	58.5
LnGrp LOS	F	F	C	E	D	C	F	E	F	F	E	E
Approach Vol, veh/h		2023			1421			859			379	
Approach Delay, s/veh		132.5			44.8			91.8			62.9	
Approach LOS		F			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.8	80.5	18.7	48.0	20.3	93.0	17.4	49.3				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	21.0	* 73	* 13	48.0	* 15	78.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	16.0	74.5	14.6	15.4	9.1	43.0	5.7	39.2				
Green Ext Time (p_c), s	0.4	0.0	0.0	1.6	0.1	8.1	0.1	2.5				

Intersection Summary

HCM 6th Ctrl Delay	92.8
HCM 6th LOS	F

Notes

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

Existing + Cumulative PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations		 			 		 	 	 	 
Traffic Volume (vph)	84	919	225	115	651	64	253	137	189	194
Future Volume (vph)	84	919	225	115	651	64	253	137	189	194
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	7.0	6.0	6.0	7.0	7.0	6.0	8.0	6.0	8.0
Minimum Split (s)	11.1	36.8	11.1	11.4	36.4	36.4	11.1	34.8	11.1	34.8
Total Split (s)	20.0	24.0	24.0	38.0	42.0	42.0	24.0	34.0	24.0	34.0
Total Split (%)	16.7%	20.0%	20.0%	31.7%	35.0%	35.0%	20.0%	28.3%	20.0%	28.3%
Yellow Time (s)	4.1	4.8	4.1	4.4	4.4	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.4	5.4	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Min	None	Min

Intersection Summary

Cycle Length: 120

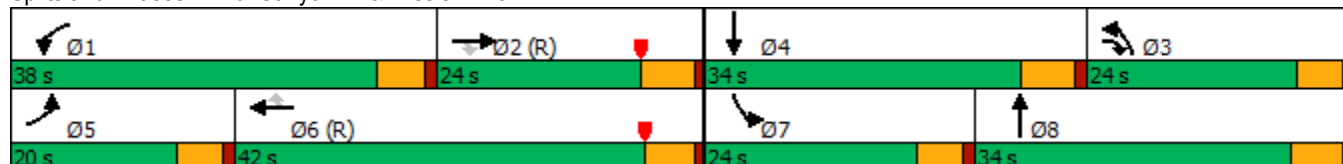
Actuated Cycle Length: 120

Offset: 85.4 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Existing + Cumulative PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	919	225	115	651	64	253	137	70	189	194	46
Future Volume (veh/h)	84	919	225	115	651	64	253	137	70	189	194	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.92
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	87	947	232	119	671	66	261	141	72	195	200	47
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	110	1634	857	148	1717	748	329	455	218	261	486	110
Arrive On Green	0.06	0.46	0.46	0.08	0.48	0.48	0.10	0.20	0.20	0.08	0.17	0.17
Sat Flow, veh/h	1781	3554	1537	1781	3554	1548	3456	2302	1104	3456	2825	641
Grp Volume(v), veh/h	87	947	232	119	671	66	261	107	106	195	123	124
Grp Sat Flow(s),veh/h/ln	1781	1777	1537	1781	1777	1548	1728	1777	1630	1728	1777	1690
Q Serve(g_s), s	5.8	23.6	2.7	7.9	14.4	2.8	8.9	6.2	6.7	6.6	7.4	7.9
Cycle Q Clear(g_c), s	5.8	23.6	2.7	7.9	14.4	2.8	8.9	6.2	6.7	6.6	7.4	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.38
Lane Grp Cap(c), veh/h	110	1634	857	148	1717	748	329	351	322	261	306	291
V/C Ratio(X)	0.79	0.58	0.27	0.80	0.39	0.09	0.79	0.30	0.33	0.75	0.40	0.43
Avail Cap(c_a), veh/h	221	1634	857	484	1717	748	544	418	383	544	418	397
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	55.5	23.9	4.6	54.1	19.8	16.7	53.1	41.1	41.3	54.4	44.2	44.4
Incr Delay (d2), s/veh	11.7	1.5	0.8	9.8	0.7	0.2	4.3	0.5	0.6	4.3	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	9.8	1.4	3.9	5.9	1.0	4.0	2.8	2.8	3.0	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	25.4	5.4	63.8	20.4	17.0	57.5	41.6	41.9	58.6	45.0	45.4
LnGrp LOS	E	C	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1266			856			474			442	
Approach Delay, s/veh		24.6			26.2			50.4			51.1	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	61.0	17.2	26.5	12.5	63.8	14.2	29.5				
Change Period (Y+Rc), s	5.4	5.8	5.8	* 5.8	5.1	* 5.8	5.1	5.8				
Max Green Setting (Gmax), s	32.6	18.2	18.9	* 28	14.9	* 37	18.9	28.2				
Max Q Clear Time (g_c+I1), s	9.9	25.6	10.9	9.9	7.8	16.4	8.6	8.7				
Green Ext Time (p_c), s	0.3	0.0	0.5	1.3	0.1	4.5	0.4	1.1				

Intersection Summary

HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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

User approved changes to right turn type.

Existing + Cumulative PM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

	→	↘	↙	←	↑	↓			
Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø5	Ø7
Lane Configurations	↑↑	↑	↘	↑↑	↔	↔			
Traffic Volume (vph)	923	209	25	579	1	1			
Future Volume (vph)	923	209	25	579	1	1			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	2		1	6	8	4	3	5	7
Permitted Phases		2							
Detector Phase	2	2	1	6	8	4			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)	41.6	41.6	9.5	41.6	25.2	25.2	10.4	9.5	10.4
Total Split (s)	44.4	44.4	10.0	44.9	25.2	25.2	10.4	9.5	10.4
Total Split (%)	49.3%	49.3%	11.1%	49.9%	28.0%	28.0%	12%	11%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	3.0	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 58.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

↙ Ø1	→ Ø2	↘ Ø3	↓ Ø4
10 s	44.4 s	10.4 s	25.2 s
↗ Ø5	← Ø6	↙ Ø7	↑ Ø8
9.5 s	44.9 s	10.4 s	25.2 s

Timings

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Synchro 10 Report

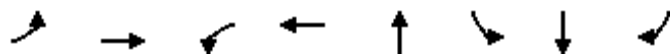
Existing + Cumulative PM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	923	209	25	579	0	165	1	58	0	1	0
Future Volume (veh/h)	0	923	209	25	579	0	165	1	58	0	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	0	952	215	26	597	0	170	1	60	0	1	0
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	4	1598	690	33	1971	0	0	6	330	0	396	0
Arrive On Green	0.00	0.45	0.45	0.02	0.55	0.00	0.00	0.21	0.21	0.00	0.21	0.00
Sat Flow, veh/h	1781	3554	1535	1781	3647	0	0	26	1559	0	1870	0
Grp Volume(v), veh/h	0	952	215	26	597	0	0	0	61	0	1	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1535	1781	1777	0	0	0	1585	0	1870	0
Q Serve(g_s), s	0.0	9.3	4.1	0.7	4.2	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.3	4.1	0.7	4.2	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.00		0.98	0.00		0.00
Lane Grp Cap(c), veh/h	4	1598	690	33	1971	0	0	0	336	0	396	0
V/C Ratio(X)	0.00	0.60	0.31	0.79	0.30	0.00	0.00	0.00	0.18	0.00	0.00	0.00
Avail Cap(c_a), veh/h	212	3059	1321	231	3097	0	0	0	651	0	769	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(l)	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	8.1	22.6	5.5	0.0	0.0	0.0	14.9	0.0	14.4	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.3	33.3	0.1	0.0	0.0	0.0	0.3	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	0.0	2.5	0.9	0.5	0.9	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.9	8.4	55.9	5.6	0.0	0.0	0.0	15.2	0.0	14.4	0.0
LnGrp LOS	A	A	A	E	A	A	A	A	B	A	B	A
Approach Vol, veh/h		1167			623			61			1	
Approach Delay, s/veh		9.6			7.7			15.2			14.4	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	25.4	0.0	16.0	0.0	30.2	0.0	16.0				
Change Period (Y+Rc), s	4.0	4.6	5.4	6.2	4.0	4.6	5.4	6.2				
Max Green Setting (Gmax), s	6.0	39.8	5.0	19.0	5.5	40.3	5.0	19.0				
Max Q Clear Time (g_c+I1), s	2.7	11.3	0.0	2.0	0.0	6.2	0.0	3.5				
Green Ext Time (p_c), s	0.0	8.2	0.0	0.0	0.0	4.2	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.2									
HCM 6th LOS			A									

Existing + Cumulative PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	28	1257	15	878	10	33	11	35
Future Volume (vph)	28	1257	15	878	10	33	11	35
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.4	27.2	10.4	29.2	25.0	28.4	28.4	28.4
Total Split (s)	20.0	45.0	20.0	45.0	25.0	30.0	30.0	30.0
Total Split (%)	16.7%	37.5%	16.7%	37.5%	20.8%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	45 s	30 s	25 s
Ø5	Ø6 (R)		
20 s	45 s		

Timings

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Synchro 10 Report

Existing + Cumulative PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1257	11	15	878	58	15	10	17	33	11	35
Future Volume (veh/h)	28	1257	11	15	878	58	15	10	17	33	11	35
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	30	1352	12	16	944	62	16	11	18	24	28	38
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	2509	22	31	2322	153	32	22	36	113	118	100
Arrive On Green	0.03	0.70	0.70	0.03	1.00	1.00	0.05	0.05	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1781	3609	32	1781	3385	222	610	420	687	1781	1870	1585
Grp Volume(v), veh/h	30	665	699	16	496	510	45	0	0	24	28	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1830	1716	0	0	1781	1870	1585
Q Serve(g_s), s	2.0	21.9	21.9	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	2.8
Cycle Q Clear(g_c), s	2.0	21.9	21.9	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	2.8
Prop In Lane	1.00		0.02	1.00		0.12	0.36		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	47	1235	1296	31	1219	1256	89	0	0	113	118	100
V/C Ratio(X)	0.64	0.54	0.54	0.52	0.41	0.41	0.51	0.00	0.00	0.21	0.24	0.38
Avail Cap(c_a), veh/h	217	1235	1296	217	1219	1256	292	0	0	379	397	337
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	0.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	57.9	8.9	8.9	57.4	0.0	0.0	55.4	0.0	0.0	53.4	53.4	53.9
Incr Delay (d2), s/veh	13.6	1.7	1.6	12.2	0.9	0.9	4.4	0.0	0.0	0.9	0.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.8	8.2	0.6	0.3	0.3	1.4	0.0	0.0	0.7	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.4	10.6	10.5	69.6	0.9	0.9	59.8	0.0	0.0	54.2	54.4	56.1
LnGrp LOS	E	B	B	E	A	A	E	A	A	D	D	E
Approach Vol, veh/h	1394				1022				45			
Approach Delay, s/veh	11.9				2.0				59.8			
Approach LOS	B				A				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	89.6		12.1	8.6	88.5		10.8				
Change Period (Y+Rc), s	5.4	6.2		4.5	5.4	6.2		4.6				
Max Green Setting (Gmax), s	14.6	38.8		25.5	14.6	38.8		20.4				
Max Q Clear Time (g_c+I1), s	3.1	23.9		4.8	4.0	2.0		5.1				
Green Ext Time (p_c), s	0.0	7.7		0.3	0.0	7.2		0.1				

Intersection Summary

HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Existing + Cumulative PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	49	1235	56	879	37	0	104	82	0	22
Future Volume (vph)	49	1235	56	879	37	0	104	82	0	22
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	30.9	30.9	30.9	30.9	30.9	30.9
Total Split (s)	28.0	65.0	23.0	60.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	23.3%	54.2%	19.2%	50.0%	26.7%	26.7%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 48 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Timings

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Synchro 10 Report

Existing + Cumulative PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	1235	33	56	879	17	37	0	104	82	0	22
Future Volume (veh/h)	49	1235	33	56	879	17	37	0	104	82	0	22
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	53	1328	35	60	945	18	40	0	112	88	0	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	2119	56	77	2154	41	60	0	361	60	0	361
Arrive On Green	0.08	1.00	1.00	0.09	1.00	1.00	0.23	0.00	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1781	3537	93	1781	3567	68	0	0	1585	0	0	1585
Grp Volume(v), veh/h	53	667	696	60	471	492	40	0	112	88	0	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1858	0	0	1585	0	0	1585
Q Serve(g_s), s	3.5	0.0	0.0	4.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	1.4
Cycle Q Clear(g_c), s	3.5	0.0	0.0	4.0	0.0	0.0	27.3	0.0	7.0	27.3	0.0	1.4
Prop In Lane	1.00		0.05	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	1064	1110	77	1073	1122	60	0	361	60	0	361
V/C Ratio(X)	0.77	0.63	0.63	0.78	0.44	0.44	0.67	0.00	0.31	1.47	0.00	0.07
Avail Cap(c_a), veh/h	340	1064	1110	266	1073	1122	60	0	361	60	0	361
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	0.0	0.0	54.2	0.0	0.0	60.0	0.0	38.5	60.0	0.0	36.4
Incr Delay (d2), s/veh	13.8	2.3	2.2	12.6	1.1	1.0	24.6	0.0	0.5	280.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.7	0.7	1.9	0.3	0.3	1.6	0.0	2.8	6.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	2.3	2.2	66.8	1.1	1.0	84.6	0.0	39.0	340.6	0.0	36.4
LnGrp LOS	E	A	A	E	A	A	F	A	D	F	A	D
Approach Vol, veh/h	1416			1023			152			112		
Approach Delay, s/veh	4.7			4.9			51.0			275.4		
Approach LOS	A			A			D			F		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	77.7		32.0	9.7	78.3		32.0				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	17.9	59.2		* 27	22.9	54.2		* 27				
Max Q Clear Time (g_c+I1), s	6.0	2.0		29.3	5.5	2.0		29.3				
Green Ext Time (p_c), s	0.1	12.5		0.0	0.1	6.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay 18.6

HCM 6th LOS B

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	91	1294	30	781	39	47	94	61	121	80
Future Volume (vph)	91	1294	30	781	39	47	94	61	121	80
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	39.8	11.1	11.1	30.5	11.1	30.5	11.1
Total Split (s)	25.0	45.0	20.0	40.0	25.0	25.0	30.0	25.0	30.0	25.0
Total Split (%)	20.8%	37.5%	16.7%	33.3%	20.8%	20.8%	25.0%	20.8%	25.0%	20.8%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

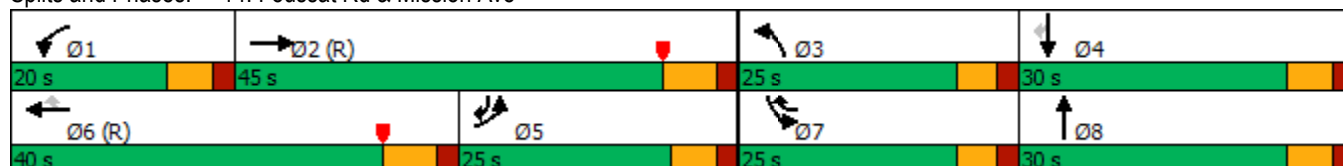
Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



Existing + Cumulative PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	1294	64	30	781	39	47	94	29	61	121	80
Future Volume (veh/h)	91	1294	64	30	781	39	47	94	29	61	121	80
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	1377	68	32	831	41	50	100	31	65	129	85
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	724	2232	110	49	932	474	117	225	67	127	307	1376
Arrive On Green	0.41	0.65	0.65	0.01	0.09	0.09	0.03	0.08	0.08	0.04	0.09	0.09
Sat Flow, veh/h	1781	3447	170	1781	3554	1585	3456	2698	804	3456	3554	2790
Grp Volume(v), veh/h	97	709	736	32	831	41	50	65	66	65	129	85
Grp Sat Flow(s),veh/h/ln	1781	1777	1840	1781	1777	1585	1728	1777	1726	1728	1777	1395
Q Serve(g_s), s	4.1	28.1	28.2	2.1	27.8	0.5	1.7	4.1	4.4	2.2	4.1	0.3
Cycle Q Clear(g_c), s	4.1	28.1	28.2	2.1	27.8	0.5	1.7	4.1	4.4	2.2	4.1	0.3
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	724	1150	1191	49	932	474	117	148	144	127	307	1376
V/C Ratio(X)	0.13	0.62	0.62	0.66	0.89	0.09	0.43	0.44	0.46	0.51	0.42	0.06
Avail Cap(c_a), veh/h	724	1150	1191	206	983	497	559	354	344	559	708	1690
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.96	0.96	0.96	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	22.3	12.4	12.4	58.9	53.1	17.9	56.8	52.3	52.4	56.7	52.0	6.7
Incr Delay (d2), s/veh	0.1	2.0	2.0	13.5	12.2	0.3	2.5	2.0	2.3	2.9	0.8	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	1.7	10.3	10.7	1.1	14.8	0.7	0.8	1.9	2.0	1.0	1.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	14.4	14.4	72.4	65.3	18.2	59.3	54.3	54.7	59.6	52.8	6.7
LnGrp LOS	C	B	B	E	E	B	E	D	D	E	D	A
Approach Vol, veh/h		1542			904			181			279	
Approach Delay, s/veh		14.9			63.4			55.9			40.4	
Approach LOS		B			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	84.5	9.7	16.5	55.6	38.3	10.0	16.1				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.8	* 6.8	5.6	6.1				
Max Green Setting (Gmax), s	13.9	38.2	19.4	23.9	18.9	* 33	19.4	23.9				
Max Q Clear Time (g_c+I1), s	4.1	30.2	3.7	6.1	6.1	29.8	4.2	6.4				
Green Ext Time (p_c), s	0.0	5.1	0.1	1.0	0.2	1.7	0.1	0.6				

Intersection Summary

HCM 6th Ctrl Delay	35.0
HCM 6th LOS	D

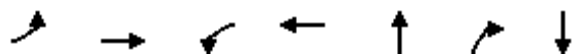
Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	4	1277	55	728	2	108	1
Future Volume (vph)	4	1277	55	728	2	108	1
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	32.8	30.0	9.5	13.8
Total Split (s)	20.0	55.0	20.0	55.0	30.0	20.0	15.0
Total Split (%)	16.7%	45.8%	16.7%	45.8%	25.0%	16.7%	12.5%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	55 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	55 s		

Timings

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Synchro 10 Report

Existing + Cumulative PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1277	91	55	728	7	96	2	108	5	1	7
Future Volume (veh/h)	4	1277	91	55	728	7	96	2	108	5	1	7
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	4	1388	99	60	791	8	104	2	117	5	1	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	2261	161	77	2567	26	161	3	215	13	3	21
Arrive On Green	0.00	0.22	0.22	0.09	1.00	1.00	0.09	0.09	0.09	0.02	0.02	0.02
Sat Flow, veh/h	1781	3365	239	1781	3604	36	1749	34	1585	596	119	954
Grp Volume(v), veh/h	4	731	756	60	390	409	106	0	117	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1827	1781	1777	1864	1783	0	1585	1669	0	0
Q Serve(g_s), s	0.3	44.4	44.8	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	44.4	44.8	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.02	0.98		1.00	0.36		0.57
Lane Grp Cap(c), veh/h	6	1194	1228	77	1265	1327	164	0	215	36	0	0
V/C Ratio(X)	0.72	0.61	0.62	0.78	0.31	0.31	0.65	0.00	0.54	0.39	0.00	0.00
Avail Cap(c_a), veh/h	221	1194	1228	221	1265	1327	377	0	404	139	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.65	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.9	32.6	32.7	54.2	0.0	0.0	52.6	0.0	48.4	57.9	0.0	0.0
Incr Delay (d2), s/veh	73.7	1.5	1.5	14.8	0.6	0.6	4.2	0.0	2.1	6.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	21.5	22.2	2.0	0.2	0.2	3.3	0.0	3.4	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.6	34.1	34.3	69.1	0.6	0.6	56.8	0.0	50.6	64.5	0.0	0.0
LnGrp LOS	F	C	C	E	A	A	E	A	D	E	A	A
Approach Vol, veh/h		1491			859			223			14	
Approach Delay, s/veh		34.5			5.4			53.5			64.5	
Approach LOS		C			A			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	86.4		7.6	5.5	91.3		15.7				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	49.2		10.0	14.9	49.2		25.4				
Max Q Clear Time (g_c+I1), s	6.0	46.8		3.0	2.3	2.0		10.3				
Green Ext Time (p_c), s	0.1	1.9		0.0	0.0	5.1		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.6									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing + Cumulative PM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1242	45	775	28
Future Volume (vph)	1242	45	775	28
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	60.0	30.0	90.0	30.0
Total Split (%)	50.0%	25.0%	75.0%	25.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



Existing + Cumulative PM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	1242	45	45	775	28	41
Future Volume (veh/h)	1242	45	45	775	28	41
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	1870	1870
Adj Flow Rate, veh/h	1280	46	46	799	29	42
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2737	98	60	3050	37	53
Arrive On Green	1.00	1.00	0.07	1.00	0.06	0.06
Sat Flow, veh/h	3592	126	1781	3647	670	970
Grp Volume(v), veh/h	650	676	46	799	72	0
Grp Sat Flow(s),veh/h/ln	1777	1848	1781	1777	1662	0
Q Serve(g_s), s	0.0	0.0	3.0	0.0	5.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.0	0.0	5.1	0.0
Prop In Lane		0.07	1.00		0.40	0.58
Lane Grp Cap(c), veh/h	1390	1445	60	3050	92	0
V/C Ratio(X)	0.47	0.47	0.77	0.26	0.79	0.00
Avail Cap(c_a), veh/h	1390	1445	370	3050	352	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.97	0.97	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	55.5	0.0	56.0	0.0
Incr Delay (d2), s/veh	0.8	0.8	18.2	0.2	13.6	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	0.3	0.3	1.6	0.1	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.8	0.8	73.7	0.2	69.6	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	1326			845	72	
Approach Delay, s/veh	0.8			4.2	69.6	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.1	99.7			108.8	11.2
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	54.2			84.2	25.4
Max Q Clear Time (g_c+I1), s	5.0	2.0			2.0	7.1
Green Ext Time (p_c), s	0.1	11.1			6.0	0.1
Intersection Summary						
HCM 6th Ctrl Delay			4.3			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative PM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Lane Group	EBT	WBT	Ø4	Ø5
Lane Configurations	↑↑	↑↑		
Traffic Volume (vph)	1316	799		
Future Volume (vph)	1316	799		
Turn Type	NA	NA		
Protected Phases	2	6	4	5
Permitted Phases				
Detector Phase	2	6		
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	3.0
Minimum Split (s)	23.8	29.8	28.8	9.5
Total Split (s)	90.0	60.0	30.0	30.0
Total Split (%)	75.0%	50.0%	25%	25%
Yellow Time (s)	4.8	4.8	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	5.8	5.8		
Lead/Lag		Lag		Lead
Lead-Lag Optimize?		Yes		Yes
Recall Mode	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 70

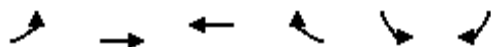
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Puente



Existing + Cumulative PM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1316	799	0	0	0
Future Volume (veh/h)	0	1316	799	0	0	0
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	1870	1870
Adj Flow Rate, veh/h	0	1385	841	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1	3382	3382	0	3	1
Arrive On Green	0.00	1.00	1.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	3741	0	3456	1585
Grp Volume(v), veh/h	0	1385	841	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	0	1728	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	1	3382	3382	0	3	1
V/C Ratio(X)	0.00	0.41	0.25	0.00	0.00	0.00
Avail Cap(c_a), veh/h	370	3382	3382	0	731	336
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.00	0.86	0.92	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.3	0.2	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h		1385	841		0	
Approach Delay, s/veh		0.3	0.2		0.0	
Approach LOS		A	A			
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		120.0		0.0	0.0	120.0
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		84.2		25.4	24.9	54.2
Max Q Clear Time (g_c+I1), s		2.0		0.0	0.0	2.0
Green Ext Time (p_c), s		14.2		0.0	0.0	6.3
Intersection Summary						
HCM 6th Ctrl Delay			0.3			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	234	1037	692	50	113	
Future Volume (vph)	234	1037	692	50	113	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	35.0	65.0	55.0	30.0	30.0	25.0
Total Split (%)	29.2%	54.2%	45.8%	25.0%	25.0%	21%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

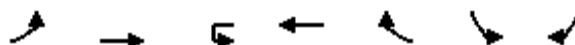
Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing + Cumulative PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	234	1037	0	692	97	50	113
Future Volume (veh/h)	234	1037	0	692	97	50	113
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	1870	1870
Adj Flow Rate, veh/h	241	1069		713	100	52	116
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	268	2921		1968	276	163	145
Arrive On Green	0.30	1.00		0.63	0.63	0.09	0.09
Sat Flow, veh/h	1781	3647		3223	439	1781	1585
Grp Volume(v), veh/h	241	1069		405	408	52	116
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1791	1781	1585
Q Serve(g_s), s	15.6	0.0		13.1	13.2	3.3	8.6
Cycle Q Clear(g_c), s	15.6	0.0		13.1	13.2	3.3	8.6
Prop In Lane	1.00				0.24	1.00	1.00
Lane Grp Cap(c), veh/h	268	2921		1117	1127	163	145
V/C Ratio(X)	0.90	0.37		0.36	0.36	0.32	0.80
Avail Cap(c_a), veh/h	444	2921		1117	1127	377	336
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90		0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0		10.7	10.7	51.0	53.4
Incr Delay (d2), s/veh	12.0	0.3		0.7	0.7	1.1	9.7
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.1		4.8	4.9	1.5	7.8
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	53.1	0.3		11.4	11.4	52.1	63.2
LnGrp LOS	D	A		B	B	D	E
Approach Vol, veh/h		1310		813		168	
Approach Delay, s/veh		10.0		11.4		59.8	
Approach LOS		B		B		E	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		104.4		15.6	23.2	81.3	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		59.2		25.4	29.9	49.2	
Max Q Clear Time (g_c+I1), s		2.0		10.6	17.6	15.2	
Green Ext Time (p_c), s		9.0		0.4	0.5	5.1	

Intersection Summary

HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Notes

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

Existing + Cumulative PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 			 	
Traffic Volume (vph)	395	586	165	135	276	233	702	250	170	429	308
Future Volume (vph)	395	586	165	135	276	233	702	250	170	429	308
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

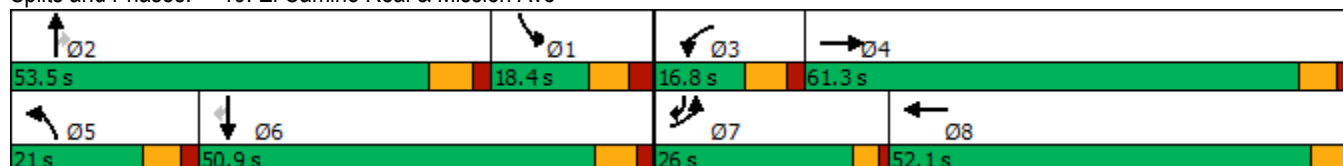
Cycle Length: 150

Actuated Cycle Length: 131.8

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing + Cumulative PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	395	586	165	135	276	112	233	702	250	170	429	308
Future Volume (veh/h)	395	586	165	135	276	112	233	702	250	170	429	308
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	429	637	0	147	300	122	253	763	272	185	466	335
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	521	825		346	522	207	267	1036	439	202	872	628
Arrive On Green	0.15	0.23	0.00	0.10	0.21	0.21	0.15	0.28	0.28	0.11	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	2482	987	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	429	637	0	147	213	209	253	763	272	185	466	335
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1693	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	11.8	16.4	0.0	3.9	10.5	10.9	13.8	18.2	9.8	10.1	11.2	15.9
Cycle Q Clear(g_c), s	11.8	16.4	0.0	3.9	10.5	10.9	13.8	18.2	9.8	10.1	11.2	15.9
Prop In Lane	1.00		1.00	1.00		0.58	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	521	825		346	373	356	267	1036	439	202	872	628
V/C Ratio(X)	0.82	0.77		0.42	0.57	0.59	0.95	0.74	0.62	0.92	0.53	0.53
Avail Cap(c_a), veh/h	775	1993		352	854	813	267	1782	755	202	1598	952
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	35.2	0.0	41.5	34.7	34.9	41.3	32.2	13.9	43.0	32.1	22.7
Incr Delay (d2), s/veh	4.6	1.6	0.0	0.8	1.4	1.5	40.8	1.0	1.4	41.0	0.5	0.7
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	5.1	6.9	0.0	1.6	4.5	4.4	9.0	8.2	3.3	6.7	4.8	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	36.8	0.0	42.3	36.1	36.4	82.1	33.2	15.3	84.0	32.6	23.4
LnGrp LOS	D	D		D	D	D	F	C	B	F	C	C
Approach Vol, veh/h		1066	A		569			1288			986	
Approach Delay, s/veh		40.0			37.8			39.1			39.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.4	34.0	16.6	29.1	21.0	31.4	18.8	26.9				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	12.1	20.2	5.9	18.4	15.8	17.9	13.8	12.9				
Green Ext Time (p_c), s	0.0	7.0	0.1	4.3	0.0	4.6	1.0	2.4				

Intersection Summary

HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

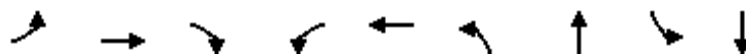
User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←←	↑↑	→	←	↑↑	←	↑↑	←	↑↑
Traffic Volume (vph)	69	978	50	34	425	58	134	33	124
Future Volume (vph)	69	978	50	34	425	58	134	33	124
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 62.3

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Drive /Douglas Dr & Mission Ave

Ø1	Ø2	Ø3	Ø4
10.6 s	38.3 s	10.1 s	41 s
Ø5	Ø6	Ø7	Ø8
12 s	36.9 s	10.4 s	40.7 s

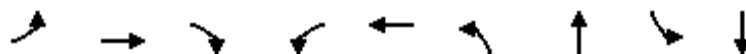
Existing + Cumulative PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	69	978	50	34	425	55	58	134	26	33	124	81
Future Volume (veh/h)	69	978	50	34	425	55	58	134	26	33	124	81
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	70	998	51	35	434	56	59	137	27	34	127	83
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	1390	620	67	1171	150	95	468	90	65	298	182
Arrive On Green	0.06	0.39	0.39	0.04	0.37	0.37	0.05	0.16	0.16	0.04	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	1781	3168	407	1781	2972	572	1781	2118	1296
Grp Volume(v), veh/h	70	998	51	35	242	248	59	81	83	34	105	105
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1797	1781	1777	1767	1781	1777	1637
Q Serve(g_s), s	1.1	13.5	1.1	1.1	5.6	5.7	1.8	2.3	2.4	1.1	3.1	3.3
Cycle Q Clear(g_c), s	1.1	13.5	1.1	1.1	5.6	5.7	1.8	2.3	2.4	1.1	3.1	3.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.32	1.00		0.79
Lane Grp Cap(c), veh/h	204	1390	620	67	657	664	95	280	279	65	250	231
V/C Ratio(X)	0.34	0.72	0.08	0.53	0.37	0.37	0.62	0.29	0.30	0.52	0.42	0.45
Avail Cap(c_a), veh/h	323	2231	995	157	1106	1119	217	1018	1013	173	974	898
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	25.6	14.6	10.9	26.8	13.1	13.1	26.3	21.1	21.1	26.8	22.2	22.4
Incr Delay (d2), s/veh	1.0	0.7	0.1	6.3	0.3	0.3	6.5	0.6	0.6	6.3	1.1	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	0.4	4.3	0.3	0.5	1.8	1.9	0.9	0.9	1.0	0.5	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	15.3	10.9	33.1	13.4	13.4	32.7	21.6	21.7	33.2	23.4	23.8
LnGrp LOS	C	B	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		1119			525			223			244	
Approach Delay, s/veh		15.8			14.7			24.6			24.9	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	14.7	7.2	27.6	8.1	13.8	8.4	26.4				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	3.1	4.4	3.1	15.5	3.8	5.3	3.1	7.7				
Green Ext Time (p_c), s	0.0	0.9	0.0	6.7	0.0	1.2	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

Existing + Cumulative PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	8	786	358	126	480	252	14	10	19
Future Volume (vph)	8	786	358	126	480	252	14	10	19
Turn Type	Prot	NA	Perm	Prot	NA	Split	NA	Split	NA
Protected Phases	5	2		1	6	8	8	4	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	7.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	28.0	28.0	24.0	24.0
Total Split (s)	11.1	58.0	58.0	15.0	61.9	28.0	28.0	24.0	24.0
Total Split (%)	8.9%	46.4%	46.4%	12.0%	49.5%	22.4%	22.4%	19.2%	19.2%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	4.8	4.8	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	5.8	5.8	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 125

Actuated Cycle Length: 108.5

Natural Cycle: 135

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

Ø1	Ø2	Ø4	Ø8
15 s	58 s	24 s	28 s
Ø5	Ø6		
11.1 s	61.9 s		

Existing + Cumulative PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	786	358	126	480	1	252	14	102	10	19	7
Future Volume (veh/h)	8	786	358	126	480	1	252	14	102	10	19	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	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	9	854	389	137	522	1	274	15	111	11	21	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	896	747	165	1047	2	312	32	239	82	59	23
Arrive On Green	0.01	0.48	0.48	0.09	0.56	0.56	0.17	0.17	0.17	0.05	0.05	0.05
Sat Flow, veh/h	1781	1870	1560	1781	1866	4	1781	185	1369	1781	1290	492
Grp Volume(v), veh/h	9	854	389	137	0	523	274	0	126	11	0	29
Grp Sat Flow(s),veh/h/ln	1781	1870	1560	1781	0	1870	1781	0	1554	1781	0	1782
Q Serve(g_s), s	0.5	46.2	18.3	8.0	0.0	18.0	15.8	0.0	7.7	0.6	0.0	1.7
Cycle Q Clear(g_c), s	0.5	46.2	18.3	8.0	0.0	18.0	15.8	0.0	7.7	0.6	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.88	1.00		0.28
Lane Grp Cap(c), veh/h	20	896	747	165	0	1049	312	0	272	82	0	82
V/C Ratio(X)	0.46	0.95	0.52	0.83	0.00	0.50	0.88	0.00	0.46	0.13	0.00	0.36
Avail Cap(c_a), veh/h	101	921	768	167	0	1049	375	0	327	321	0	321
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(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.9	26.4	19.1	47.1	0.0	14.1	42.5	0.0	39.1	48.4	0.0	48.9
Incr Delay (d2), s/veh	15.9	19.0	0.6	27.8	0.0	0.4	18.2	0.0	1.2	0.7	0.0	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	0.3	23.2	6.2	4.7	0.0	7.0	8.3	0.0	2.9	0.3	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.8	45.4	19.7	74.8	0.0	14.5	60.7	0.0	40.3	49.1	0.0	51.5
LnGrp LOS	E	D	B	E	A	B	E	A	D	D	A	D
Approach Vol, veh/h		1252			660			400			40	
Approach Delay, s/veh		37.6			27.0			54.3			50.8	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.9	56.6		9.8	6.3	65.2		24.3				
Change Period (Y+Rc), s	5.1	6.0		5.0	5.1	6.0		5.8				
Max Green Setting (Gmax), s	9.9	52.0		19.0	6.0	55.9		22.2				
Max Q Clear Time (g_c+I1), s	10.0	48.2		3.7	2.5	20.0		17.8				
Green Ext Time (p_c), s	0.0	2.3		0.1	0.0	3.4		0.6				
Intersection Summary												
HCM 6th Ctrl Delay			37.7									
HCM 6th LOS			D									

Existing + Cumulative PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3	Ø5
Lane Configurations	LT, TH, RT	LT, TH, RT	LT, TH, RT	LT, TH, RT	LT, TH, RT		
Traffic Volume (vph)	202	179	249	939	605		
Future Volume (vph)	202	179	249	939	605		
Turn Type	Prot	Perm	Perm	NA	NA		
Protected Phases	4			2	6	3	5
Permitted Phases		4	2				
Detector Phase	4	4	2	2	6		
Switch Phase							
Minimum Initial (s)	6.0	6.0	12.0	12.0	12.0	6.0	6.0
Minimum Split (s)	29.7	29.7	23.8	23.8	30.8	29.7	11.1
Total Split (s)	29.7	29.7	85.6	85.6	74.5	29.7	11.1
Total Split (%)	20.5%	20.5%	59.0%	59.0%	51.4%	20%	8%
Yellow Time (s)	3.7	3.7	4.3	4.3	4.3	3.7	4.1
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.7	4.7	5.8	5.8	5.8		
Lead/Lag	Lag	Lag			Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 145

Actuated Cycle Length: 105.1

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ø2	Ø3	Ø4
85.6 s	29.7 s	29.7 s
Ø5	Ø6	
11.1 s	74.5 s	

Existing + Cumulative PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	LT	LT	LT	TH	TH	TH	LT	LT
Traffic Volume (vph)	202	179	249	939	605	91	0	0
Future Volume (vph)	202	179	249	939	605	91	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.8	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	0.98			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1528	1770	3539	3460			
Flt Permitted	0.95	1.00	0.36	1.00	1.00			
Satd. Flow (perm)	3433	1528	675	3539	3460			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	210	186	259	978	630	95	0	0
RTOR Reduction (vph)	0	164	0	0	0	0	0	0
Lane Group Flow (vph)	210	22	259	978	725	0	0	0
Confl. Peds. (#/hr)		15						
Confl. Bikes (#/hr)		2				3		
Turn Type	Prot	Perm	Perm	NA	NA		Prot	Perm
Protected Phases	4			2	6		3	
Permitted Phases		4	2					3
Actuated Green, G (s)	13.1	13.1	76.8	76.8	76.8			
Effective Green, g (s)	13.1	13.1	76.8	76.8	76.8			
Actuated g/C Ratio	0.12	0.12	0.71	0.71	0.71			
Clearance Time (s)	4.7	4.7	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	413	184	476	2500	2444			
v/s Ratio Prot	c0.06			0.28	0.21			
v/s Ratio Perm		0.01	c0.38					
v/c Ratio	0.51	0.12	0.54	0.39	0.30			
Uniform Delay, d1	44.8	42.7	7.6	6.5	5.9			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.0	0.3	1.3	0.1	0.1			
Delay (s)	45.8	43.0	8.9	6.6	6.0			
Level of Service	D	D	A	A	A			
Approach Delay (s)	44.5			7.1	6.0		0.0	
Approach LOS	D			A	A		A	
Intersection Summary								
HCM 2000 Control Delay			13.0		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.55					
Actuated Cycle Length (s)			108.7		Sum of lost time (s)		20.3	
Intersection Capacity Utilization			74.4%		ICU Level of Service		D	
Analysis Period (min)			15					
c Critical Lane Group								

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	22	58	7	11	21	33	56	5	16	1
Future Vol, veh/h	0	3	22	58	7	11	21	33	56	5	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	89	92	89	92	89	89	89	89	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	24	65	8	12	23	37	63	6	18	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	27	0	0	169	165	15	209	171	14
Stage 1	-	-	-	-	-	-	15	15	-	144	144	-
Stage 2	-	-	-	-	-	-	154	150	-	65	27	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1596	-	-	1587	-	-	795	728	1065	748	722	1066
Stage 1	-	-	-	-	-	-	1005	883	-	859	778	-
Stage 2	-	-	-	-	-	-	848	773	-	946	873	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1596	-	-	1587	-	-	754	698	1065	655	692	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	754	698	-	655	692	-
Stage 1	-	-	-	-	-	-	1005	883	-	859	746	-
Stage 2	-	-	-	-	-	-	793	741	-	853	873	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			5.6			9.9			10.4		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	862	1596	-	-	1587	-	-	694				
HCM Lane V/C Ratio	0.142	-	-	-	0.041	-	-	0.036				
HCM Control Delay (s)	9.9	0	-	-	7.4	0	-	10.4				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.1				

Existing + Cumulative PM
24: Foussat Rd

Ocean Kamp
02/16/2021

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	230	7	0	159	7	0
Future Vol, veh/h	230	7	0	159	7	0
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	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	261	8	0	181	8	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	269
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1295
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1295
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	570	-	-	1295	-
HCM Lane V/C Ratio	0.014	-	-	-	-
HCM Control Delay (s)	11.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	48	21	234	153	1
Future Vol, veh/h	1	48	21	234	153	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	51	22	246	161	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	452	162	162	0	-	0
Stage 1	162	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	565	883	1417	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	556	883	1417	-	-	-
Mov Cap-2 Maneuver	556	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.4	0.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1417	-	873	-	-	
HCM Lane V/C Ratio	0.016	-	0.059	-	-	
HCM Control Delay (s)	7.6	-	9.4	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

Existing + Cumulative PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

	↖	↗	↑	↘	↓	
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations	↖	↗	↕	↖	↗	
Traffic Volume (vph)	42	66	791	77	591	
Future Volume (vph)	42	66	791	77	591	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 46

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

↖ Ø1	↑ Ø2	↘ Ø4
24 s	29 s	27 s
↗ Ø5	↓ Ø6	
17 s	36 s	

Existing + Cumulative PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	42	66	0	791	86	77	591
Future Volume (veh/h)	42	66	0	791	86	77	591
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	1870	1870
Adj Flow Rate, veh/h	43	68		815	89	79	609
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	136	121		1273	139	110	2139
Arrive On Green	0.08	0.08		0.39	0.39	0.06	0.60
Sat Flow, veh/h	1781	1585		3324	353	1781	3647
Grp Volume(v), veh/h	43	68		448	456	79	609
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1807	1781	1777
Q Serve(g_s), s	0.8	1.4		7.0	7.0	1.5	2.8
Cycle Q Clear(g_c), s	0.8	1.4		7.0	7.0	1.5	2.8
Prop In Lane	1.00	1.00			0.20	1.00	
Lane Grp Cap(c), veh/h	136	121		700	712	110	2139
V/C Ratio(X)	0.32	0.56		0.64	0.64	0.72	0.28
Avail Cap(c_a), veh/h	1146	1020		1195	1215	990	3118
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	14.9	15.2		8.4	8.4	15.7	3.3
Incr Delay (d2), s/veh	1.3	4.1		1.0	1.0	8.5	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	0.3	1.4		1.5	1.5	0.7	0.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	16.3	19.3		9.4	9.4	24.2	3.3
LnGrp LOS	B	B		A	A	C	A
Approach Vol, veh/h	111			904			688
Approach Delay, s/veh	18.1			9.4			5.7
Approach LOS	B			A			A
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	7.1	19.5		7.6		26.6	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	3.5	9.0		3.4		4.8	
Green Ext Time (p_c), s	0.1	4.5		0.3		3.9	
Intersection Summary							
HCM 6th Ctrl Delay			8.5				
HCM 6th LOS			A				
Notes							
User approved ignoring U-Turning movement.							

Existing + Cumulative PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	321	107	291	599	71	122	403	209	87	665	162
Future Volume (vph)	83	321	107	291	599	71	122	403	209	87	665	162
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.3	35.0	35.0	25.0	34.7	34.7	19.4	44.3	44.3	10.7	35.6	35.6
Total Split (%)	22.0%	30.4%	30.4%	21.7%	30.2%	30.2%	16.9%	38.5%	38.5%	9.3%	31.0%	31.0%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 98.1

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
10.7 s	44.3 s	25 s	35 s
			
19.4 s	35.6 s	25.3 s	34.7 s

Existing + Cumulative PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	321	107	291	599	71	122	403	209	87	665	162
Future Volume (veh/h)	83	321	107	291	599	71	122	403	209	87	665	162
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	89	345	115	313	644	76	131	433	225	94	715	174
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	512	228	355	988	441	166	1016	453	120	924	412
Arrive On Green	0.07	0.14	0.14	0.20	0.28	0.28	0.09	0.29	0.29	0.07	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	89	345	115	313	644	76	131	433	225	94	715	174
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.0	7.4	5.4	13.8	12.9	2.9	5.8	8.0	9.5	4.2	15.1	7.4
Cycle Q Clear(g_c), s	4.0	7.4	5.4	13.8	12.9	2.9	5.8	8.0	9.5	4.2	15.1	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	512	228	355	988	441	166	1016	453	120	924	412
V/C Ratio(X)	0.76	0.67	0.50	0.88	0.65	0.17	0.79	0.43	0.50	0.78	0.77	0.42
Avail Cap(c_a), veh/h	439	1223	545	432	1209	539	315	1649	736	123	1267	565
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	37.1	32.8	31.9	31.4	25.7	22.1	35.8	23.5	24.0	37.1	27.7	24.9
Incr Delay (d2), s/veh	9.9	1.6	1.7	16.3	0.9	0.2	8.0	0.3	0.8	26.6	2.1	0.7
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	2.0	3.1	2.0	7.1	5.1	1.0	2.7	3.1	3.4	2.6	6.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	34.3	33.6	47.7	26.6	22.3	43.9	23.8	24.9	63.7	29.8	25.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		549			1033			789			983	
Approach Delay, s/veh		36.2			32.7			27.4			32.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	29.9	21.5	18.8	12.6	27.8	10.7	29.7				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.6	37.5	19.6	27.8	14.3	28.8	19.9	27.5				
Max Q Clear Time (g_c+I1), s	6.2	11.5	15.8	9.4	7.8	17.1	6.0	14.9				
Green Ext Time (p_c), s	0.0	3.4	0.3	2.2	0.1	3.9	0.1	3.4				
Intersection Summary												
HCM 6th Ctrl Delay			31.9									
HCM 6th LOS			C									

Existing + Cumulative PM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	255	101	374	159	93	171	1292	669	86	760	30
Future Volume (vph)	35	255	101	374	159	93	171	1292	669	86	760	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 105.9

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Cumulative PM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	255	101	374	159	93	171	1292	669	86	760	30
Future Volume (veh/h)	35	255	101	374	159	93	171	1292	669	86	760	30
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	38	274	109	402	171	100	184	1389	719	92	817	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	390	174	509	487	412	150	1496	900	120	1435	640
Arrive On Green	0.03	0.11	0.11	0.15	0.26	0.26	0.08	0.42	0.42	0.07	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	38	274	109	402	171	100	184	1389	719	92	817	32
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	6.9	6.1	10.4	6.9	4.6	7.8	34.4	33.2	4.7	16.5	1.1
Cycle Q Clear(g_c), s	2.0	6.9	6.1	10.4	6.9	4.6	7.8	34.4	33.2	4.7	16.5	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	390	174	509	487	412	150	1496	900	120	1435	640
V/C Ratio(X)	0.79	0.70	0.63	0.79	0.35	0.24	1.23	0.93	0.80	0.77	0.57	0.05
Avail Cap(c_a), veh/h	125	691	308	1064	873	740	150	1509	906	397	2001	892
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	44.8	39.7	39.4	38.1	27.9	27.0	42.4	25.5	15.8	42.5	21.4	16.8
Incr Delay (d2), s/veh	24.4	2.3	3.7	2.8	0.4	0.3	146.6	10.4	5.1	9.9	0.4	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	1.2	3.0	2.4	4.4	3.0	1.7	9.5	15.8	11.2	2.4	6.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.2	42.1	43.1	40.9	28.3	27.3	189.0	35.8	20.9	52.3	21.7	16.8
LnGrp LOS	E	D	D	D	C	C	F	D	C	D	C	B
Approach Vol, veh/h		421			673			2292			941	
Approach Delay, s/veh		44.8			35.7			43.4			24.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	46.0	19.4	15.6	13.2	44.4	5.5	29.5				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	6.7	36.4	12.4	8.9	9.8	18.5	4.0	8.9				
Green Ext Time (p_c), s	0.2	2.6	1.2	1.3	0.0	6.8	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh 12.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	192	23	11	162	97	23	193	16	67	124	35
Future Vol, veh/h	51	192	23	11	162	97	23	193	16	67	124	35
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	196	23	11	165	99	23	197	16	68	127	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.4	12.9	12.8	12.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	19%	4%	30%
Vol Thru, %	83%	72%	60%	55%
Vol Right, %	7%	9%	36%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	232	266	270	226
LT Vol	23	51	11	67
Through Vol	193	192	162	124
RT Vol	16	23	97	35
Lane Flow Rate	237	271	276	231
Geometry Grp	1	1	1	1
Degree of Util (X)	0.389	0.438	0.43	0.379
Departure Headway (Hd)	5.922	5.804	5.616	5.923
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	601	616	636	602
Service Time	4.012	3.887	3.7	4.013
HCM Lane V/C Ratio	0.394	0.44	0.434	0.384
HCM Control Delay	12.8	13.4	12.9	12.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	2.2	2.2	1.8

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	39	245	4	13	169	10	5	22	12	13	20	23
Future Vol, veh/h	39	245	4	13	169	10	5	22	12	13	20	23
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	255	4	14	176	10	5	23	13	14	21	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	9	8.3	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	14%	7%	23%
Vol Thru, %	56%	85%	88%	36%
Vol Right, %	31%	1%	5%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	288	192	56
LT Vol	5	39	13	13
Through Vol	22	245	169	20
RT Vol	12	4	10	23
Lane Flow Rate	41	300	200	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.056	0.368	0.249	0.079
Departure Headway (Hd)	4.973	4.415	4.483	4.905
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	816	802	729
Service Time	3.014	2.438	2.508	2.945
HCM Lane V/C Ratio	0.057	0.368	0.249	0.08
HCM Control Delay	8.3	10	9	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.7	1	0.3

APPENDIX H

INTERSECTION ANALYSIS WORKSHEETS – WEEKDAY EXISTING + NEAR TERM CUMULATIVE PROJECTS + PROJECT

Existing + Cumulative + Project AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	317	226	1107	668	337
Future Volume (vph)	317	226	1107	668	337
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	23.5	23.5	34.0	57.5	22.5
Total Split (%)	29.4%	29.4%	42.5%	71.9%	28.1%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

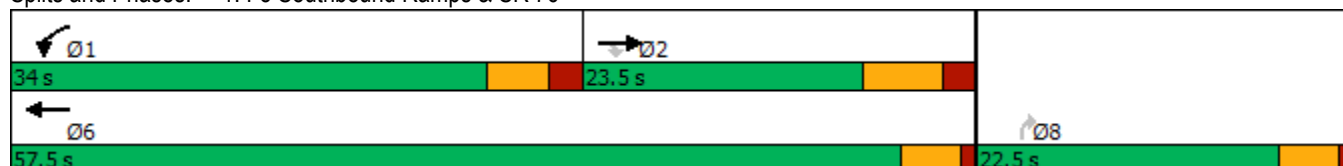
Cycle Length: 80

Actuated Cycle Length: 59.7

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Existing + Cumulative + Project AM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	317	226	1107	668	0	337
Future Volume (vph)	317	226	1107	668	0	337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1562	3433	3539		1611
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1562	3433	3539		1611
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	323	231	1130	682	0	344
RTOR Reduction (vph)	0	187	0	0	0	312
Lane Group Flow (vph)	323	44	1130	682	0	32
Confl. Peds. (#/hr)		1				
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	11.4	11.4	25.7	45.1		5.6
Effective Green, g (s)	11.4	11.4	25.7	45.1		5.6
Actuated g/C Ratio	0.19	0.19	0.43	0.76		0.09
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	675	298	1477	2673		151
v/s Ratio Prot	c0.09		c0.33	0.19		
v/s Ratio Perm		0.03				c0.02
v/c Ratio	0.48	0.15	0.77	0.26		0.21
Uniform Delay, d1	21.5	20.1	14.4	2.2		25.0
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.5	0.2	2.4	0.1		0.7
Delay (s)	22.0	20.3	16.9	2.3		25.7
Level of Service	C	C	B	A		C
Approach Delay (s)	21.3			11.4	25.7	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			15.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.62			
Actuated Cycle Length (s)			59.7		Sum of lost time (s)	17.0
Intersection Capacity Utilization			55.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Existing + Cumulative + Project AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	547	107	1110	1520	99	629
Future Volume (vph)	547	107	1110	1520	99	629
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	26.6	24.1	29.3	55.9	24.1	24.1
Total Split (%)	33.3%	30.1%	36.6%	69.9%	30.1%	30.1%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 70.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
29.3 s	26.6 s	
← Ø6	↘ Ø8	
55.9 s	24.1 s	

Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

Existing + Cumulative + Project AM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	547	107	1110	1520	99	629
Future Volume (veh/h)	547	107	1110	1520	99	629
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	1870	1870
Adj Flow Rate, veh/h	564	110	1144	1567	102	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	778	467	1282	2438	135	
Arrive On Green	0.22	0.22	0.37	0.69	0.08	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	564	110	1144	1567	102	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	8.7	3.1	18.4	14.6	3.3	0.0
Cycle Q Clear(g_c), s	8.7	3.1	18.4	14.6	3.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	778	467	1282	2438	135	
V/C Ratio(X)	0.73	0.24	0.89	0.64	0.76	
Avail Cap(c_a), veh/h	1117	618	1379	2878	542	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	15.8	17.5	5.2	26.8	0.0
Incr Delay (d2), s/veh	1.3	0.3	7.4	0.4	8.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.1	6.7	1.7	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.8	16.1	24.9	5.6	35.2	0.0
LnGrp LOS	C	B	C	A	D	
Approach Vol, veh/h	674			2711	102	A
Approach Delay, s/veh	21.7			13.7	35.2	
Approach LOS	C			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.6	20.9			48.6	10.6
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 24	18.6			47.9	18.0
Max Q Clear Time (g_c+I1), s	20.4	10.7			16.6	5.3
Green Ext Time (p_c), s	1.5	2.2			13.3	0.2

Intersection Summary

HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative + Project AM
3: Loretta St & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	1159	17	20	2585	45	27
Future Volume (vph)	1159	17	20	2585	45	27
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	10.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	38.1	14.7	33.0	38.1	14.7
Total Split (s)	94.7	40.1	25.2	119.9	40.1	25.2
Total Split (%)	59.2%	25.1%	15.8%	74.9%	25.1%	15.8%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160

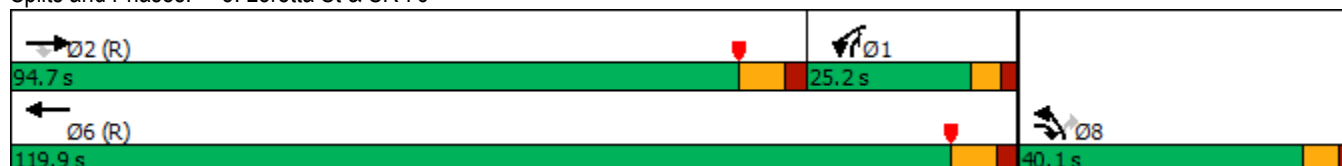
Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	1159	17	20	2585	45	27
Future Volume (veh/h)	1159	17	20	2585	45	27
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	1870	1870
Adj Flow Rate, veh/h	1195	18	21	2665	46	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1361	701	746	3027	107	759
Arrive On Green	0.38	0.38	0.42	0.85	0.06	0.06
Sat Flow, veh/h	3647	1583	1781	3647	1781	1585
Grp Volume(v), veh/h	1195	18	21	2665	46	28
Grp Sat Flow(s),veh/h/ln	1777	1583	1781	1777	1781	1585
Q Serve(g_s), s	50.0	1.0	1.1	71.2	4.0	0.0
Cycle Q Clear(g_c), s	50.0	1.0	1.1	71.2	4.0	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1361	701	746	3027	107	759
V/C Ratio(X)	0.88	0.03	0.03	0.88	0.43	0.04
Avail Cap(c_a), veh/h	1926	953	746	3027	379	1001
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	25.1	27.3	7.0	72.5	22.1
Incr Delay (d2), s/veh	4.7	0.0	0.0	4.1	2.7	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	22.0	0.4	0.5	15.6	1.9	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.6	25.1	27.4	11.1	75.2	22.1
LnGrp LOS	D	C	C	B	E	C
Approach Vol, veh/h	1213			2686	74	
Approach Delay, s/veh	50.2			11.2	55.1	
Approach LOS	D			B	E	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	75.0	69.3		144.3	15.7	
Change Period (Y+Rc), s	8.0	* 8		8.0	6.1	
Max Green Setting (Gmax), s	19.5	* 87		111.9	34.0	
Max Q Clear Time (g_c+I1), s	3.1	52.0		73.2	6.0	
Green Ext Time (p_c), s	0.0	9.2		31.5	0.2	
Intersection Summary						
HCM 6th Ctrl Delay			23.9			
HCM 6th LOS			C			
Notes						

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

Existing + Cumulative + Project AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	1175	11	127	2582	23	131
Future Volume (vph)	1175	11	127	2582	23	131
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	39.1	15.7	33.0	39.1	15.7
Total Split (s)	87.2	37.1	35.7	122.9	37.1	35.7
Total Split (%)	54.5%	23.2%	22.3%	76.8%	23.2%	22.3%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 141 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing + Cumulative + Project AM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (veh/h)	1175	11	127	2582	23	131
Future Volume (veh/h)	1175	11	127	2582	23	131
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	1263	12	137	2776	25	141
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2458	1223	160	2904	328	293
Arrive On Green	0.69	0.69	0.09	0.82	0.09	0.09
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	1263	12	137	2776	25	141
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	27.2	0.3	12.1	104.5	1.1	12.7
Cycle Q Clear(g_c), s	27.2	0.3	12.1	104.5	1.1	12.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2458	1223	160	2904	328	293
V/C Ratio(X)	0.51	0.01	0.86	0.96	0.08	0.48
Avail Cap(c_a), veh/h	2458	1223	334	2904	670	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	11.8	3.7	71.8	12.2	66.0	58.4
Incr Delay (d2), s/veh	0.8	0.0	1.3	1.1	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.1	5.5	26.6	0.5	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.6	3.7	73.1	13.4	66.1	59.6
LnGrp LOS	B	A	E	B	E	E
Approach Vol, veh/h	1275			2913	166	
Approach Delay, s/veh	12.5			16.2	60.6	
Approach LOS	B			B	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.1	118.7			138.7	21.3
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 30	79.2			114.9	31.0
Max Q Clear Time (g_c+I1), s	14.1	29.2			106.5	14.7
Green Ext Time (p_c), s	0.3	10.7			8.0	0.4

Intersection Summary

HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative + Project AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1115	111	43	2250	11	73	22	53	11	17	229
Future Volume (vph)	79	1115	111	43	2250	11	73	22	53	11	17	229
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	23.7	50.1	50.1	20.7	21.1	20.7
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	14.8%	31.3%	31.3%	12.9%	13.2%	12.9%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

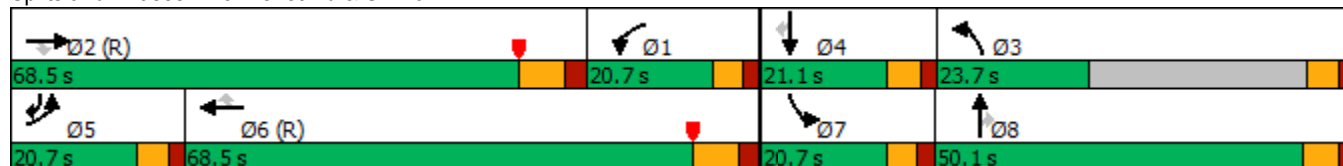
Actuated Cycle Length: 160

Offset: 69 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

Existing + Cumulative + Project AM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1115	111	43	2250	11	73	22	53	11	17	229
Future Volume (veh/h)	79	1115	111	43	2250	11	73	22	53	11	17	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
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	86	1212	121	47	2446	12	79	24	58	12	18	249
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1294	572	522	2104	939	130	258	219	55	175	271
Arrive On Green	0.08	0.36	0.36	0.59	1.00	1.00	0.07	0.14	0.14	0.03	0.09	0.09
Sat Flow, veh/h	1781	3554	1570	1781	3554	1585	1781	1870	1585	1781	1870	1542
Grp Volume(v), veh/h	86	1212	121	47	2446	12	79	24	58	12	18	249
Grp Sat Flow(s),veh/h/ln	1781	1777	1570	1781	1777	1585	1781	1870	1585	1781	1870	1542
Q Serve(g_s), s	7.5	52.6	8.5	1.8	0.0	0.0	6.9	1.8	2.9	1.1	1.4	15.0
Cycle Q Clear(g_c), s	7.5	52.6	8.5	1.8	0.0	0.0	6.9	1.8	2.9	1.1	1.4	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	1294	572	522	2104	939	130	258	219	55	175	271
V/C Ratio(X)	0.61	0.94	0.21	0.09	1.16	0.01	0.61	0.09	0.27	0.22	0.10	0.92
Avail Cap(c_a), veh/h	167	1344	594	522	2104	939	200	514	436	167	175	271
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.2	49.1	35.0	23.8	0.0	0.0	72.0	60.2	19.2	75.6	66.3	43.8
Incr Delay (d2), s/veh	3.9	12.2	0.7	0.0	73.6	0.0	4.6	0.2	0.6	1.9	0.3	34.3
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	3.5	24.5	3.4	0.8	21.5	0.0	3.3	0.9	2.1	0.5	0.7	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.1	61.3	35.8	23.8	73.6	0.0	76.5	60.4	19.8	77.6	66.6	78.1
LnGrp LOS	E	E	D	C	F	A	E	E	B	E	E	E
Approach Vol, veh/h	1419				2505				161			
Approach Delay, s/veh	59.9				72.3				53.7			
Approach LOS	E				E				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	54.9	66.3	17.7	21.1	18.4	102.7	10.7	28.2				
Change Period (Y+Rc), s	8.0	* 8	6.1	* 6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 61	18.0	* 15	* 15	60.5	* 15	44.0				
Max Q Clear Time (g_c+I1), s	3.8	54.6	8.9	17.0	9.5	2.0	3.1	4.9				
Green Ext Time (p_c), s	0.0	3.6	0.1	0.0	0.1	38.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	67.9
HCM 6th LOS	E

Notes

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

Existing + Cumulative + Project AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	24	1450	37	36	2283	25	86	27	38	31	11
Future Volume (vph)	24	1450	37	36	2283	25	86	27	38	31	11
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	78.5	78.5	20.7	78.5	78.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	12.9%	49.1%	49.1%	12.9%	49.1%	49.1%	12.9%	28.2%	9.8%	13.2%	13.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 160

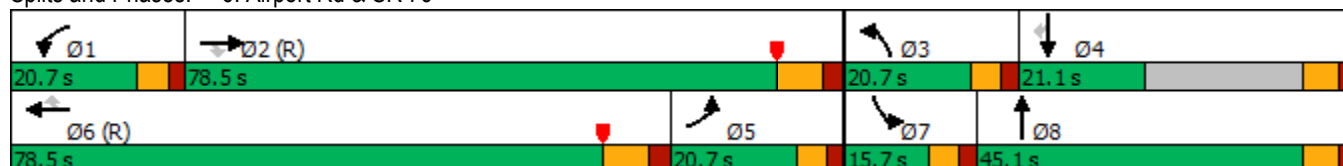
Actuated Cycle Length: 160

Offset: 83 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

Existing + Cumulative + Project AM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1450	37	36	2283	25	86	27	91	38	31	11
Future Volume (veh/h)	24	1450	37	36	2283	25	86	27	91	38	31	11
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	25	1510	39	38	2378	26	90	28	95	40	32	11
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	433	2319	1034	82	1566	698	134	34	115	93	126	107
Arrive On Green	0.49	1.00	1.00	0.09	0.88	0.88	0.07	0.09	0.09	0.05	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	374	1268	1781	1870	1585
Grp Volume(v), veh/h	25	1510	39	38	2378	26	90	0	123	40	32	11
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1642	1781	1870	1585
Q Serve(g_s), s	1.2	0.0	0.0	3.2	70.5	0.2	7.9	0.0	11.8	3.5	2.6	0.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.2	70.5	0.2	7.9	0.0	11.8	3.5	2.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		1.00
Lane Grp Cap(c), veh/h	433	2319	1034	82	1566	698	134	0	148	93	126	107
V/C Ratio(X)	0.06	0.65	0.04	0.47	1.52	0.04	0.67	0.00	0.83	0.43	0.25	0.10
Avail Cap(c_a), veh/h	433	2319	1034	167	1566	698	167	0	400	111	175	149
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.09	0.09	0.09	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	0.0	70.8	9.5	3.0	72.1	0.0	71.5	73.6	70.8	29.1
Incr Delay (d2), s/veh	0.0	1.1	0.1	0.4	233.7	0.0	7.2	0.0	10.9	3.2	1.0	0.4
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	0.5	0.4	0.0	1.4	54.6	0.1	3.9	0.0	5.4	1.7	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	1.1	0.1	71.2	243.2	3.0	79.3	0.0	82.4	76.7	71.8	29.5
LnGrp LOS	C	A	A	E	F	A	E	A	F	E	E	C
Approach Vol, veh/h		1574			2442			213			83	
Approach Delay, s/veh		1.6			238.0			81.1			68.6	
Approach LOS		A			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	112.4	17.7	16.9	46.9	78.5	14.0	20.6				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	70.5	* 15	15.0	15.0	* 71	* 10	39.0				
Max Q Clear Time (g_c+I1), s	5.2	2.0	9.9	4.6	3.2	72.5	5.5	13.8				
Green Ext Time (p_c), s	0.0	15.4	0.1	0.1	0.0	0.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	140.7
HCM 6th LOS	F

Notes

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

Existing + Cumulative + Project AM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	161	1371	71	79	2103	75	37	86	77	106	97	213
Future Volume (vph)	161	1371	71	79	2103	75	37	86	77	106	97	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	48.0	48.0	18.7	52.1	52.1	18.7	19.1	19.1
Total Split (s)	20.7	68.5	68.5	20.7	68.5	68.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	12.9%	42.8%	42.8%	12.9%	42.8%	42.8%	13.6%	32.6%	32.6%	11.7%	12.6%	12.6%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 160

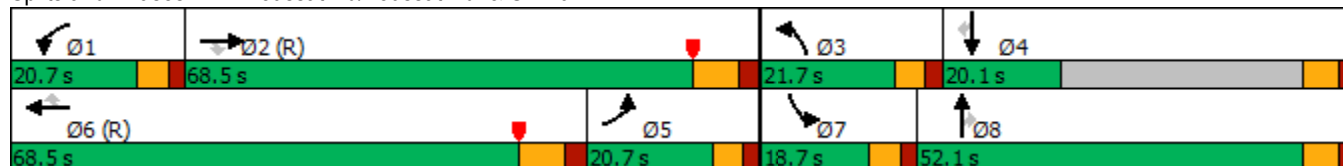
Actuated Cycle Length: 160

Offset: 53 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

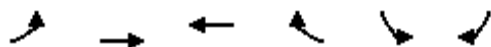
Existing + Cumulative + Project AM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	 
Traffic Volume (veh/h)	161	1371	71	79	2103	75	37	86	77	106	97	213
Future Volume (veh/h)	161	1371	71	79	2103	75	37	86	77	106	97	213
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	163	1385	72	80	2124	76	37	87	78	107	98	215
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1011	2176	970	252	1344	599	227	267	119	278	320	251
Arrive On Green	0.59	1.00	1.00	0.07	0.38	0.38	0.07	0.07	0.07	0.08	0.09	0.09
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	163	1385	72	80	2124	76	37	87	78	107	98	215
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	3.5	0.0	0.0	3.5	60.5	3.7	1.6	3.7	7.7	4.7	4.1	7.1
Cycle Q Clear(g_c), s	3.5	0.0	0.0	3.5	60.5	3.7	1.6	3.7	7.7	4.7	4.1	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1011	2176	970	252	1344	599	227	267	119	278	320	251
V/C Ratio(X)	0.16	0.64	0.07	0.32	1.58	0.13	0.16	0.33	0.66	0.38	0.31	0.86
Avail Cap(c_a), veh/h	1011	2176	970	324	1344	599	346	1022	456	281	320	251
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	0.0	70.4	49.8	17.4	70.6	70.2	72.0	69.8	68.1	24.3
Incr Delay (d2), s/veh	0.0	1.0	0.1	0.7	264.9	0.4	0.3	0.7	5.7	0.9	0.5	24.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.3	0.0	1.5	75.0	2.0	0.7	1.7	3.3	2.1	1.9	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	1.0	0.1	71.1	314.6	17.9	70.9	70.8	77.7	70.7	68.7	48.4
LnGrp LOS	C	A	A	E	F	B	E	E	E	E	E	D
Approach Vol, veh/h		1620			2280			202			420	
Approach Delay, s/veh		3.3			296.2			73.5			58.8	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	106.0	16.2	20.5	54.8	68.5	18.6	18.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	60.5	* 16	14.0	15.0	* 61	* 13	46.0				
Max Q Clear Time (g_c+I1), s	5.5	2.0	3.6	9.1	5.5	62.5	6.7	9.7				
Green Ext Time (p_c), s	0.1	13.1	0.0	0.6	0.3	0.0	0.1	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			159.3									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	283	906	1749	218	290	582	
Future Volume (vph)	283	906	1749	218	290	582	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	90.8	55.1	55.1	19.1	35.7	50.1
Total Split (%)	22.3%	56.8%	34.4%	34.4%	11.9%	22.3%	31%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lag		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 160

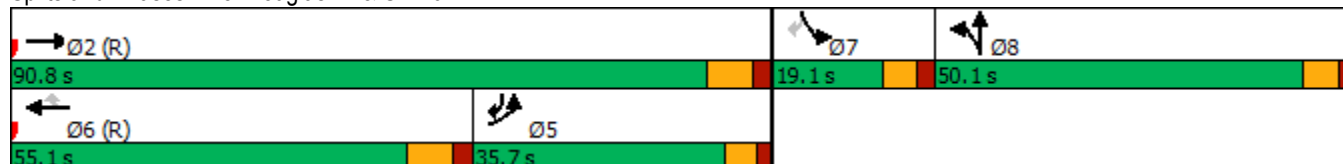
Actuated Cycle Length: 160

Offset: 131 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: Douglas Dr & SR 76



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

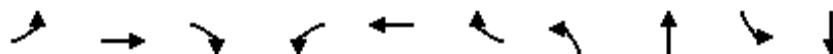
Synchro 10 Report

Existing + Cumulative + Project AM
8: Douglas Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	283	906	0	0	1749	218	0	0	0	290	0	582
Future Volume (veh/h)	283	906	0	0	1749	218	0	0	0	290	0	582
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	308	985	0	0	1901	237	0	0	0	315	0	633
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	2093	3376	0	0	1046	467	0	1	0	0	0	0
Arrive On Green	0.61	0.95	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	308	985	0	0	1901	237	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	6.2	3.1	0.0	0.0	47.1	19.8	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	6.2	3.1	0.0	0.0	47.1	19.8	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	2093	3376	0	0	1046	467	0	1	0			
V/C Ratio(X)	0.15	0.29	0.00	0.00	1.82	0.51	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	2093	3376	0	0	1046	467	0	514	0			
HCM Platoon Ratio	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	0.09	0.09	0.00	0.00	0.00			
Uniform Delay (d), s/veh	13.7	0.3	0.0	0.0	56.4	46.8	0.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	368.1	0.4	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			
%ile BackOfQ(50%),veh/ln	2.3	0.1	0.0	0.0	74.6	8.0	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.5	0.0	0.0	424.5	47.2	0.0	0.0	0.0			
LnGrp LOS	B	A	A	A	F	D	A	A	A			
Approach Vol, veh/h	1293			2138			0					
Approach Delay, s/veh	3.6			382.7			0.0					
Approach LOS	A			F								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	160.0			104.9			55.1			0.0		
Change Period (Y+Rc), s	8.0			8.0			* 8			6.1		
Max Green Setting (Gmax), s	82.8			30.0			* 47			44.0		
Max Q Clear Time (g_c+I1), s	5.1			8.2			49.1			0.0		
Green Ext Time (p_c), s	7.7			1.0			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay			239.9									
HCM 6th LOS			F									
Notes												

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	49	884	241	361	1546	81	288	398	49	346
Future Volume (vph)	49	884	241	361	1546	81	288	398	49	346
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	26.5	26.5	60.7	66.5	66.5	18.7	55.1	17.7	54.1
Total Split (%)	12.9%	16.6%	16.6%	37.9%	41.6%	41.6%	11.7%	34.4%	11.1%	33.8%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 160

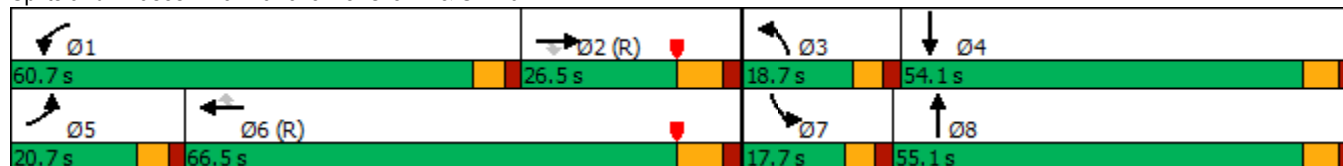
Actuated Cycle Length: 160

Offset: 40 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing + Cumulative + Project AM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	884	241	361	1546	81	288	398	365	49	346	64
Future Volume (veh/h)	49	884	241	361	1546	81	288	398	365	49	346	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	53	961	262	392	1680	88	313	433	384	53	376	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	1299	572	456	1466	654	281	489	428	235	782	144
Arrive On Green	0.03	0.12	0.12	0.13	0.41	0.41	0.08	0.28	0.28	0.07	0.26	0.26
Sat Flow, veh/h	1781	3554	1564	3456	3554	1585	3456	1777	1554	3456	2987	550
Grp Volume(v), veh/h	53	961	262	392	1680	88	313	433	384	53	222	224
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1728	1777	1585	1728	1777	1554	1728	1777	1760
Q Serve(g_s), s	4.7	41.8	25.0	17.8	66.0	5.5	13.0	37.4	38.1	2.3	16.9	17.2
Cycle Q Clear(g_c), s	4.7	41.8	25.0	17.8	66.0	5.5	13.0	37.4	38.1	2.3	16.9	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	151	1299	572	456	1466	654	281	489	428	235	465	461
V/C Ratio(X)	0.35	0.74	0.46	0.86	1.15	0.13	1.11	0.89	0.90	0.23	0.48	0.49
Avail Cap(c_a), veh/h	167	1299	572	1188	1466	654	281	544	476	259	533	528
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	73.4	63.0	55.6	68.0	47.0	29.2	73.5	55.6	55.8	70.6	49.8	49.9
Incr Delay (d2), s/veh	0.6	1.7	1.2	4.9	74.1	0.4	88.1	15.0	18.4	0.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	20.2	10.7	8.0	42.7	2.2	9.1	18.4	16.8	1.0	7.5	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	64.7	56.8	72.9	121.1	29.7	161.6	70.5	74.2	70.9	50.4	50.5
LnGrp LOS	E	E	E	E	F	C	F	E	E	E	D	D
Approach Vol, veh/h		1276			2160			1130			499	
Approach Delay, s/veh		63.5			108.6			97.0			52.6	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.8	66.5	18.7	48.0	19.3	74.0	16.6	50.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 55	18.5	* 13	48.0	* 15	58.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	19.8	43.8	15.0	19.2	6.7	68.0	4.3	40.1				
Green Ext Time (p_c), s	1.3	0.0	0.0	2.5	0.0	0.0	0.1	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			89.1									
HCM 6th LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	65	570	144	107	1163	146	278	105	143	161
Future Volume (vph)	65	570	144	107	1163	146	278	105	143	161
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	7.0	6.0	6.0	7.0	7.0	6.0	8.0	6.0	8.0
Minimum Split (s)	11.1	36.8	11.1	11.4	36.4	36.4	11.1	34.8	11.1	34.8
Total Split (s)	18.0	24.0	17.0	27.0	33.0	33.0	17.0	52.0	17.0	52.0
Total Split (%)	15.0%	20.0%	14.2%	22.5%	27.5%	27.5%	14.2%	43.3%	14.2%	43.3%
Yellow Time (s)	4.1	4.8	4.1	4.4	4.4	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.4	5.4	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Min	None	Min

Intersection Summary

Cycle Length: 120

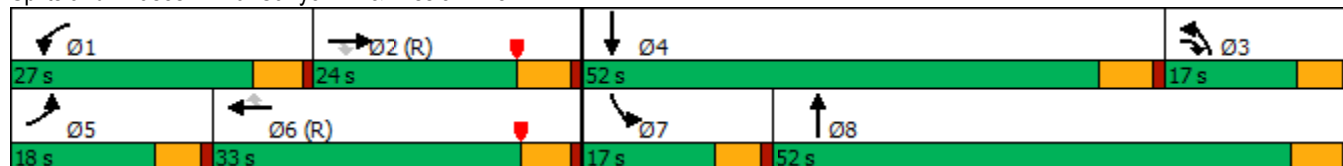
Actuated Cycle Length: 120

Offset: 89.4 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

Existing + Cumulative + Project AM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	570	144	107	1163	146	278	105	64	143	161	45
Future Volume (veh/h)	65	570	144	107	1163	146	278	105	64	143	161	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.85	1.00		0.89	1.00		0.90
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	77	679	171	127	1385	174	331	125	76	170	192	54
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1398	753	155	1520	575	343	571	310	229	621	167
Arrive On Green	0.06	0.39	0.39	0.09	0.43	0.43	0.10	0.27	0.27	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1515	1781	3554	1344	3456	2121	1154	3456	2698	725
Grp Volume(v), veh/h	77	679	171	127	1385	174	331	102	99	170	123	123
Grp Sat Flow(s),veh/h/ln	1781	1777	1515	1781	1777	1344	1728	1777	1498	1728	1777	1646
Q Serve(g_s), s	5.1	17.2	2.0	8.4	43.9	10.2	11.5	5.4	6.2	5.8	6.9	7.4
Cycle Q Clear(g_c), s	5.1	17.2	2.0	8.4	43.9	10.2	11.5	5.4	6.2	5.8	6.9	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.44
Lane Grp Cap(c), veh/h	98	1398	753	155	1520	575	343	478	403	229	409	379
V/C Ratio(X)	0.78	0.49	0.23	0.82	0.91	0.30	0.97	0.21	0.24	0.74	0.30	0.32
Avail Cap(c_a), veh/h	191	1398	753	321	1520	575	343	684	577	343	684	634
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	56.0	27.3	6.4	53.8	32.2	22.6	53.8	34.0	34.3	55.0	38.2	38.4
Incr Delay (d2), s/veh	12.6	1.2	0.7	10.0	9.8	1.4	39.4	0.2	0.3	4.7	0.4	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	2.6	7.3	1.4	4.1	19.9	3.4	6.8	2.4	2.3	2.7	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.5	28.5	7.1	63.8	42.0	23.9	93.3	34.2	34.6	59.7	38.6	38.9
LnGrp LOS	E	C	A	E	D	C	F	C	C	E	D	D
Approach Vol, veh/h		927			1686			532			416	
Approach Delay, s/veh		27.9			41.7			71.0			47.3	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	53.0	17.7	33.4	11.7	57.1	13.1	38.1				
Change Period (Y+Rc), s	5.4	5.8	5.8	* 5.8	5.1	* 5.8	5.1	5.8				
Max Green Setting (Gmax), s	21.6	18.2	11.9	* 46	12.9	* 28	11.9	46.2				
Max Q Clear Time (g_c+I1), s	10.4	19.2	13.5	9.4	7.1	45.9	7.8	8.2				
Green Ext Time (p_c), s	0.2	0.0	0.0	1.6	0.1	0.0	0.2	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			43.2									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
User approved changes to right turn type.												

Existing + Cumulative + Project AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø7
Lane Configurations									
Traffic Volume (vph)	3	485	131	45	1113	0	0		
Future Volume (vph)	3	485	131	45	1113	0	0		
Turn Type	Prot	NA	Perm	Prot	NA	NA	NA		
Protected Phases	5	2		1	6	8	4	3	7
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	4		
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	3.0	3.0
Minimum Split (s)	10.4	43.2	43.2	10.4	43.2	25.2	25.2	10.4	10.4
Total Split (s)	10.4	43.4	43.4	11.0	44.0	25.2	25.2	10.4	10.4
Total Split (%)	11.6%	48.2%	48.2%	12.2%	48.9%	28.0%	28.0%	12%	12%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	3.6	3.6	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.4	6.2	6.2	5.4	6.2	4.6	4.6		
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 64.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

11 s	43.4 s	10.4 s	25.2 s
10.4 s	44 s	10.4 s	25.2 s

Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

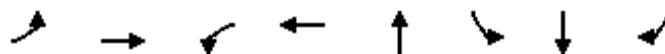
Existing + Cumulative + Project AM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	485	131	45	1113	3	195	0	24	1	0	1
Future Volume (veh/h)	3	485	131	45	1113	3	195	0	24	1	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.98
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	3	551	149	51	1265	3	222	0	27	1	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	1653	720	93	1867	4	0	0	204	0	0	202
Arrive On Green	0.00	0.47	0.47	0.05	0.51	0.51	0.00	0.00	0.13	0.00	0.00	0.13
Sat Flow, veh/h	1781	3554	1547	1781	3637	9	0	0	1581	0	0	1560
Grp Volume(v), veh/h	3	551	149	51	618	650	0	0	27	0	0	1
Grp Sat Flow(s),veh/h/ln	1781	1777	1547	1781	1777	1869	0	0	1581	0	0	1560
Q Serve(g_s), s	0.1	4.5	2.6	1.3	11.9	11.9	0.0	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	4.5	2.6	1.3	11.9	11.9	0.0	0.0	0.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	7	1653	720	93	912	959	0	0	204	0	0	202
V/C Ratio(X)	0.41	0.33	0.21	0.55	0.68	0.68	0.00	0.00	0.13	0.00	0.00	0.00
Avail Cap(c_a), veh/h	194	2884	1255	218	1465	1541	0	0	711	0	0	701
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	7.8	7.3	21.2	8.3	8.3	0.0	0.0	17.7	0.0	0.0	17.4
Incr Delay (d2), s/veh	33.2	0.1	0.1	5.0	0.9	0.8	0.0	0.0	0.3	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	0.1	1.2	0.6	0.6	2.9	3.1	0.0	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	7.9	7.4	26.2	9.2	9.2	0.0	0.0	18.0	0.0	0.0	17.4
LnGrp LOS	E	A	A	C	A	A	A	A	B	A	A	B
Approach Vol, veh/h		703			1319			27			1	
Approach Delay, s/veh		8.0			9.9			18.0			17.4	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	27.5	0.0	10.5	5.6	29.7	0.0	10.5				
Change Period (Y+Rc), s	5.4	6.2	4.0	4.6	5.4	6.2	4.0	4.6				
Max Green Setting (Gmax), s	5.6	37.2	6.4	20.6	5.0	37.8	6.4	20.6				
Max Q Clear Time (g_c+I1), s	3.3	6.5	0.0	2.0	2.1	13.9	0.0	2.7				
Green Ext Time (p_c), s	0.0	4.3	0.0	0.0	0.0	8.9	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

Existing + Cumulative + Project AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	30	639	7	1162	20	32	17	22
Future Volume (vph)	30	639	7	1162	20	32	17	22
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	5.0	5.0	5.0
Minimum Split (s)	10.4	30.8	10.4	30.8	25.0	23.4	23.4	23.4
Total Split (s)	20.0	30.0	20.0	30.0	25.0	25.0	25.0	25.0
Total Split (%)	20.0%	30.0%	20.0%	30.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	30 s	25 s	25 s
Ø5	Ø6 (R)		
20 s	30 s		

Timings

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Synchro 10 Report

Existing + Cumulative + Project AM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	639	6	7	1162	85	13	20	19	32	17	22
Future Volume (veh/h)	30	639	6	7	1162	85	13	20	19	32	17	22
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	31	659	6	7	1198	88	13	21	20	26	28	23
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	51	2446	22	16	2208	162	26	42	40	79	83	70
Arrive On Green	0.03	0.68	0.68	0.01	0.87	0.87	0.06	0.06	0.06	0.04	0.04	0.04
Sat Flow, veh/h	1781	3608	33	1781	3357	246	417	674	642	1781	1870	1585
Grp Volume(v), veh/h	31	324	341	7	633	653	54	0	0	26	28	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1864	1781	1777	1826	1734	0	0	1781	1870	1585
Q Serve(g_s), s	1.7	7.2	7.2	0.4	8.5	8.5	3.0	0.0	0.0	1.4	1.5	1.4
Cycle Q Clear(g_c), s	1.7	7.2	7.2	0.4	8.5	8.5	3.0	0.0	0.0	1.4	1.5	1.4
Prop In Lane	1.00		0.02	1.00		0.13	0.24		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	51	1205	1264	16	1169	1201	108	0	0	79	83	70
V/C Ratio(X)	0.60	0.27	0.27	0.44	0.54	0.54	0.50	0.00	0.00	0.33	0.34	0.33
Avail Cap(c_a), veh/h	260	1205	1264	260	1169	1201	354	0	0	365	383	325
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	0.00	0.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	48.0	6.3	6.3	49.2	2.7	2.7	45.4	0.0	0.0	46.4	46.4	46.4
Incr Delay (d2), s/veh	10.8	0.5	0.5	15.8	1.5	1.5	3.6	0.0	0.0	2.4	2.4	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	0.9	2.4	2.5	0.2	2.1	2.2	1.4	0.0	0.0	0.7	0.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	6.9	6.9	65.0	4.2	4.2	49.0	0.0	0.0	48.8	48.8	49.0
LnGrp LOS	E	A	A	E	A	A	D	A	A	D	D	D
Approach Vol, veh/h		696			1293			54			77	
Approach Delay, s/veh		9.2			4.5			49.0			48.8	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	74.0		8.9	8.3	72.0		10.8				
Change Period (Y+Rc), s	5.4	6.2		4.5	5.4	6.2		4.6				
Max Green Setting (Gmax), s	14.6	23.8		20.5	14.6	23.8		20.4				
Max Q Clear Time (g_c+I1), s	2.4	9.2		3.5	3.7	10.5		5.0				
Green Ext Time (p_c), s	0.0	3.3		0.2	0.0	6.7		0.2				

Intersection Summary

HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Existing + Cumulative + Project AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	39	622	56	1228	22	0	46	66	0	10
Future Volume (vph)	39	622	56	1228	22	0	46	66	0	10
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	32.9	32.9	32.9	32.9	32.9	32.9
Total Split (s)	26.0	40.0	26.0	40.0	34.0	34.0	34.0	34.0	34.0	34.0
Total Split (%)	26.0%	40.0%	26.0%	40.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 72 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Existing + Cumulative + Project AM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	622	22	56	1228	19	22	0	46	66	0	10
Future Volume (veh/h)	39	622	22	56	1228	19	22	0	46	66	0	10
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	40	641	23	58	1266	20	23	0	47	68	0	10
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	60	1781	64	75	1853	29	73	0	464	73	0	464
Arrive On Green	0.07	1.00	1.00	0.08	1.00	1.00	0.29	0.00	0.29	0.29	0.00	0.29
Sat Flow, veh/h	1781	3499	125	1781	3580	57	3	0	1585	3	0	1585
Grp Volume(v), veh/h	40	325	339	58	628	658	23	0	47	68	0	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1848	1781	1777	1860	3	0	1585	3	0	1585
Q Serve(g_s), s	2.2	0.0	0.0	3.2	0.0	0.0	0.1	0.0	2.2	0.1	0.0	0.4
Cycle Q Clear(g_c), s	2.2	0.0	0.0	3.2	0.0	0.0	29.3	0.0	2.2	29.3	0.0	0.4
Prop In Lane	1.00		0.07	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	904	940	75	920	963	73	0	464	73	0	464
V/C Ratio(X)	0.67	0.36	0.36	0.77	0.68	0.68	0.32	0.00	0.10	0.93	0.00	0.02
Avail Cap(c_a), veh/h	372	904	940	372	920	963	73	0	464	73	0	464
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.70	0.70	0.70	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	0.0	0.0	45.3	0.0	0.0	50.0	0.0	25.8	50.0	0.0	25.2
Incr Delay (d2), s/veh	11.8	1.1	1.0	11.0	2.9	2.8	2.4	0.0	0.1	82.0	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	1.1	0.3	0.3	1.5	0.7	0.7	0.6	0.0	0.8	3.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	1.1	1.0	56.4	2.9	2.8	52.4	0.0	25.9	132.0	0.0	25.2
LnGrp LOS	E	A	A	E	A	A	D	A	C	F	A	C
Approach Vol, veh/h	704			1344			70			78		
Approach Delay, s/veh	4.3			5.1			34.6			118.3		
Approach LOS	A			A			C			F		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	56.7		34.0	8.5	57.6		34.0				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	20.9	34.2		* 29	20.9	34.2		* 29				
Max Q Clear Time (g_c+I1), s	5.2	2.0		31.3	4.2	2.0		31.3				
Green Ext Time (p_c), s	0.1	4.1		0.0	0.1	9.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative + Project AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	84	601	22	1167	30	42	124	32	130	77
Future Volume (vph)	84	601	22	1167	30	42	124	32	130	77
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	30.7	10.6	11.1	30.5	10.6	30.5	11.1
Total Split (s)	20.0	35.0	15.0	30.0	20.0	20.0	30.0	20.0	30.0	20.0
Total Split (%)	20.0%	35.0%	15.0%	30.0%	20.0%	20.0%	30.0%	20.0%	30.0%	20.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	Min	None

Intersection Summary

Cycle Length: 100

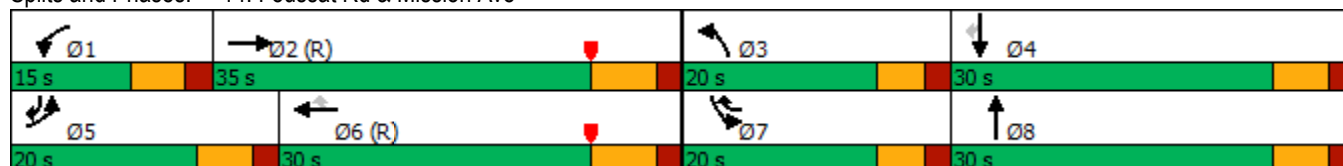
Actuated Cycle Length: 100

Offset: 52 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

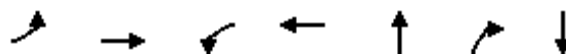
Existing + Cumulative + Project AM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	601	43	22	1167	30	42	124	35	32	130	77
Future Volume (veh/h)	84	601	43	22	1167	30	42	124	35	32	130	77
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	88	626	45	23	1216	31	44	129	36	33	135	80
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	112	2105	151	42	2085	978	122	206	56	104	246	368
Arrive On Green	0.13	1.00	1.00	0.05	1.00	1.00	0.04	0.07	0.07	0.03	0.07	0.07
Sat Flow, veh/h	1781	3362	241	1781	3554	1585	3456	2766	747	3456	3554	2790
Grp Volume(v), veh/h	88	330	341	23	1216	31	44	81	84	33	135	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1827	1781	1777	1585	1728	1777	1736	1728	1777	1395
Q Serve(g_s), s	4.8	0.0	0.0	1.3	0.0	0.0	1.2	4.4	4.7	0.9	3.7	2.6
Cycle Q Clear(g_c), s	4.8	0.0	0.0	1.3	0.0	0.0	1.2	4.4	4.7	0.9	3.7	2.6
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	112	1112	1144	42	2085	978	122	132	129	104	246	368
V/C Ratio(X)	0.79	0.30	0.30	0.55	0.58	0.03	0.36	0.62	0.65	0.32	0.55	0.22
Avail Cap(c_a), veh/h	248	1112	1144	159	2085	978	498	425	415	498	849	842
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.89	0.89	0.89	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	43.1	0.0	0.0	47.1	0.0	0.0	47.1	44.9	45.0	47.5	45.0	38.8
Incr Delay (d2), s/veh	11.1	0.7	0.6	9.5	1.1	0.1	1.8	4.6	5.3	1.7	1.9	0.3
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	2.3	0.2	0.2	0.6	0.3	0.0	0.6	2.1	2.2	0.4	1.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.2	0.7	0.6	56.6	1.1	0.1	48.9	49.5	50.3	49.2	46.9	39.1
LnGrp LOS	D	A	A	E	A	A	D	D	D	D	D	D
Approach Vol, veh/h		759			1270			209			248	
Approach Delay, s/veh		6.9			2.1			49.7			44.7	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	69.4	9.1	13.0	12.4	65.5	8.6	13.5				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.1	6.8	5.6	6.1				
Max Green Setting (Gmax), s	8.9	28.2	14.4	23.9	13.9	23.2	14.4	23.9				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.2	5.7	6.8	2.0	2.9	6.7				
Green Ext Time (p_c), s	0.0	3.8	0.1	1.0	0.1	8.6	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			11.8									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing + Cumulative + Project AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	7	548	91	1147	6	41	0
Future Volume (vph)	7	548	91	1147	6	41	0
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	20.8	30.0	9.5	13.8
Total Split (s)	20.0	35.0	20.0	35.0	30.0	20.0	15.0
Total Split (%)	20.0%	35.0%	20.0%	35.0%	30.0%	20.0%	15.0%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 60 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	35 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	35 s		

Timings

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Synchro 10 Report

Existing + Cumulative + Project AM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	548	90	91	1147	8	47	6	41	4	0	7
Future Volume (veh/h)	7	548	90	91	1147	8	47	6	41	4	0	7
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	7	565	93	94	1182	8	48	6	42	4	0	7
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	9	2018	331	119	2613	18	78	10	184	11	0	19
Arrive On Green	0.01	1.00	1.00	0.13	1.00	1.00	0.05	0.05	0.05	0.02	0.00	0.02
Sat Flow, veh/h	1781	3055	501	1781	3618	24	1592	199	1585	600	0	1051
Grp Volume(v), veh/h	7	328	330	94	580	610	54	0	42	11	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1780	1781	1777	1866	1791	0	1585	1651	0	0
Q Serve(g_s), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	5.1	0.0	0.0	3.0	0.0	2.4	0.7	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.01	0.89		1.00	0.36		0.64
Lane Grp Cap(c), veh/h	9	1174	1176	119	1283	1347	88	0	184	30	0	0
V/C Ratio(X)	0.74	0.28	0.28	0.79	0.45	0.45	0.61	0.00	0.23	0.36	0.00	0.00
Avail Cap(c_a), veh/h	265	1174	1176	265	1283	1347	455	0	509	165	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	42.6	0.0	0.0	46.6	0.0	40.1	48.5	0.0	0.0
Incr Delay (d2), s/veh	70.5	0.6	0.6	10.0	1.0	1.0	6.7	0.0	0.6	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.2	2.4	0.4	0.4	1.5	0.0	1.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.9	0.6	0.6	52.6	1.0	1.0	53.3	0.0	40.8	55.6	0.0	0.0
LnGrp LOS	F	A	A	D	A	A	D	A	D	E	A	A
Approach Vol, veh/h		665			1284			96			11	
Approach Delay, s/veh		1.8			4.8			47.8			55.6	
Approach LOS		A			A			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	71.9		6.8	5.6	78.0		9.5				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	29.2		10.0	14.9	29.2		25.4				
Max Q Clear Time (g_c+I1), s	7.1	2.0		2.7	2.4	2.0		5.0				
Green Ext Time (p_c), s	0.1	3.8		0.0	0.0	8.2		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			6.1									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Existing + Cumulative + Project AM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↵	↑↑	↵
Traffic Volume (vph)	540	69	1210	39
Future Volume (vph)	540	69	1210	39
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	40.0	30.0	70.0	30.0
Total Split (%)	40.0%	30.0%	70.0%	30.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



Existing + Cumulative + Project AM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	540	45	69	1210	39	48
Future Volume (veh/h)	540	45	69	1210	39	48
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	1870	1870
Adj Flow Rate, veh/h	562	47	72	1260	41	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2397	200	94	2934	52	64
Arrive On Green	1.00	1.00	0.07	1.00	0.07	0.07
Sat Flow, veh/h	3414	277	1781	3647	744	908
Grp Volume(v), veh/h	300	309	72	1260	92	0
Grp Sat Flow(s),veh/h/ln	1777	1820	1781	1777	1670	0
Q Serve(g_s), s	0.0	0.0	4.0	0.0	5.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.0	0.0	5.4	0.0
Prop In Lane		0.15	1.00		0.45	0.54
Lane Grp Cap(c), veh/h	1283	1314	94	2934	117	0
V/C Ratio(X)	0.23	0.23	0.77	0.43	0.78	0.00
Avail Cap(c_a), veh/h	1283	1314	444	2934	424	0
HCM Platoon Ratio	2.00	2.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.75	0.75	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	45.9	0.0	45.7	0.0
Incr Delay (d2), s/veh	0.4	0.4	9.4	0.3	10.8	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	0.1	0.1	1.9	0.1	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.4	0.4	55.2	0.3	56.6	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	609			1332	92	
Approach Delay, s/veh	0.4			3.3	56.6	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.4	78.0			88.4	11.6
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	34.2			64.2	25.4
Max Q Clear Time (g_c+I1), s	6.0	2.0			2.0	7.4
Green Ext Time (p_c), s	0.1	3.5			11.8	0.2
Intersection Summary						
HCM 6th Ctrl Delay			4.9			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative + Project AM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	70	513	1253	187	89
Future Volume (vph)	70	513	1253	187	89
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases					4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8	28.8
Total Split (s)	30.0	70.0	40.0	30.0	30.0
Total Split (%)	30.0%	70.0%	40.0%	30.0%	30.0%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

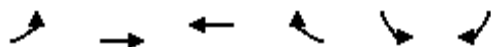
Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



Existing + Cumulative + Project AM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	513	1253	143	187	89
Future Volume (veh/h)	70	513	1253	143	187	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	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	1870	1870
Adj Flow Rate, veh/h	71	523	1279	146	191	91
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	92	2884	2271	258	292	134
Arrive On Green	0.10	1.00	1.00	1.00	0.08	0.08
Sat Flow, veh/h	1781	3647	3296	364	3456	1585
Grp Volume(v), veh/h	71	523	707	718	191	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1790	1728	1585
Q Serve(g_s), s	3.9	0.0	0.0	0.0	5.4	5.6
Cycle Q Clear(g_c), s	3.9	0.0	0.0	0.0	5.4	5.6
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	92	2884	1260	1269	292	134
V/C Ratio(X)	0.77	0.18	0.56	0.57	0.66	0.68
Avail Cap(c_a), veh/h	444	2884	1260	1269	878	403
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.87	0.87	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	0.0	0.0	44.4	44.5
Incr Delay (d2), s/veh	12.4	0.1	1.6	1.6	2.5	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.1	0.6	0.6	2.4	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.6	0.1	1.6	1.6	46.9	50.4
LnGrp LOS	E	A	A	A	D	D
Approach Vol, veh/h		594	1425		282	
Approach Delay, s/veh		6.9	1.6		48.0	
Approach LOS		A	A		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		13.0	10.3	76.7
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		64.2		25.4	24.9	34.2
Max Q Clear Time (g_c+I1), s		2.0		7.6	5.9	2.0
Green Ext Time (p_c), s		3.5		0.9	0.1	11.5
Intersection Summary						
HCM 6th Ctrl Delay			8.6			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative + Project AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	23	712	1269	31	59	
Future Volume (vph)	23	712	1269	31	59	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	30.0	45.0	40.0	30.0	30.0	25.0
Total Split (%)	30.0%	45.0%	40.0%	30.0%	30.0%	25%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 8 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

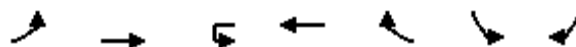
Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing + Cumulative + Project AM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	23	712	0	1269	9	31	59
Future Volume (veh/h)	23	712	0	1269	9	31	59
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	1870	1870
Adj Flow Rate, veh/h	24	749		1336	9	33	62
Peak Hour Factor	0.95	0.95		0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	59	2984		2734	18	100	89
Arrive On Green	0.07	1.00		0.76	0.76	0.06	0.06
Sat Flow, veh/h	1781	3647		3712	24	1781	1585
Grp Volume(v), veh/h	24	749		656	689	33	62
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1866	1781	1585
Q Serve(g_s), s	1.3	0.0		14.3	14.3	1.8	3.8
Cycle Q Clear(g_c), s	1.3	0.0		14.3	14.3	1.8	3.8
Prop In Lane	1.00				0.01	1.00	1.00
Lane Grp Cap(c), veh/h	59	2984		1342	1410	100	89
V/C Ratio(X)	0.41	0.25		0.49	0.49	0.33	0.70
Avail Cap(c_a), veh/h	444	2984		1342	1410	452	403
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98		0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	45.7	0.0		4.7	4.7	45.4	46.3
Incr Delay (d2), s/veh	4.3	0.2		0.9	0.9	1.9	9.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1		3.7	3.9	0.8	3.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	50.1	0.2		5.7	5.6	47.3	55.7
LnGrp LOS	D	A		A	A	D	E
Approach Vol, veh/h		773		1345		95	
Approach Delay, s/veh		1.7		5.6		52.7	
Approach LOS		A		A		D	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		89.8		10.2	8.4	81.4	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		39.2		25.4	24.9	34.2	
Max Q Clear Time (g_c+I1), s		2.0		5.8	3.3	16.3	
Green Ext Time (p_c), s		5.3		0.2	0.0	8.1	
Intersection Summary							
HCM 6th Ctrl Delay			6.3				
HCM 6th LOS			A				
Notes							
User approved pedestrian interval to be less than phase max green.							
User approved ignoring U-Turning movement.							

Existing + Cumulative + Project AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	187	378	164	152	566	191	220	104	95	735	452
Future Volume (vph)	187	378	164	152	566	191	220	104	95	735	452
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

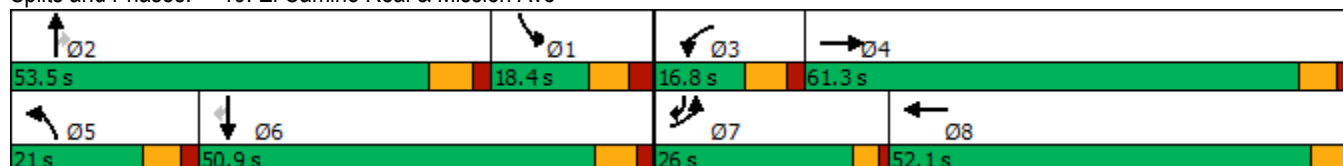
Cycle Length: 150

Actuated Cycle Length: 128.7

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

Existing + Cumulative + Project AM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 		 	 	
Traffic Volume (veh/h)	187	378	164	152	566	26	191	220	104	95	735	452
Future Volume (veh/h)	187	378	164	152	566	26	191	220	104	95	735	452
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	195	394	0	158	590	27	143	308	108	99	766	471
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	280	591		361	760	35	185	474	201	558	1214	670
Arrive On Green	0.08	0.17	0.00	0.10	0.22	0.22	0.10	0.13	0.13	0.31	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	3461	158	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	195	394	0	158	303	314	143	308	108	99	766	471
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1842	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	5.2	9.8	0.0	4.0	15.1	15.1	7.4	7.4	4.3	3.8	17.0	23.0
Cycle Q Clear(g_c), s	5.2	9.8	0.0	4.0	15.1	15.1	7.4	7.4	4.3	3.8	17.0	23.0
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	591		361	390	404	185	474	201	558	1214	670
V/C Ratio(X)	0.70	0.67		0.44	0.78	0.78	0.77	0.65	0.54	0.18	0.63	0.70
Avail Cap(c_a), veh/h	808	2078		367	890	922	278	1857	787	558	1666	871
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	36.8	0.0	39.5	34.5	34.6	41.1	39.1	19.7	23.5	26.0	22.3
Incr Delay (d2), s/veh	3.1	1.3	0.0	0.8	3.3	3.3	7.4	1.5	2.2	0.2	0.5	1.8
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	2.2	4.1	0.0	1.7	6.5	6.7	3.6	3.4	2.3	1.6	7.1	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	38.1	0.0	40.4	37.9	37.8	48.5	40.6	21.9	23.6	26.5	24.1
LnGrp LOS	D	D		D	D	D	D	D	C	C	C	C
Approach Vol, veh/h		589	A		775			559			1336	
Approach Delay, s/veh		40.4			38.4			39.0			25.4	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.8	18.7	16.6	21.9	16.1	39.4	11.6	27.0				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	5.8	9.4	6.0	11.8	9.4	25.0	7.2	17.1				
Green Ext Time (p_c), s	0.1	2.5	0.2	2.5	0.2	7.2	0.5	3.5				

Intersection Summary

HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative + Project AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	 	 			 		 		 
Traffic Volume (vph)	65	485	67	29	665	59	116	40	137
Future Volume (vph)	65	485	67	29	665	59	116	40	137
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 57.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Dr & Mission Ave

 Ø1	 Ø2	 Ø3	 Ø4
10.6 s	38.3 s	10.1 s	41 s
 Ø5	 Ø6	 Ø7	 Ø8
12 s	36.9 s	10.4 s	40.7 s

Timings

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Synchro 10 Report

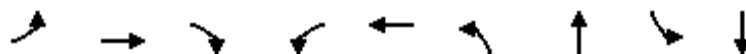
Existing + Cumulative + Project AM
20: Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	65	485	67	29	665	39	59	116	23	40	137	77
Future Volume (veh/h)	65	485	67	29	665	39	59	116	23	40	137	77
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	68	511	71	31	700	41	62	122	24	42	144	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1170	522	62	1035	61	102	507	97	78	352	187
Arrive On Green	0.06	0.33	0.33	0.03	0.30	0.30	0.06	0.17	0.17	0.04	0.16	0.16
Sat Flow, veh/h	3456	3554	1585	1781	3412	200	1781	2973	571	1781	2240	1192
Grp Volume(v), veh/h	68	511	71	31	364	377	62	72	74	42	113	112
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1834	1781	1777	1768	1781	1777	1656
Q Serve(g_s), s	1.0	5.7	1.6	0.9	9.1	9.1	1.7	1.8	1.8	1.2	2.9	3.1
Cycle Q Clear(g_c), s	1.0	5.7	1.6	0.9	9.1	9.1	1.7	1.8	1.8	1.2	2.9	3.1
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.32	1.00		0.72
Lane Grp Cap(c), veh/h	210	1170	522	62	539	556	102	303	301	78	279	260
V/C Ratio(X)	0.32	0.44	0.14	0.50	0.68	0.68	0.61	0.24	0.25	0.54	0.40	0.43
Avail Cap(c_a), veh/h	361	2492	1111	175	1235	1275	242	1137	1131	193	1088	1014
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	22.8	13.3	12.0	24.1	15.5	15.5	23.4	18.2	18.2	23.8	19.3	19.4
Incr Delay (d2), s/veh	0.9	0.3	0.1	6.1	1.5	1.4	5.7	0.4	0.4	5.6	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.8	0.5	0.4	3.1	3.2	0.8	0.7	0.7	0.6	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	13.6	12.1	30.1	17.0	17.0	29.0	18.6	18.7	29.3	20.2	20.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		650			772			208			267	
Approach Delay, s/veh		14.5			17.5			21.7			21.8	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	14.5	6.9	22.1	8.0	13.8	8.2	20.8				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	3.2	3.8	2.9	7.7	3.7	5.1	3.0	11.1				
Green Ext Time (p_c), s	0.0	0.8	0.0	3.5	0.0	1.3	0.0	4.3				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

Existing + Cumulative + Project AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	46	530	282	164	607	331	44	2	4
Future Volume (vph)	46	530	282	164	607	331	44	2	4
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	3.0	6.0	6.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	10.1	28.0	23.1	24.0
Total Split (s)	11.1	33.1	33.1	15.8	37.8	26.8	28.0	23.1	24.3
Total Split (%)	11.1%	33.1%	33.1%	15.8%	37.8%	26.8%	28.0%	23.1%	24.3%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	3.0	4.8	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	4.0	5.8	5.1	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 82.3

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

Ø1	Ø2	Ø3	Ø4
15.8 s	33.1 s	26.8 s	24.3 s
Ø5	Ø6	Ø7	Ø8
11.1 s	37.8 s	23.1 s	28 s

Timings

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Synchro 10 Report

Existing + Cumulative + Project AM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	530	282	164	607	18	331	44	115	2	4	13
Future Volume (veh/h)	46	530	282	164	607	18	331	44	115	2	4	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
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	55	631	336	195	723	21	394	52	137	2	5	15
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	579	483	218	704	20	430	110	290	122	36	107
Arrive On Green	0.04	0.31	0.31	0.12	0.39	0.39	0.24	0.25	0.25	0.07	0.09	0.09
Sat Flow, veh/h	1781	1870	1558	1781	1806	52	1781	443	1168	1781	405	1214
Grp Volume(v), veh/h	55	631	336	195	0	744	394	0	189	2	0	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1558	1781	0	1859	1781	0	1611	1781	0	1618
Q Serve(g_s), s	2.7	27.1	16.6	9.4	0.0	34.1	18.9	0.0	8.7	0.1	0.0	1.0
Cycle Q Clear(g_c), s	2.7	27.1	16.6	9.4	0.0	34.1	18.9	0.0	8.7	0.1	0.0	1.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.72	1.00		0.75
Lane Grp Cap(c), veh/h	75	579	483	218	0	725	430	0	400	122	0	142
V/C Ratio(X)	0.73	1.09	0.70	0.90	0.00	1.03	0.92	0.00	0.47	0.02	0.00	0.14
Avail Cap(c_a), veh/h	122	579	483	218	0	725	464	0	409	366	0	357
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(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.4	30.2	26.6	37.8	0.0	26.7	32.3	0.0	28.0	38.0	0.0	36.9
Incr Delay (d2), s/veh	12.8	64.0	4.3	34.2	0.0	40.4	22.1	0.0	0.9	0.1	0.0	0.4
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	1.4	21.4	6.2	6.0	0.0	21.8	10.2	0.0	3.2	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	94.2	30.9	72.0	0.0	67.1	54.4	0.0	28.9	38.1	0.0	37.3
LnGrp LOS	D	F	C	E	A	F	D	A	C	D	A	D
Approach Vol, veh/h		1022			939			583			22	
Approach Delay, s/veh		71.2			68.1			46.1			37.4	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	33.1	25.1	13.5	8.8	40.1	11.1	27.5				
Change Period (Y+Rc), s	5.1	6.0	4.0	* 5.8	5.1	6.0	5.1	5.8				
Max Green Setting (Gmax), s	10.7	27.1	22.8	* 19	6.0	31.8	18.0	22.2				
Max Q Clear Time (g_c+I1), s	11.4	29.1	20.9	3.0	4.7	36.1	2.1	10.7				
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	64.1
HCM 6th LOS	E

Notes

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

Existing + Cumulative + Project AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3
Lane Configurations						
Traffic Volume (vph)	89	266	100	337	1340	
Future Volume (vph)	89	266	100	337	1340	
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	4		5	2	6	3
Permitted Phases		4				
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	12.0	12.0	6.0
Minimum Split (s)	29.7	29.7	11.1	23.8	30.8	10.6
Total Split (s)	29.7	29.7	11.1	64.6	53.5	10.7
Total Split (%)	28.3%	28.3%	10.6%	61.5%	51.0%	10%
Yellow Time (s)	3.7	3.7	4.1	4.3	4.3	3.6
All-Red Time (s)	1.0	1.0	1.0	1.5	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	5.1	5.8	5.8	
Lead/Lag	Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 83.3

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

64.6 s	10.7 s	29.7 s
11.1 s	53.5 s	

Existing + Cumulative + Project AM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	LT	RT	LT	TT	TT	RT	LT	RT
Traffic Volume (vph)	89	266	100	337	1340	45	0	0
Future Volume (vph)	89	266	100	337	1340	45	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.1	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	1.00			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1549	1770	3539	3517			
Flt Permitted	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	1549	1770	3539	3517			
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	106	317	119	401	1595	54	0	0
RTOR Reduction (vph)	0	160	0	0	0	0	0	0
Lane Group Flow (vph)	106	157	119	401	1649	0	0	0
Confl. Peds. (#/hr)		7				14		
Confl. Bikes (#/hr)		2						
Turn Type	Prot	Perm	Prot	NA	NA		Prot	Perm
Protected Phases	4		5	2	6		3	
Permitted Phases		4						3
Actuated Green, G (s)	13.5	13.5	6.0	59.1	48.0			
Effective Green, g (s)	13.5	13.5	6.0	59.1	48.0			
Actuated g/C Ratio	0.16	0.16	0.07	0.71	0.58			
Clearance Time (s)	4.7	4.7	5.1	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	557	251	127	2516	2031			
v/s Ratio Prot	0.03		c0.07	0.11	c0.47			
v/s Ratio Perm		c0.10						
v/c Ratio	0.19	0.63	0.94	0.16	0.81			
Uniform Delay, d1	30.1	32.4	38.4	3.9	14.0			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.2	4.8	60.0	0.0	2.6			
Delay (s)	30.2	37.2	98.4	3.9	16.5			
Level of Service	C	D	F	A	B			
Approach Delay (s)	35.5			25.6	16.5		0.0	
Approach LOS	D			C	B		A	
Intersection Summary								
HCM 2000 Control Delay			21.4		HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio			0.84					
Actuated Cycle Length (s)			83.1		Sum of lost time (s)		20.2	
Intersection Capacity Utilization			74.2%		ICU Level of Service		D	
Analysis Period (min)			15					

c Critical Lane Group

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	4	25	110	3	9	8	10	102	12	22	0
Future Vol, veh/h	0	4	25	110	3	9	8	10	102	12	22	0
Conflicting Peds, #/hr	0	0	0	0	0	3	0	0	8	10	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	39	172	5	14	13	16	159	19	34	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	45	0	0	399	392	36	482	404	15
Stage 1	-	-	-	-	-	-	26	26	-	359	359	-
Stage 2	-	-	-	-	-	-	373	366	-	123	45	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1563	-	-	561	544	1037	495	536	1065
Stage 1	-	-	-	-	-	-	992	874	-	659	627	-
Stage 2	-	-	-	-	-	-	648	623	-	881	857	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1588	-	-	1563	-	-	485	482	1027	369	475	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	482	-	369	475	-
Stage 1	-	-	-	-	-	-	992	874	-	657	556	-
Stage 2	-	-	-	-	-	-	540	552	-	724	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.8	10.2	14.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	879	1588	-	-	1563	-	-	431
HCM Lane V/C Ratio	0.213	-	-	-	0.11	-	-	0.123
HCM Control Delay (s)	10.2	0	-	-	7.6	0	-	14.5
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.4	-	-	0.4

Existing + Cumulative + Project AM
 24: N. Foussat Rd/N. Foussat Rd & Foussat Rd/Proj Dwy

Ocean Kamp
 02/16/2021

Intersection												
Int Delay, s/veh	19											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	109	76	96	23	83	10	128	12	30	10	8	275
Future Vol, veh/h	109	76	96	23	83	10	128	12	30	10	8	275
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	92	83	92	92	92	83	83	92	92	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	131	83	116	25	90	11	154	14	33	11	10	331
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	200	0	0	720	555	142	573	608	96
Stage 1	-	-	-	-	-	-	404	404	-	146	146	-
Stage 2	-	-	-	-	-	-	316	151	-	427	462	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1491	-	-	1372	-	-	343	440	906	430	410	960
Stage 1	-	-	-	-	-	-	623	599	-	857	776	-
Stage 2	-	-	-	-	-	-	695	772	-	606	565	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1491	-	-	1371	-	-	200	388	905	367	362	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	200	388	-	367	362	-
Stage 1	-	-	-	-	-	-	560	539	-	771	761	-
Stage 2	-	-	-	-	-	-	441	757	-	512	508	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3			1.5			68.9			11.8		
HCM LOS							F			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	238	1491	-	-	1371	-	-	877				
HCM Lane V/C Ratio	0.846	0.088	-	-	0.018	-	-	0.401				
HCM Control Delay (s)	68.9	7.6	0	-	7.7	0	-	11.8				
HCM Lane LOS	F	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	6.7	0.3	-	-	0.1	-	-	2				

Intersection												
Int Delay, s/veh	10.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑			↕	
Traffic Vol, veh/h	2	4	13	121	6	43	34	238	91	32	452	2
Future Vol, veh/h	2	4	13	121	6	43	34	238	91	32	452	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	92	84	92	92	92	84	84	92	92	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	15	132	7	47	40	283	99	35	538	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1051	1073	541	1032	1025	333	542	0	0	382	0	0
Stage 1	611	611	-	413	413	-	-	-	-	-	-	-
Stage 2	440	462	-	619	612	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	205	220	541	211	235	709	1027	-	-	1176	-	-
Stage 1	481	484	-	616	594	-	-	-	-	-	-	-
Stage 2	596	565	-	476	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	175	202	540	189	216	709	1025	-	-	1176	-	-
Mov Cap-2 Maneuver	175	202	-	189	216	-	-	-	-	-	-	-
Stage 1	461	462	-	592	571	-	-	-	-	-	-	-
Stage 2	529	543	-	438	462	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	61.5	0.8	0.5
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1025	-	-	348	233	1176	-
HCM Lane V/C Ratio	0.039	-	-	0.064	0.793	0.03	-
HCM Control Delay (s)	8.7	-	-	16	61.5	8.2	-
HCM Lane LOS	A	-	-	C	F	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	5.8	0.1	-

Existing + Cumulative + Project AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

	↖	↗	↑	↘	↓	
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations	↖	↗	↕	↖	↕	
Traffic Volume (vph)	207	278	540	265	899	
Future Volume (vph)	207	278	540	265	899	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 74.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

↖ Ø1	↕ Ø2	↘ Ø4
24 s	29 s	27 s
↗ Ø5	↓ Ø6	
17 s	36 s	

Existing + Cumulative + Project AM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	207	278	0	540	126	265	899
Future Volume (veh/h)	207	278	0	540	126	265	899
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.98	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	1870	1870
Adj Flow Rate, veh/h	296	397		771	180	379	1284
Peak Hour Factor	0.70	0.70		0.70	0.70	0.70	0.70
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	485	431		828	193	416	2090
Arrive On Green	0.27	0.27		0.29	0.29	0.23	0.59
Sat Flow, veh/h	1781	1585		2940	664	1781	3647
Grp Volume(v), veh/h	296	397		481	470	379	1284
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1734	1781	1777
Q Serve(g_s), s	11.4	19.1		20.7	20.7	16.3	18.3
Cycle Q Clear(g_c), s	11.4	19.1		20.7	20.7	16.3	18.3
Prop In Lane	1.00	1.00			0.38	1.00	
Lane Grp Cap(c), veh/h	485	431		517	504	416	2090
V/C Ratio(X)	0.61	0.92		0.93	0.93	0.91	0.61
Avail Cap(c_a), veh/h	498	443		519	507	430	2090
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	25.0	27.8		27.1	27.1	29.4	10.5
Incr Delay (d2), s/veh	2.1	24.1		23.7	24.1	22.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.9		11.3	11.1	9.0	5.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	27.1	51.9		50.8	51.2	52.2	11.0
LnGrp LOS	C	D		D	D	D	B
Approach Vol, veh/h	693			951			1663
Approach Delay, s/veh	41.3			51.0			20.4
Approach LOS	D			D			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	23.4	28.9		26.4		52.3	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	18.3	22.7		21.1		20.3	
Green Ext Time (p_c), s	0.1	0.2		0.3		5.6	
Intersection Summary							
HCM 6th Ctrl Delay			33.6				
HCM 6th LOS			C				
Notes							
User approved ignoring U-Turning movement.							

Existing + Cumulative + Project AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	499	263	257	214	150	153	665	279	100	406	117
Future Volume (vph)	236	499	263	257	214	150	153	665	279	100	406	117
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.6	34.0	34.0	25.0	33.4	33.4	18.2	45.0	45.0	11.0	37.8	37.8
Total Split (%)	22.3%	29.6%	29.6%	21.7%	29.0%	29.0%	15.8%	39.1%	39.1%	9.6%	32.9%	32.9%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 100.4

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
11 s	45 s	25 s	34 s
			
18.2 s	37.8 s	25.6 s	33.4 s

Timings

N:\3145\Analysis\Synchro\07 Ex + C + P AM.syn

Synchro 10 Report

Existing + Cumulative + Project AM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	499	263	257	214	150	153	665	279	100	406	117
Future Volume (veh/h)	236	499	263	257	214	150	153	665	279	100	406	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.94
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	262	554	292	286	238	167	170	739	310	111	451	130
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	298	846	369	320	891	383	203	956	414	108	767	321
Arrive On Green	0.17	0.24	0.24	0.18	0.25	0.25	0.11	0.27	0.27	0.06	0.22	0.22
Sat Flow, veh/h	1781	3554	1551	1781	3554	1527	1781	3554	1540	1781	3554	1486
Grp Volume(v), veh/h	262	554	292	286	238	167	170	739	310	111	451	130
Grp Sat Flow(s),veh/h/ln	1781	1777	1551	1781	1777	1527	1781	1777	1540	1781	1777	1486
Q Serve(g_s), s	13.9	13.6	17.1	15.2	5.2	8.9	9.1	18.6	17.9	5.9	11.1	7.3
Cycle Q Clear(g_c), s	13.9	13.6	17.1	15.2	5.2	8.9	9.1	18.6	17.9	5.9	11.1	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	846	369	320	891	383	203	956	414	108	767	321
V/C Ratio(X)	0.88	0.65	0.79	0.89	0.27	0.44	0.84	0.77	0.75	1.02	0.59	0.41
Avail Cap(c_a), veh/h	371	982	429	360	960	413	241	1399	606	108	1136	475
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	33.4	34.7	38.9	29.2	30.6	42.1	32.7	32.5	45.6	34.2	32.7
Incr Delay (d2), s/veh	18.0	1.3	8.4	22.0	0.2	0.8	19.6	1.6	3.0	93.2	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	5.7	7.0	8.3	2.1	3.2	4.9	7.7	6.6	5.3	4.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	34.6	43.1	60.9	29.4	31.4	61.8	34.4	35.4	138.8	34.9	33.5
LnGrp LOS	E	C	D	E	C	C	E	C	D	F	C	C
Approach Vol, veh/h		1108			691			1219			692	
Approach Delay, s/veh		42.3			42.9			38.5			51.3	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	32.9	22.8	30.3	16.1	27.7	21.6	31.5				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.9	38.2	19.6	26.8	13.1	31.0	20.2	26.2				
Max Q Clear Time (g_c+I1), s	7.9	20.6	17.2	19.1	11.1	13.1	15.9	10.9				
Green Ext Time (p_c), s	0.0	5.5	0.2	2.7	0.1	2.9	0.3	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			42.8									
HCM 6th LOS			D									

Existing + Cumulative + Project AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	226	153	587	230	101	90	411	238	161	1279	37
Future Volume (vph)	24	226	153	587	230	101	90	411	238	161	1279	37
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 123.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

			
Ø1	Ø2	Ø3	Ø4
26 s	46.3 s	34.3 s	23.4 s
			
Ø5	Ø6	Ø7	Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Cumulative + Project AM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	226	153	587	230	101	90	411	238	161	1279	37
Future Volume (veh/h)	24	226	153	587	230	101	90	411	238	161	1279	37
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	26	246	166	638	250	110	98	447	259	175	1390	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	441	196	708	622	526	113	1297	902	204	1478	657
Arrive On Green	0.02	0.12	0.12	0.20	0.33	0.33	0.06	0.36	0.36	0.11	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	3456	1870	1582	1781	3554	1581	1781	3554	1579
Grp Volume(v), veh/h	26	246	166	638	250	110	98	447	259	175	1390	40
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1582	1781	1777	1581	1781	1777	1579
Q Serve(g_s), s	1.8	8.0	12.6	22.1	12.7	6.1	6.7	11.2	10.4	11.9	46.2	1.9
Cycle Q Clear(g_c), s	1.8	8.0	12.6	22.1	12.7	6.1	6.7	11.2	10.4	11.9	46.2	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	441	196	708	622	526	113	1297	902	204	1478	657
V/C Ratio(X)	0.76	0.56	0.84	0.90	0.40	0.21	0.87	0.34	0.29	0.86	0.94	0.06
Avail Cap(c_a), veh/h	94	520	232	801	657	556	113	1297	902	298	1505	669
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	60.1	50.7	52.7	47.7	31.6	29.5	57.1	28.4	13.6	53.5	34.5	21.5
Incr Delay (d2), s/veh	28.8	1.1	21.2	12.4	0.4	0.2	46.5	0.2	0.2	15.2	11.8	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	1.1	3.5	6.0	10.5	5.6	2.3	4.5	4.8	3.5	6.2	21.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.9	51.8	73.9	60.1	32.1	29.7	103.6	28.5	13.8	68.7	46.2	21.6
LnGrp LOS	F	D	E	E	C	C	F	C	B	E	D	C
Approach Vol, veh/h		438			998			804			1605	
Approach Delay, s/veh		62.4			49.7			32.9			48.0	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	51.9	31.0	20.6	13.2	58.2	5.4	46.3				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	13.9	13.2	24.1	14.6	8.7	48.2	3.8	14.7				
Green Ext Time (p_c), s	0.2	4.1	1.0	0.6	0.0	3.0	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			47.0									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Intersection Delay, s/veh15.3

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	143	26	44	205	87	14	90	3	85	243	35
Future Vol, veh/h	28	143	26	44	205	87	14	90	3	85	243	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	151	27	46	216	92	15	95	3	89	256	37
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.4	15.8	11.1	17.7
HCM LOS	B	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	14%	13%	23%
Vol Thru, %	84%	73%	61%	67%
Vol Right, %	3%	13%	26%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	197	336	363
LT Vol	14	28	44	85
Through Vol	90	143	205	243
RT Vol	3	26	87	35
Lane Flow Rate	113	207	354	382
Geometry Grp	1	1	1	1
Degree of Util (X)	0.202	0.353	0.557	0.612
Departure Headway (Hd)	6.445	6.121	5.674	5.763
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	559	591	630	619
Service Time	4.46	4.121	3.774	3.858
HCM Lane V/C Ratio	0.202	0.35	0.562	0.617
HCM Control Delay	11.1	12.4	15.8	17.7
HCM Lane LOS	B	B	C	C
HCM 95th-tile Q	0.7	1.6	3.4	4.2

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	155	4	11	245	15	7	16	6	23	18	44
Future Vol, veh/h	18	155	4	11	245	15	7	16	6	23	18	44
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	20	168	4	12	266	16	8	17	7	25	20	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	10	8.4	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	10%	4%	27%
Vol Thru, %	55%	88%	90%	21%
Vol Right, %	21%	2%	6%	52%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	177	271	85
LT Vol	7	18	11	23
Through Vol	16	155	245	18
RT Vol	6	4	15	44
Lane Flow Rate	32	192	295	92
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.244	0.362	0.123
Departure Headway (Hd)	5.081	4.564	4.427	4.812
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	702	787	813	743
Service Time	3.13	2.594	2.455	2.854
HCM Lane V/C Ratio	0.046	0.244	0.363	0.124
HCM Control Delay	8.4	9.1	10	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1	1.7	0.4

Existing + Cumulative + Project PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↗
Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↑
Traffic Volume (vph)	664	299	700	797	734
Future Volume (vph)	664	299	700	797	734
Turn Type	NA	Perm	Prot	NA	Perm
Protected Phases	2		1	6	
Permitted Phases		2			8
Detector Phase	2	2	1	6	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.5	23.5	10.7	23.5	22.5
Total Split (s)	24.0	24.0	22.0	46.0	24.0
Total Split (%)	34.3%	34.3%	31.4%	65.7%	34.3%
Yellow Time (s)	4.8	4.8	3.7	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	5.7	4.5	4.5
Lead/Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 67.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: I-5 Southbound Ramps & SR 76



Timings

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Synchro 10 Report

Existing + Cumulative + Project PM
1: I-5 Southbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑		↗
Traffic Volume (vph)	664	299	700	797	0	734
Future Volume (vph)	664	299	700	797	0	734
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.8	6.8	5.7	4.5		4.5
Lane Util. Factor	0.95	1.00	0.97	0.95		1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	1.00		0.86
Flt Protected	1.00	1.00	0.95	1.00		1.00
Satd. Flow (prot)	3539	1583	3433	3539		1589
Flt Permitted	1.00	1.00	0.95	1.00		1.00
Satd. Flow (perm)	3539	1583	3433	3539		1589
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	699	315	737	839	0	773
RTOR Reduction (vph)	0	237	0	0	0	400
Lane Group Flow (vph)	699	78	737	839	0	373
Confl. Bikes (#/hr)						2
Turn Type	NA	Perm	Prot	NA		Perm
Protected Phases	2		1	6		
Permitted Phases		2				8
Actuated Green, G (s)	16.6	16.6	16.1	40.7		17.7
Effective Green, g (s)	16.6	16.6	16.1	40.7		17.7
Actuated g/C Ratio	0.25	0.25	0.24	0.60		0.26
Clearance Time (s)	6.8	6.8	5.7	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	871	389	820	2137		417
v/s Ratio Prot	c0.20		c0.21	0.24		
v/s Ratio Perm		0.05				c0.23
v/c Ratio	0.80	0.20	0.90	0.39		0.89
Uniform Delay, d1	23.9	20.1	24.9	6.9		23.9
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	5.4	0.3	12.6	0.1		20.8
Delay (s)	29.2	20.4	37.4	7.1		44.8
Level of Service	C	C	D	A		D
Approach Delay (s)	26.5			21.3	44.8	
Approach LOS	C			C	D	
Intersection Summary						
HCM 2000 Control Delay			28.2		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			67.4		Sum of lost time (s)	17.0
Intersection Capacity Utilization			73.2%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Existing + Cumulative + Project PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (vph)	1299	99	346	1169	247	1115
Future Volume (vph)	1299	99	346	1169	247	1115
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.0	24.1	10.7	26.0	24.1	24.1
Total Split (s)	55.0	78.0	17.0	72.0	78.0	78.0
Total Split (%)	36.7%	52.0%	11.3%	48.0%	52.0%	52.0%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	4.1
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	6.1
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: I-5 Northbound Ramps & SR 76

↙ Ø1	→ Ø2	
17 s	55 s	
← Ø6	↖ Ø8	
72 s	78 s	

Existing + Cumulative + Project PM
2: I-5 Northbound Ramps & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗
Traffic Volume (veh/h)	1299	99	346	1169	247	1115
Future Volume (veh/h)	1299	99	346	1169	247	1115
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	1870	1870
Adj Flow Rate, veh/h	1339	102	357	1205	255	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1629	999	439	2329	306	
Arrive On Green	0.46	0.46	0.13	0.66	0.17	0.00
Sat Flow, veh/h	3647	1585	3456	3647	1781	1585
Grp Volume(v), veh/h	1339	102	357	1205	255	0
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777	1781	1585
Q Serve(g_s), s	26.7	2.1	8.2	14.4	11.3	0.0
Cycle Q Clear(g_c), s	26.7	2.1	8.2	14.4	11.3	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1629	999	439	2329	306	
V/C Ratio(X)	0.82	0.10	0.81	0.52	0.83	
Avail Cap(c_a), veh/h	2047	1185	478	2787	1569	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.2	6.0	34.7	7.3	32.7	0.0
Incr Delay (d2), s/veh	2.3	0.0	9.7	0.2	5.9	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	9.4	0.9	3.7	3.5	5.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	6.0	44.4	7.5	38.5	0.0
LnGrp LOS	C	A	D	A	D	
Approach Vol, veh/h	1441			1562	255	A
Approach Delay, s/veh	20.4			15.9	38.5	
Approach LOS	C			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	16.1	45.4			61.5	20.1
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 11	47.0			64.0	71.9
Max Q Clear Time (g_c+I1), s	10.2	28.7			16.4	13.3
Green Ext Time (p_c), s	0.2	8.7			9.8	0.8

Intersection Summary

HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative + Project PM
3: Loretta St & SR 76

Ocean Kamp
02/16/2021

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↖	↑↑	↖	↖
Traffic Volume (vph)	2260	36	1490	25	32
Future Volume (vph)	2260	36	1490	25	32
Turn Type	NA	Prot	NA	Prot	pm+ov
Protected Phases	2	1	6	8	1
Permitted Phases					8
Detector Phase	2	1	6	8	1
Switch Phase					
Minimum Initial (s)	25.0	9.0	25.0	10.0	9.0
Minimum Split (s)	33.0	14.7	33.0	38.1	14.7
Total Split (s)	114.7	25.2	139.9	40.1	25.2
Total Split (%)	63.7%	14.0%	77.7%	22.3%	14.0%
Yellow Time (s)	5.5	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.7	8.0	6.1	5.7
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Min	None	C-Min	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 3: Loretta St & SR 76



Timings

N:\3145\Analysis\Synchro\08 Ex + C + P PM.syn

Synchro 10 Report

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (veh/h)	2260	0	36	1490	25	32
Future Volume (veh/h)	2260	0	36	1490	25	32
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	1870	1870
Adj Flow Rate, veh/h	2379	0	38	1568	26	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2824	1260	76	3088	94	151
Arrive On Green	0.79	0.00	0.04	0.87	0.05	0.05
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	2379	0	38	1568	26	34
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	74.8	0.0	3.8	18.6	2.5	3.6
Cycle Q Clear(g_c), s	74.8	0.0	3.8	18.6	2.5	3.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2824	1260	76	3088	94	151
V/C Ratio(X)	0.84	0.00	0.50	0.51	0.28	0.23
Avail Cap(c_a), veh/h	2824	1260	193	3088	336	367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	0.0	84.3	2.8	81.9	75.3
Incr Delay (d2), s/veh	0.3	0.0	5.1	0.6	1.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.7	0.0	1.8	3.9	1.2	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.0	89.4	3.4	83.5	76.0
LnGrp LOS	B	A	F	A	F	E
Approach Vol, veh/h	2379			1606	60	
Approach Delay, s/veh	11.8			5.4	79.3	
Approach LOS	B			A	E	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	13.4	151.0		164.4	15.6	
Change Period (Y+Rc), s	* 5.7	8.0		8.0	6.1	
Max Green Setting (Gmax), s	* 20	106.7		131.9	34.0	
Max Q Clear Time (g_c+I1), s	5.8	76.8		20.6	5.6	
Green Ext Time (p_c), s	0.0	22.7		16.7	0.1	
Intersection Summary						
HCM 6th Ctrl Delay			10.3			
HCM 6th LOS			B			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Existing + Cumulative + Project PM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗
Traffic Volume (vph)	2386	56	168	1518	8	112
Future Volume (vph)	2386	56	168	1518	8	112
Turn Type	NA	pm+ov	Prot	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	1
Switch Phase						
Minimum Initial (s)	25.0	9.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	37.1	15.7	33.0	37.1	15.7
Total Split (s)	102.2	37.1	40.7	142.9	37.1	40.7
Total Split (%)	56.8%	20.6%	22.6%	79.4%	20.6%	22.6%
Yellow Time (s)	5.5	4.1	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	6.1	5.7	8.0	6.1	5.7
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	C-Min	None	None	C-Min	None	None

Intersection Summary

Cycle Length: 180

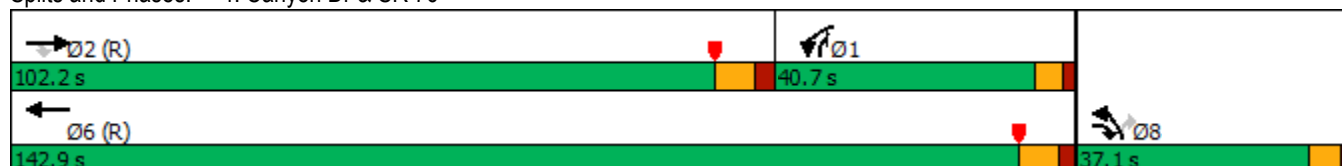
Actuated Cycle Length: 180

Offset: 82 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



Existing + Cumulative + Project PM
4: Canyon Dr & SR 76

Ocean Kamp
02/16/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (veh/h)	2386	56	168	1518	8	112
Future Volume (veh/h)	2386	56	168	1518	8	112
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	2566	60	181	1632	9	120
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1860	891	541	3098	173	561
Arrive On Green	0.52	0.52	0.30	0.87	0.05	0.05
Sat Flow, veh/h	3647	1552	1781	3647	3456	1585
Grp Volume(v), veh/h	2566	60	181	1632	9	120
Grp Sat Flow(s),veh/h/ln	1777	1552	1781	1777	1728	1585
Q Serve(g_s), s	94.2	3.1	14.2	19.6	0.4	0.0
Cycle Q Clear(g_c), s	94.2	3.1	14.2	19.6	0.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1860	891	541	3098	173	561
V/C Ratio(X)	1.38	0.07	0.33	0.53	0.05	0.21
Avail Cap(c_a), veh/h	1860	891	541	3098	595	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.30	0.30	1.00	1.00
Uniform Delay (d), s/veh	42.9	17.0	48.5	2.7	81.5	40.6
Incr Delay (d2), s/veh	174.3	0.1	0.1	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	83.7	1.3	6.2	3.7	0.2	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	217.2	17.2	48.6	2.9	81.6	40.8
LnGrp LOS	F	B	D	A	F	D
Approach Vol, veh/h	2626			1813	129	
Approach Delay, s/veh	212.7			7.5	43.7	
Approach LOS	F			A	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	62.7	102.2			164.9	15.1
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	35.0	* 94			134.9	31.0
Max Q Clear Time (g_c+I1), s	16.2	96.2			21.6	2.4
Green Ext Time (p_c), s	0.4	0.0			18.3	0.4

Intersection Summary

HCM 6th Ctrl Delay	126.5
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	1966	101	38	1438	12	136	16	107	35	17	112
Future Volume (vph)	198	1966	101	38	1438	12	136	16	107	35	17	112
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	33.0	17.7	52.0	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	45.7	88.5	88.5	20.7	63.5	63.5	23.7	50.1	50.1	20.7	21.1	45.7
Total Split (%)	25.4%	49.2%	49.2%	11.5%	35.3%	35.3%	13.2%	27.8%	27.8%	11.5%	11.7%	25.4%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 47 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Cumulative + Project PM
5: Benet Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1966	101	38	1438	12	136	16	107	35	17	112
Future Volume (veh/h)	198	1966	101	38	1438	12	136	16	107	35	17	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	215	2137	110	41	1563	13	148	17	116	38	18	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	678	2287	994	103	1096	476	166	187	154	101	114	697
Arrive On Green	0.38	0.64	0.64	0.04	0.21	0.21	0.09	0.10	0.10	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1544	1781	3554	1543	1781	1870	1536	1781	1870	1541
Grp Volume(v), veh/h	215	2137	110	41	1563	13	148	17	116	38	18	122
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1781	1777	1543	1781	1870	1536	1781	1870	1541
Q Serve(g_s), s	15.3	96.8	2.6	4.0	55.5	1.0	14.8	1.5	13.2	3.7	1.6	0.0
Cycle Q Clear(g_c), s	15.3	96.8	2.6	4.0	55.5	1.0	14.8	1.5	13.2	3.7	1.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	678	2287	994	103	1096	476	166	187	154	101	114	697
V/C Ratio(X)	0.32	0.93	0.11	0.40	1.43	0.03	0.89	0.09	0.75	0.38	0.16	0.17
Avail Cap(c_a), veh/h	678	2287	994	148	1096	476	178	457	375	148	156	731
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.59	0.59	0.59	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	28.7	3.3	83.4	71.4	32.6	80.7	73.6	78.8	81.8	80.1	30.4
Incr Delay (d2), s/veh	0.0	1.0	0.0	1.4	195.1	0.1	36.7	0.2	7.3	2.3	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	37.4	1.7	1.9	55.2	0.5	8.5	0.7	5.6	1.8	0.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	29.7	3.3	84.9	266.5	32.6	117.4	73.8	86.1	84.1	80.7	30.5
LnGrp LOS	D	C	A	F	F	C	F	E	F	F	F	C
Approach Vol, veh/h	2462			1617			281			178		
Approach Delay, s/veh	29.3			260.0			101.9			47.0		
Approach LOS	C			F			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	123.8	22.9	17.1	76.5	63.5	15.9	24.1				
Change Period (Y+Rc), s	* 5.7	8.0	6.1	* 6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	80.5	18.0	* 15	40.0	* 56	* 15	44.0				
Max Q Clear Time (g_c+I1), s	6.0	98.8	16.8	3.6	17.3	57.5	5.7	15.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.5	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	116.7
HCM 6th LOS	F

Notes

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

Existing + Cumulative + Project PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	23	2356	46	80	1520	25	102	93	39	69	40
Future Volume (vph)	23	2356	46	80	1520	25	102	93	39	69	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8	7	4	
Permitted Phases			2			6					4
Detector Phase	5	2	2	1	6	6	3	8	7	4	4
Switch Phase											
Minimum Initial (s)	10.0	25.0	25.0	9.0	25.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	33.0	17.7	33.0	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	20.7	98.5	98.5	20.7	98.5	98.5	20.7	45.1	15.7	21.1	21.1
Total Split (%)	11.5%	54.7%	54.7%	11.5%	54.7%	54.7%	11.5%	25.1%	8.7%	11.7%	11.7%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 180

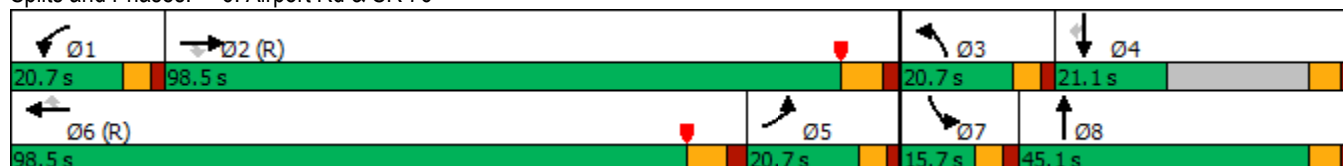
Actuated Cycle Length: 180

Offset: 87 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Timings

N:\3145\Analysis\Synchro\08 Ex + C + P PM.syn

Synchro 10 Report

Existing + Cumulative + Project PM
6: Airport Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2356	46	80	1520	25	102	93	93	39	69	40
Future Volume (veh/h)	23	2356	46	80	1520	25	102	93	93	39	69	40
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	24	2506	49	85	1617	27	109	99	99	41	73	43
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	314	2209	985	104	1744	778	128	112	112	86	199	169
Arrive On Green	0.23	0.83	0.83	0.02	0.16	0.16	0.07	0.13	0.13	0.05	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	858	858	1781	1870	1585
Grp Volume(v), veh/h	24	2506	49	85	1617	27	109	0	198	41	73	43
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1716	1781	1870	1585
Q Serve(g_s), s	1.9	111.9	1.0	8.6	80.8	2.0	10.9	0.0	20.4	4.0	6.5	3.2
Cycle Q Clear(g_c), s	1.9	111.9	1.0	8.6	80.8	2.0	10.9	0.0	20.4	4.0	6.5	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	314	2209	985	104	1744	778	128	0	223	86	199	169
V/C Ratio(X)	0.08	1.13	0.05	0.82	0.93	0.03	0.85	0.00	0.89	0.48	0.37	0.25
Avail Cap(c_a), veh/h	314	2209	985	148	1787	797	148	0	372	99	199	169
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.23	0.58	0.58	0.58	0.96	0.00	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	15.6	6.0	87.3	72.3	22.5	82.6	0.0	77.0	83.4	74.7	37.7
Incr Delay (d2), s/veh	0.0	62.0	0.0	13.1	6.4	0.0	30.9	0.0	12.9	4.0	1.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	40.3	0.4	4.4	40.2	1.0	6.2	0.0	9.9	2.0	3.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	77.5	6.0	100.5	78.6	22.6	113.5	0.0	89.9	87.4	75.9	38.5
LnGrp LOS	E	F	A	F	E	C	F	A	F	F	E	D
Approach Vol, veh/h	2579			1729			307			157		
Approach Delay, s/veh	76.0			78.8			98.3			68.7		
Approach LOS	E			E			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	119.9	18.6	25.3	39.7	96.3	14.4	29.5				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 15	90.5	* 15	15.0	15.0	* 91	* 10	39.0				
Max Q Clear Time (g_c+I1), s	10.6	113.9	12.9	8.5	3.9	82.8	6.0	22.4				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.2	0.0	5.6	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			78.2									
HCM 6th LOS			E									
Notes												

Existing + Cumulative + Project PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	409	2013	119	144	1336	181	62	181	126	128	185	290
Future Volume (vph)	409	2013	119	144	1336	181	62	181	126	128	185	290
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	13.0	25.0	25.0	12.0	25.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	33.0	18.7	54.0	54.0	18.7	52.1	52.1	18.7	20.1	20.1
Total Split (s)	20.7	88.5	88.5	20.7	88.5	88.5	21.7	52.1	52.1	18.7	20.1	20.1
Total Split (%)	11.5%	49.2%	49.2%	11.5%	49.2%	49.2%	12.1%	28.9%	28.9%	10.4%	11.2%	11.2%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 180

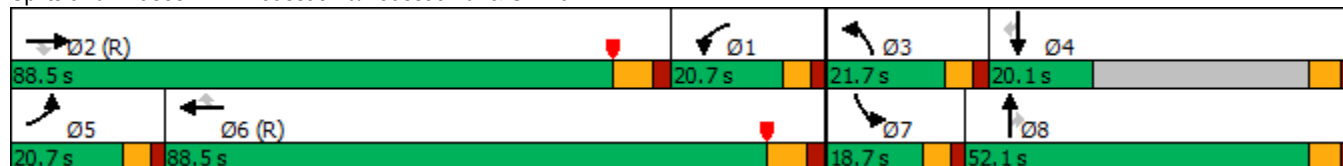
Actuated Cycle Length: 180

Offset: 151 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



Timings

N:\3145\Analysis\Synchro\08 Ex + C + P PM.syn

Synchro 10 Report

Existing + Cumulative + Project PM
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	2013	119	144	1336	181	62	181	126	128	185	290
Future Volume (veh/h)	409	2013	119	144	1336	181	62	181	126	128	185	290
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	426	2097	124	150	1392	189	65	189	131	133	193	302
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	288	1589	709	868	2231	995	240	267	119	249	276	217
Arrive On Green	0.06	0.30	0.30	0.25	0.63	0.63	0.07	0.08	0.08	0.07	0.08	0.08
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	426	2097	124	150	1392	189	65	189	131	133	193	302
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	15.0	80.5	7.7	6.1	43.1	9.1	3.2	9.4	8.7	6.7	9.5	14.0
Cycle Q Clear(g_c), s	15.0	80.5	7.7	6.1	43.1	9.1	3.2	9.4	8.7	6.7	9.5	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	1589	709	868	2231	995	240	267	119	249	276	217
V/C Ratio(X)	1.48	1.32	0.17	0.17	0.62	0.19	0.27	0.71	1.10	0.53	0.70	1.39
Avail Cap(c_a), veh/h	288	1589	709	868	2231	995	307	908	405	250	276	217
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	85.0	63.0	20.9	52.8	20.5	14.2	79.4	81.3	34.5	80.6	80.9	83.0
Incr Delay (d2), s/veh	217.4	144.2	0.0	0.1	1.3	0.4	0.6	3.2	67.5	2.2	7.5	202.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	68.5	3.1	2.6	17.1	3.5	1.5	4.4	5.7	3.1	4.7	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	302.4	207.2	20.9	52.9	21.8	14.6	80.0	84.5	102.0	82.8	88.5	285.1
LnGrp LOS	F	F	C	D	C	B	E	F	F	F	F	F
Approach Vol, veh/h		2647			1731			385			628	
Approach Delay, s/veh		213.8			23.7			89.7			181.8	
Approach LOS		F			C			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	53.2	88.5	18.2	20.1	20.7	121.0	18.7	19.6				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	15.0	* 81	* 16	14.0	* 15	80.5	* 13	46.0				
Max Q Clear Time (g_c+I1), s	8.1	82.5	5.2	16.0	17.0	45.1	8.7	11.4				
Green Ext Time (p_c), s	0.2	0.0	0.1	0.0	0.0	12.6	0.1	1.7				

Intersection Summary

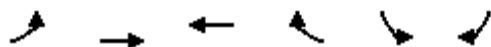
HCM 6th Ctrl Delay	140.2
HCM 6th LOS	F

Notes

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

Existing + Cumulative + Project PM
8: SR 76 & Douglas Drive

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø8
Lane Configurations	↔↔	↑↑	↑↑	↔	↔	↔↔	
Traffic Volume (vph)	595	1959	1398	264	263	357	
Future Volume (vph)	595	1959	1398	264	263	357	
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov	
Protected Phases	5	2	6		7	5	8
Permitted Phases				6		7	
Detector Phase	5	2	6	6	7	5	
Switch Phase							
Minimum Initial (s)	13.0	25.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	33.0	19.1	18.7	50.1
Total Split (s)	35.7	110.8	75.1	75.1	19.1	35.7	50.1
Total Split (%)	19.8%	61.6%	41.7%	41.7%	10.6%	19.8%	28%
Yellow Time (s)	3.7	5.5	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	8.0	6.1	5.7	
Lead/Lag	Lead		Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 95 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 76 & Douglas Drive

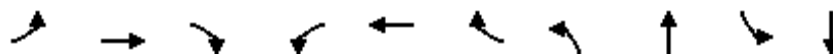
→ Ø2 (R)	↖ Ø7	↖ Ø8
110.8 s	19.1 s	50.1 s
↖ Ø5	↖ Ø6 (R)	
35.7 s	75.1 s	

Existing + Cumulative + Project PM
8: SR 76 & Douglas Drive

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				 
Traffic Volume (veh/h)	595	1959	0	0	1398	264	0	0	0	263	0	357
Future Volume (veh/h)	595	1959	0	0	1398	264	0	0	0	263	0	357
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	647	2129	0	0	1520	287	0	0	0	286	0	388
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	576	3396	0	0	2691	1200	0	1	0	0	0	0
Arrive On Green	0.17	0.96	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	3647	1585	0	1870	0		0	
Grp Volume(v), veh/h	647	2129	0	0	1520	287	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1777	1585	0	1870	0			
Q Serve(g_s), s	30.0	12.0	0.0	0.0	53.2	18.3	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	30.0	12.0	0.0	0.0	53.2	18.3	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		0.00			
Lane Grp Cap(c), veh/h	576	3396	0	0	2691	1200	0	1	0			
V/C Ratio(X)	1.12	0.63	0.00	0.00	0.56	0.24	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	576	3396	0	0	2691	1200	0	457	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.61	0.61	0.00	0.00	0.00			
Uniform Delay (d), s/veh	75.0	0.4	0.0	0.0	23.9	15.3	0.0	0.0	0.0			
Incr Delay (d2), s/veh	76.2	0.9	0.0	0.0	0.5	0.3	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			
%ile BackOfQ(50%),veh/ln	19.1	0.4	0.0	0.0	23.6	7.3	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.2	1.3	0.0	0.0	24.4	15.6	0.0	0.0	0.0			
LnGrp LOS	F	A	A	A	C	B	A	A	A			
Approach Vol, veh/h	2776				1807		0					
Approach Delay, s/veh	36.3				23.0		0.0					
Approach LOS	D				C							
Timer - Assigned Phs	2				5		6		8			
Phs Duration (G+Y+Rc), s	180.0				35.7		144.3		0.0			
Change Period (Y+Rc), s	8.0				* 5.7		8.0		6.1			
Max Green Setting (Gmax), s	102.8				* 30		67.1		44.0			
Max Q Clear Time (g_c+I1), s	14.0				32.0		55.2		0.0			
Green Ext Time (p_c), s	34.2				0.0		7.9		0.0			
Intersection Summary												
HCM 6th Ctrl Delay			31.0									
HCM 6th LOS			C									
Notes												

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	69	1654	308	277	1103	61	272	348	72	283
Future Volume (vph)	69	1654	308	277	1103	61	272	348	72	283
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	15.0	25.0	25.0	16.0	25.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	54.1	54.1	21.7	55.1	55.1	18.7	55.1	17.7	54.1
Total Split (s)	20.7	80.5	80.5	26.7	86.5	86.5	18.7	55.1	17.7	54.1
Total Split (%)	11.5%	44.7%	44.7%	14.8%	48.1%	48.1%	10.4%	30.6%	9.8%	30.1%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 180

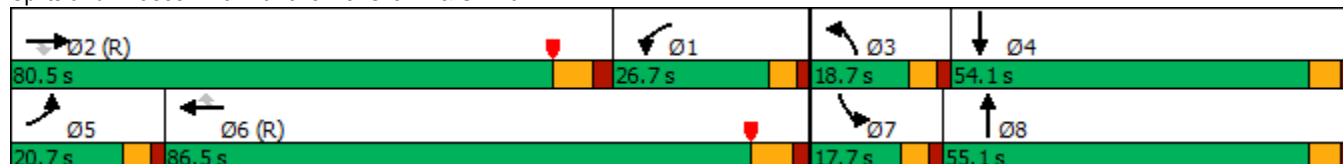
Actuated Cycle Length: 180

Offset: 73 (41%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



Existing + Cumulative + Project PM
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1654	308	277	1103	61	272	348	321	72	283	63
Future Volume (veh/h)	69	1654	308	277	1103	61	272	348	321	72	283	63
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		0.98	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	71	1705	318	286	1137	63	280	359	331	74	292	65
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	144	1431	637	471	1674	746	250	429	374	225	678	149
Arrive On Green	0.03	0.13	0.13	0.14	0.47	0.47	0.07	0.24	0.24	0.07	0.23	0.23
Sat Flow, veh/h	1781	3554	1582	3456	3554	1585	3456	1777	1548	3456	2897	635
Grp Volume(v), veh/h	71	1705	318	286	1137	63	280	359	331	74	177	180
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	1585	1728	1777	1548	1728	1777	1755
Q Serve(g_s), s	7.1	72.5	25.3	14.0	44.8	3.9	13.0	34.6	37.1	3.7	15.3	15.7
Cycle Q Clear(g_c), s	7.1	72.5	25.3	14.0	44.8	3.9	13.0	34.6	37.1	3.7	15.3	15.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	144	1431	637	471	1674	746	250	429	374	225	416	411
V/C Ratio(X)	0.49	1.19	0.50	0.61	0.68	0.08	1.12	0.84	0.89	0.33	0.43	0.44
Avail Cap(c_a), veh/h	148	1431	637	471	1674	746	250	484	421	230	474	468
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.13	0.13	0.13	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	83.9	78.0	34.6	73.2	37.0	26.2	83.5	64.9	65.9	80.4	58.6	58.8
Incr Delay (d2), s/veh	0.3	87.0	0.4	2.2	2.2	0.2	93.7	11.1	18.3	0.6	0.5	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	3.3	52.0	10.8	6.3	19.3	1.5	9.0	16.8	16.4	1.7	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	165.1	34.9	75.4	39.3	26.5	177.2	76.0	84.2	81.0	59.2	59.3
LnGrp LOS	F	F	C	E	D	C	F	E	F	F	E	E
Approach Vol, veh/h		2094			1486			970			431	
Approach Delay, s/veh		142.6			45.7			108.0			63.0	
Approach LOS		F			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.5	80.5	18.7	48.3	20.3	92.8	17.4	49.6				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	21.0	* 73	* 13	48.0	* 15	78.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	16.0	74.5	15.0	17.7	9.1	46.8	5.7	39.1				
Green Ext Time (p_c), s	0.4	0.0	0.0	1.9	0.1	8.6	0.1	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			100.1									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	84	1054	225	121	746	64	253	155	189	207
Future Volume (vph)	84	1054	225	121	746	64	253	155	189	207
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	3	1	6		3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	3	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	7.0	6.0	6.0	7.0	7.0	6.0	8.0	6.0	8.0
Minimum Split (s)	11.1	36.8	11.1	11.4	36.4	36.4	11.1	34.8	11.1	34.8
Total Split (s)	20.0	24.0	24.0	38.0	42.0	42.0	24.0	34.0	24.0	34.0
Total Split (%)	16.7%	20.0%	20.0%	31.7%	35.0%	35.0%	20.0%	28.3%	20.0%	28.3%
Yellow Time (s)	4.1	4.8	4.1	4.4	4.4	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.4	5.4	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Min	None	Min

Intersection Summary

Cycle Length: 120

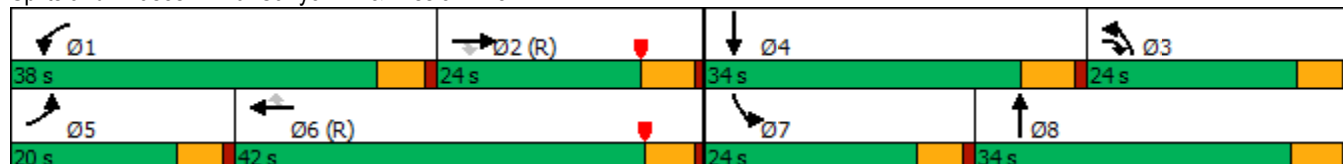
Actuated Cycle Length: 120

Offset: 85.4 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 10: Canyon Dr & Mission Ave



Timings

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Synchro 10 Report

Existing + Cumulative + Project PM
10: Canyon Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	1054	225	121	746	64	253	155	79	189	207	46
Future Volume (veh/h)	84	1054	225	121	746	64	253	155	79	189	207	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.92
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	87	1087	232	125	769	66	261	160	81	195	213	47
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	110	1615	849	154	1711	746	329	459	220	261	498	106
Arrive On Green	0.06	0.45	0.45	0.09	0.48	0.48	0.10	0.20	0.20	0.08	0.17	0.17
Sat Flow, veh/h	1781	3554	1536	1781	3554	1548	3456	2305	1102	3456	2863	612
Grp Volume(v), veh/h	87	1087	232	125	769	66	261	121	120	195	130	130
Grp Sat Flow(s),veh/h/ln	1781	1777	1536	1781	1777	1548	1728	1777	1630	1728	1777	1699
Q Serve(g_s), s	5.8	28.9	2.8	8.3	17.2	2.8	8.9	7.0	7.6	6.6	7.8	8.2
Cycle Q Clear(g_c), s	5.8	28.9	2.8	8.3	17.2	2.8	8.9	7.0	7.6	6.6	7.8	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.36
Lane Grp Cap(c), veh/h	110	1615	849	154	1711	746	329	354	325	261	309	295
V/C Ratio(X)	0.79	0.67	0.27	0.81	0.45	0.09	0.79	0.34	0.37	0.75	0.42	0.44
Avail Cap(c_a), veh/h	221	1615	849	484	1711	746	544	418	383	544	418	399
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	55.5	25.7	4.7	53.8	20.6	16.8	53.1	41.3	41.5	54.4	44.2	44.4
Incr Delay (d2), s/veh	11.7	2.3	0.8	9.6	0.9	0.2	4.3	0.6	0.7	4.3	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	12.1	1.4	4.1	7.0	1.0	4.0	3.1	3.1	3.0	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	28.0	5.5	63.5	21.4	17.1	57.5	41.9	42.2	58.6	45.1	45.4
LnGrp LOS	E	C	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1406			960			502			455	
Approach Delay, s/veh		26.7			26.6			50.1			51.0	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	60.3	17.2	26.7	12.5	63.6	14.2	29.7				
Change Period (Y+Rc), s	5.4	5.8	5.8	* 5.8	5.1	* 5.8	5.1	5.8				
Max Green Setting (Gmax), s	32.6	18.2	18.9	* 28	14.9	* 37	18.9	28.2				
Max Q Clear Time (g_c+I1), s	10.3	30.9	10.9	10.2	7.8	19.2	8.6	9.6				
Green Ext Time (p_c), s	0.3	0.0	0.5	1.4	0.1	4.9	0.4	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
User approved changes to right turn type.												

Existing + Cumulative + Project PM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

	→	↘	↙	←	↑	↓			
Lane Group	EBT	EBR	WBL	WBT	NBT	SBT	Ø3	Ø5	Ø7
Lane Configurations	↑↑	↑	↘	↑↑	↔	↔			
Traffic Volume (vph)	1067	209	25	680	1	1			
Future Volume (vph)	1067	209	25	680	1	1			
Turn Type	NA	Perm	Prot	NA	NA	NA			
Protected Phases	2		1	6	8	4	3	5	7
Permitted Phases		2							
Detector Phase	2	2	1	6	8	4			
Switch Phase									
Minimum Initial (s)	6.0	6.0	3.0	6.0	10.0	10.0	5.0	3.0	5.0
Minimum Split (s)	41.6	41.6	9.5	41.6	25.2	25.2	10.4	9.5	10.4
Total Split (s)	44.4	44.4	10.0	44.9	25.2	25.2	10.4	9.5	10.4
Total Split (%)	49.3%	49.3%	11.1%	49.9%	28.0%	28.0%	12%	11%	12%
Yellow Time (s)	3.6	3.6	3.0	3.6	5.2	5.2	4.4	3.0	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	4.6	4.0	4.6	6.2	6.2			
Lead/Lag	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 62.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 11: Mesa Dr & Mission Ave

↙ Ø1	→ Ø2	↘ Ø3	↓ Ø4
10 s	44.4 s	10.4 s	25.2 s
↗ Ø5	← Ø6	↙ Ø7	↑ Ø8
9.5 s	44.9 s	10.4 s	25.2 s

Timings

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Synchro 10 Report

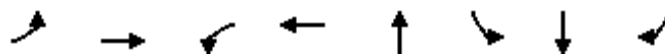
Existing + Cumulative + Project PM
11: Mesa Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1067	209	25	680	0	165	1	58	0	1	0
Future Volume (veh/h)	0	1067	209	25	680	0	165	1	58	0	1	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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	0	1100	215	26	701	0	170	1	60	0	1	0
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	4	1721	744	32	2072	0	0	5	311	0	373	0
Arrive On Green	0.00	0.48	0.48	0.02	0.58	0.00	0.00	0.20	0.20	0.00	0.20	0.00
Sat Flow, veh/h	1781	3554	1536	1781	3647	0	0	26	1558	0	1870	0
Grp Volume(v), veh/h	0	1100	215	26	701	0	0	0	61	0	1	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1536	1781	1777	0	0	0	1584	0	1870	0
Q Serve(g_s), s	0.0	11.5	4.2	0.7	5.1	0.0	0.0	0.0	1.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.5	4.2	0.7	5.1	0.0	0.0	0.0	1.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.00		0.98	0.00		0.00
Lane Grp Cap(c), veh/h	4	1721	744	32	2072	0	0	0	316	0	373	0
V/C Ratio(X)	0.00	0.64	0.29	0.80	0.34	0.00	0.00	0.00	0.19	0.00	0.00	0.00
Avail Cap(c_a), veh/h	197	2846	1230	215	2882	0	0	0	606	0	715	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(l)	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.6	7.7	24.3	5.4	0.0	0.0	0.0	16.6	0.0	15.9	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.2	34.9	0.1	0.0	0.0	0.0	0.3	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	0.0	3.1	0.9	0.6	1.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.0	7.9	59.2	5.5	0.0	0.0	0.0	16.8	0.0	15.9	0.0
LnGrp LOS	A	A	A	E	A	A	A	A	B	A	B	A
Approach Vol, veh/h		1315			727			61			1	
Approach Delay, s/veh		9.6			7.4			16.8			15.9	
Approach LOS		A			A			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	28.7	0.0	16.1	0.0	33.6	0.0	16.1				
Change Period (Y+Rc), s	4.0	4.6	5.4	6.2	4.0	4.6	5.4	6.2				
Max Green Setting (Gmax), s	6.0	39.8	5.0	19.0	5.5	40.3	5.0	19.0				
Max Q Clear Time (g_c+I1), s	2.7	13.5	0.0	2.0	0.0	7.1	0.0	3.6				
Green Ext Time (p_c), s	0.0	9.4	0.0	0.0	0.0	5.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			A									

Existing + Cumulative + Project PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	37	1392	15	973	10	33	11	41
Future Volume (vph)	37	1392	15	973	10	33	11	41
Turn Type	Prot	NA	Prot	NA	NA	Split	NA	Perm
Protected Phases	5	2	1	6	8	4	4	
Permitted Phases								4
Detector Phase	5	2	1	6	8	4	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.4	27.2	10.4	29.2	25.0	28.4	28.4	28.4
Total Split (s)	20.0	45.0	20.0	45.0	25.0	30.0	30.0	30.0
Total Split (%)	16.7%	37.5%	16.7%	37.5%	20.8%	25.0%	25.0%	25.0%
Yellow Time (s)	4.4	5.2	4.4	5.2	3.6	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	6.2	5.4	6.2	4.6	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Splits and Phases: 12: Airport Rd & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	45 s	30 s	25 s
Ø5	Ø6 (R)		
20 s	45 s		

Timings

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Synchro 10 Report

Existing + Cumulative + Project PM
12: Airport Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1392	11	15	973	58	15	10	17	33	11	41
Future Volume (veh/h)	37	1392	11	15	973	58	15	10	17	33	11	41
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	40	1497	12	16	1046	62	16	11	18	24	28	44
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	2509	20	31	2322	138	32	22	36	114	120	101
Arrive On Green	0.03	0.69	0.69	0.03	1.00	1.00	0.05	0.05	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1781	3613	29	1781	3409	202	610	420	687	1781	1870	1585
Grp Volume(v), veh/h	40	736	773	16	545	563	45	0	0	24	28	44
Grp Sat Flow(s),veh/h/ln	1781	1777	1865	1781	1777	1834	1716	0	0	1781	1870	1585
Q Serve(g_s), s	2.7	25.9	26.0	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	3.2
Cycle Q Clear(g_c), s	2.7	25.9	26.0	1.1	0.0	0.0	3.1	0.0	0.0	1.5	1.7	3.2
Prop In Lane	1.00		0.02	1.00		0.11	0.36		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	55	1234	1295	31	1210	1249	89	0	0	114	120	101
V/C Ratio(X)	0.73	0.60	0.60	0.52	0.45	0.45	0.51	0.00	0.00	0.21	0.23	0.43
Avail Cap(c_a), veh/h	217	1234	1295	217	1210	1249	292	0	0	379	397	337
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	0.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	57.7	9.6	9.6	57.4	0.0	0.0	55.4	0.0	0.0	53.3	53.4	54.1
Incr Delay (d2), s/veh	17.0	2.1	2.0	11.8	1.1	1.1	4.4	0.0	0.0	0.8	0.9	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	1.4	9.3	9.8	0.6	0.4	0.4	1.4	0.0	0.0	0.7	0.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.7	11.7	11.6	69.2	1.1	1.1	59.8	0.0	0.0	54.1	54.3	56.8
LnGrp LOS	E	B	B	E	A	A	E	A	A	D	D	E
Approach Vol, veh/h	1549		1124				45		96			
Approach Delay, s/veh	13.3		2.0				59.8		55.4			
Approach LOS	B		A				E		E			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.5	89.5	12.2		9.1	87.9	10.8					
Change Period (Y+Rc), s	5.4	6.2	4.5		5.4	6.2	4.6					
Max Green Setting (Gmax), s	14.6	38.8	25.5		14.6	38.8	20.4					
Max Q Clear Time (g_c+I1), s	3.1	28.0	5.2		4.7	2.0	5.1					
Green Ext Time (p_c), s	0.0	6.9	0.3		0.0	8.3	0.1					
Intersection Summary												
HCM 6th Ctrl Delay	11.0											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

Existing + Cumulative + Project PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	49	1370	56	974	37	0	104	82	0	22
Future Volume (vph)	49	1370	56	974	37	0	104	82	0	22
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6		8			4	
Permitted Phases					8		8	4		4
Detector Phase	5	2	1	6	8	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.1	36.8	10.1	36.8	30.9	30.9	30.9	30.9	30.9	30.9
Total Split (s)	28.0	65.0	23.0	60.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	23.3%	54.2%	19.2%	50.0%	26.7%	26.7%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8		4.7	4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 48 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 13: Roymar Rd & Mission Ave



Timings

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Synchro 10 Report

Existing + Cumulative + Project PM
13: Roymar Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	1370	33	56	974	17	37	0	104	82	0	22
Future Volume (veh/h)	49	1370	33	56	974	17	37	0	104	82	0	22
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	53	1473	35	60	1047	18	40	0	112	88	0	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	2125	50	77	2159	37	60	0	361	60	0	361
Arrive On Green	0.08	1.00	1.00	0.09	1.00	1.00	0.23	0.00	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1781	3548	84	1781	3575	61	0	0	1585	0	0	1585
Grp Volume(v), veh/h	53	737	771	60	520	545	40	0	112	88	0	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1859	0	0	1585	0	0	1585
Q Serve(g_s), s	3.5	0.0	0.0	4.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	1.4
Cycle Q Clear(g_c), s	3.5	0.0	0.0	4.0	0.0	0.0	27.3	0.0	7.0	27.3	0.0	1.4
Prop In Lane	1.00		0.05	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	1064	1111	77	1073	1123	60	0	361	60	0	361
V/C Ratio(X)	0.77	0.69	0.69	0.78	0.48	0.48	0.67	0.00	0.31	1.47	0.00	0.07
Avail Cap(c_a), veh/h	340	1064	1111	266	1073	1123	60	0	361	60	0	361
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	0.0	0.0	54.2	0.0	0.0	60.0	0.0	38.5	60.0	0.0	36.4
Incr Delay (d2), s/veh	12.9	2.8	2.7	12.8	1.3	1.2	24.6	0.0	0.5	280.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.8	0.8	1.9	0.4	0.4	1.6	0.0	2.8	6.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	2.8	2.7	67.0	1.3	1.2	84.6	0.0	39.0	340.6	0.0	36.4
LnGrp LOS	E	A	A	E	A	A	F	A	D	F	A	D
Approach Vol, veh/h	1561				1125				152		112	
Approach Delay, s/veh	5.0				4.8				51.0		275.4	
Approach LOS	A				A				D		F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	77.7		32.0	9.7	78.3		32.0				
Change Period (Y+Rc), s	5.1	5.8		* 4.7	5.1	5.8		* 4.7				
Max Green Setting (Gmax), s	17.9	59.2		* 27	22.9	54.2		* 27				
Max Q Clear Time (g_c+I1), s	6.0	2.0		29.3	5.5	2.0		29.3				
Green Ext Time (p_c), s	0.1	15.2		0.0	0.1	7.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative + Project PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	109	1411	30	863	39	47	184	61	184	93
Future Volume (vph)	109	1411	30	863	39	47	184	61	184	93
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	7	4	5
Permitted Phases					6					4
Detector Phase	5	2	1	6	7	3	8	7	4	5
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	5.0
Minimum Split (s)	11.1	29.8	11.1	39.8	11.1	11.1	30.5	11.1	30.5	11.1
Total Split (s)	25.0	45.0	20.0	40.0	25.0	25.0	30.0	25.0	30.0	25.0
Total Split (%)	20.8%	37.5%	16.7%	33.3%	20.8%	20.8%	25.0%	20.8%	25.0%	20.8%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	3.6	4.1	3.6	4.1	4.1
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.8	6.1	6.8	5.6	5.6	6.1	5.6	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120

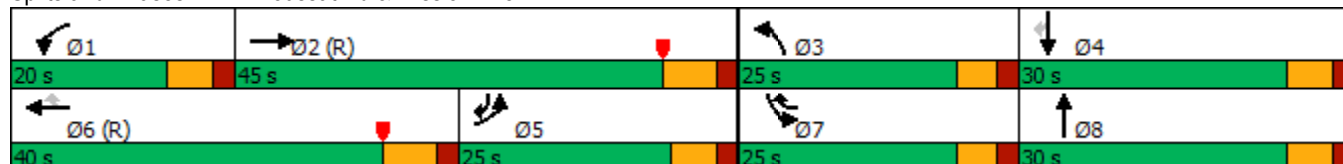
Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Splits and Phases: 14: Foussat Rd & Mission Ave



Timings

N:\3145\Analysis\Synchro\08 Ex + C + P PM.syn

Synchro 10 Report

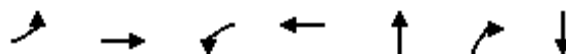
Existing + Cumulative + Project PM
14: Foussat Rd & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	1411	64	30	863	39	47	184	29	61	184	93
Future Volume (veh/h)	109	1411	64	30	863	39	47	184	29	61	184	93
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	116	1501	68	32	918	41	50	196	31	65	196	99
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	692	2225	101	49	979	495	117	272	42	127	324	1339
Arrive On Green	0.39	0.64	0.64	0.01	0.09	0.09	0.03	0.09	0.09	0.04	0.09	0.09
Sat Flow, veh/h	1781	3463	156	1781	3554	1585	3456	3081	480	3456	3554	2790
Grp Volume(v), veh/h	116	768	801	32	918	41	50	112	115	65	196	99
Grp Sat Flow(s),veh/h/ln	1781	1777	1842	1781	1777	1585	1728	1777	1784	1728	1777	1395
Q Serve(g_s), s	5.1	32.7	33.0	2.1	30.8	0.5	1.7	7.3	7.6	2.2	6.4	0.4
Cycle Q Clear(g_c), s	5.1	32.7	33.0	2.1	30.8	0.5	1.7	7.3	7.6	2.2	6.4	0.4
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	692	1142	1184	49	979	495	117	157	157	127	324	1339
V/C Ratio(X)	0.17	0.67	0.68	0.66	0.94	0.08	0.43	0.71	0.73	0.51	0.60	0.07
Avail Cap(c_a), veh/h	692	1142	1184	206	983	497	559	354	355	559	708	1640
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.94	0.94	0.94	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	24.0	13.5	13.6	58.9	53.5	16.9	56.8	53.2	53.3	56.7	52.4	7.3
Incr Delay (d2), s/veh	0.1	2.4	2.4	13.3	16.5	0.3	2.5	5.9	6.5	2.8	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	12.1	12.6	1.1	16.9	0.7	0.8	3.5	3.7	1.0	2.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	15.9	15.9	72.2	70.0	17.2	59.3	59.1	59.8	59.5	54.0	7.3
LnGrp LOS	C	B	B	E	E	B	E	E	E	E	D	A
Approach Vol, veh/h		1685			991			277			360	
Approach Delay, s/veh		16.5			67.9			59.4			42.2	
Approach LOS		B			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	83.9	9.7	17.0	53.4	39.8	10.0	16.7				
Change Period (Y+Rc), s	6.1	6.8	5.6	6.1	6.8	* 6.8	5.6	6.1				
Max Green Setting (Gmax), s	13.9	38.2	19.4	23.9	18.9	* 33	19.4	23.9				
Max Q Clear Time (g_c+I1), s	4.1	35.0	3.7	8.4	7.1	32.8	4.2	9.6				
Green Ext Time (p_c), s	0.0	2.5	0.1	1.4	0.2	0.2	0.1	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			38.2									
HCM 6th LOS			D									
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	4	1394	55	810	2	108	1
Future Volume (vph)	4	1394	55	810	2	108	1
Turn Type	Prot	NA	Prot	NA	NA	pm+ov	NA
Protected Phases	5	2	1	6	8	1	4
Permitted Phases						8	
Detector Phase	5	2	1	6	8	1	4
Switch Phase							
Minimum Initial (s)	3.0	10.0	3.0	10.0	5.0	3.0	7.0
Minimum Split (s)	9.6	23.0	9.5	32.8	30.0	9.5	13.8
Total Split (s)	20.0	55.0	20.0	55.0	30.0	20.0	15.0
Total Split (%)	16.7%	45.8%	16.7%	45.8%	25.0%	16.7%	12.5%
Yellow Time (s)	4.1	4.8	4.1	4.8	3.6	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.1	5.8	4.6	5.1	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	
Recall Mode	None	C-Min	None	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 15: Copperwood Way & Mission Ave

Ø1	Ø2 (R)	Ø4	Ø8
20 s	55 s	15 s	30 s
Ø5	Ø6 (R)		
20 s	55 s		

Timings

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Synchro 10 Report

Existing + Cumulative + Project PM
15: Copperwood Way & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1394	91	55	810	7	96	2	108	5	1	7
Future Volume (veh/h)	4	1394	91	55	810	7	96	2	108	5	1	7
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	4	1515	99	60	880	8	104	2	117	5	1	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	2276	148	77	2570	23	161	3	215	13	3	21
Arrive On Green	0.00	0.22	0.22	0.09	1.00	1.00	0.09	0.09	0.09	0.02	0.02	0.02
Sat Flow, veh/h	1781	3387	220	1781	3608	33	1749	34	1585	596	119	954
Grp Volume(v), veh/h	4	791	823	60	433	455	106	0	117	14	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1831	1781	1777	1864	1783	0	1585	1669	0	0
Q Serve(g_s), s	0.3	48.8	49.3	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	48.8	49.3	4.0	0.0	0.0	6.9	0.0	8.3	1.0	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.02	0.98		1.00	0.36		0.57
Lane Grp Cap(c), veh/h	6	1194	1230	77	1265	1328	164	0	215	36	0	0
V/C Ratio(X)	0.72	0.66	0.67	0.78	0.34	0.34	0.65	0.00	0.54	0.39	0.00	0.00
Avail Cap(c_a), veh/h	221	1194	1230	221	1265	1328	377	0	404	139	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	59.9	34.3	34.5	54.2	0.0	0.0	52.6	0.0	48.4	57.9	0.0	0.0
Incr Delay (d2), s/veh	69.5	1.8	1.8	14.7	0.7	0.7	4.2	0.0	2.1	6.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	23.6	24.5	2.0	0.2	0.2	3.3	0.0	3.4	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.4	36.0	36.3	68.9	0.7	0.7	56.8	0.0	50.6	64.5	0.0	0.0
LnGrp LOS	F	D	D	E	A	A	E	A	D	E	A	A
Approach Vol, veh/h	1618			948			223			14		
Approach Delay, s/veh	36.4			5.0			53.5			64.5		
Approach LOS	D			A			D			E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	86.4		7.6	5.5	91.3		15.7				
Change Period (Y+Rc), s	5.1	5.8		5.0	5.1	5.8		4.6				
Max Green Setting (Gmax), s	14.9	49.2		10.0	14.9	49.2		25.4				
Max Q Clear Time (g_c+I1), s	6.0	51.3		3.0	2.3	2.0		10.3				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	5.8		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			27.3									
HCM 6th LOS			C									
Notes												

Existing + Cumulative + Project PM
16: Frontier Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↑	↑↑	↑
Traffic Volume (vph)	1359	51	857	28
Future Volume (vph)	1359	51	857	28
Turn Type	NA	Prot	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases				
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	10.0	4.0	10.0	5.0
Minimum Split (s)	23.8	9.5	23.8	28.8
Total Split (s)	60.0	30.0	90.0	30.0
Total Split (%)	50.0%	25.0%	75.0%	25.0%
Yellow Time (s)	4.8	4.1	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.1	5.8	4.6
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 16: Frontier Dr & Mission Ave



Timings

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Synchro 10 Report

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1359	45	51	857	28	50
Future Volume (veh/h)	1359	45	51	857	28	50
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	1870	1870
Adj Flow Rate, veh/h	1401	46	53	884	29	52
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2702	89	69	3023	37	66
Arrive On Green	1.00	1.00	0.08	1.00	0.06	0.06
Sat Flow, veh/h	3605	115	1781	3647	584	1048
Grp Volume(v), veh/h	708	739	53	884	82	0
Grp Sat Flow(s),veh/h/ln	1777	1850	1781	1777	1653	0
Q Serve(g_s), s	0.0	0.0	3.5	0.0	5.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.5	0.0	5.9	0.0
Prop In Lane		0.06	1.00		0.35	0.63
Lane Grp Cap(c), veh/h	1367	1423	69	3023	104	0
V/C Ratio(X)	0.52	0.52	0.77	0.29	0.79	0.00
Avail Cap(c_a), veh/h	1367	1423	370	3023	350	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.81	0.81	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	54.8	0.0	55.5	0.0
Incr Delay (d2), s/veh	0.9	0.8	13.6	0.2	12.6	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	0.3	0.3	1.8	0.1	2.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.9	0.8	68.5	0.2	68.1	0.0
LnGrp LOS	A	A	E	A	E	A
Approach Vol, veh/h	1447			937	82	
Approach Delay, s/veh	0.9			4.1	68.1	
Approach LOS	A			A	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.7	98.1			107.9	12.1
Change Period (Y+Rc), s	5.1	5.8			5.8	4.6
Max Green Setting (Gmax), s	24.9	54.2			84.2	25.4
Max Q Clear Time (g_c+I1), s	5.5	2.0			2.0	7.9
Green Ext Time (p_c), s	0.1	13.1			6.9	0.2
Intersection Summary						
HCM 6th Ctrl Delay			4.3			
HCM 6th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative + Project PM
17: Mission Ave & Ocean Punte

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	147	1316	799	242	109
Future Volume (vph)	147	1316	799	242	109
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases					4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.5	23.8	29.8	28.8	28.8
Total Split (s)	30.0	90.0	60.0	30.0	30.0
Total Split (%)	25.0%	75.0%	50.0%	25.0%	25.0%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 17: Mission Ave & Ocean Punte



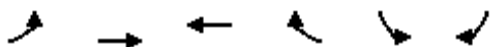
Timings

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Synchro 10 Report

Existing + Cumulative + Project PM
17: Mission Ave & Ocean Puente

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	1316	799	326	242	109
Future Volume (veh/h)	147	1316	799	326	242	109
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	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	1870	1870
Adj Flow Rate, veh/h	155	1385	841	343	255	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	182	2898	1637	665	338	155
Arrive On Green	0.20	1.00	1.00	1.00	0.10	0.10
Sat Flow, veh/h	1781	3647	2534	992	3456	1585
Grp Volume(v), veh/h	155	1385	611	573	255	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1656	1728	1585
Q Serve(g_s), s	10.1	0.0	0.0	0.0	8.6	8.5
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.0	8.6	8.5
Prop In Lane	1.00			0.60	1.00	1.00
Lane Grp Cap(c), veh/h	182	2898	1192	1110	338	155
V/C Ratio(X)	0.85	0.48	0.51	0.52	0.75	0.74
Avail Cap(c_a), veh/h	370	2898	1192	1110	731	336
HCM Platoon Ratio	2.00	2.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	0.0	0.0	52.7	52.7
Incr Delay (d2), s/veh	8.8	0.5	1.3	1.4	3.4	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.2	0.4	0.4	3.9	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	55.6	0.5	1.3	1.4	56.2	59.5
LnGrp LOS	E	A	A	A	E	E
Approach Vol, veh/h		1540	1184		370	
Approach Delay, s/veh		6.0	1.4		57.2	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.7		16.3	17.4	86.3
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8
Max Green Setting (Gmax), s		84.2		25.4	24.9	54.2
Max Q Clear Time (g_c+I1), s		2.0		10.6	12.1	2.0
Green Ext Time (p_c), s		14.2		1.1	0.3	9.7
Intersection Summary						
HCM 6th Ctrl Delay			10.4			
HCM 6th LOS			B			
Notes						
User approved pedestrian interval to be less than phase max green.						

Existing + Cumulative + Project PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø1
Lane Configurations						
Traffic Volume (vph)	240	1226	963	50	122	
Future Volume (vph)	240	1226	963	50	122	
Turn Type	Prot	NA	NA	Prot	Perm	
Protected Phases	5	2	6	4		1
Permitted Phases					4	
Detector Phase	5	2	6	4	4	
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	5.0	5.0	3.0
Minimum Split (s)	23.1	23.8	23.8	30.6	30.6	9.5
Total Split (s)	35.0	65.0	55.0	30.0	30.0	25.0
Total Split (%)	29.2%	54.2%	45.8%	25.0%	25.0%	21%
Yellow Time (s)	4.1	4.8	4.8	3.6	3.6	4.1
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.8	5.8	4.6	4.6	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	C-Min	C-Min	None	None	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

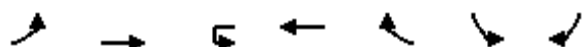
Control Type: Actuated-Coordinated

Splits and Phases: 18: Mission Ave & Fireside St



Existing + Cumulative + Project PM
18: Mission Ave & Fireside St

Ocean Kamp
02/16/2021



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	240	1226	0	963	97	50	122
Future Volume (veh/h)	240	1226	0	963	97	50	122
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	1870	1870
Adj Flow Rate, veh/h	247	1264		993	100	52	126
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	274	2898		2018	203	174	155
Arrive On Green	0.31	1.00		0.62	0.62	0.10	0.10
Sat Flow, veh/h	1781	3647		3353	328	1781	1585
Grp Volume(v), veh/h	247	1264		541	552	52	126
Grp Sat Flow(s),veh/h/ln	1781	1777		1777	1811	1781	1585
Q Serve(g_s), s	15.9	0.0		20.0	20.0	3.3	9.3
Cycle Q Clear(g_c), s	15.9	0.0		20.0	20.0	3.3	9.3
Prop In Lane	1.00				0.18	1.00	1.00
Lane Grp Cap(c), veh/h	274	2898		1100	1121	174	155
V/C Ratio(X)	0.90	0.44		0.49	0.49	0.30	0.81
Avail Cap(c_a), veh/h	444	2898		1100	1121	377	336
HCM Platoon Ratio	2.00	2.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85		0.43	0.43	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0		12.5	12.5	50.3	53.1
Incr Delay (d2), s/veh	12.2	0.4		0.7	0.7	0.9	9.7
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.2		7.3	7.5	1.5	8.4
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	52.9	0.4		13.2	13.2	51.2	62.8
LnGrp LOS	D	A		B	B	D	E
Approach Vol, veh/h		1511		1093		178	
Approach Delay, s/veh		9.0		13.2		59.4	
Approach LOS		A		B		E	
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		103.7		16.3	23.6	80.1	
Change Period (Y+Rc), s		5.8		4.6	5.1	5.8	
Max Green Setting (Gmax), s		59.2		25.4	29.9	49.2	
Max Q Clear Time (g_c+I1), s		2.0		11.3	17.9	22.0	
Green Ext Time (p_c), s		11.8		0.4	0.5	7.3	

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

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

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 			 	
Traffic Volume (vph)	427	699	209	135	438	296	702	250	170	429	353
Future Volume (vph)	427	699	209	135	438	296	702	250	170	429	353
Turn Type	Prot	NA	Free	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2		1	6	7
Permitted Phases			Free					2			6
Detector Phase	7	4		3	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	3.0	10.0		10.0	7.0	10.0	10.0	10.0	10.0	10.0	3.0
Minimum Split (s)	9.5	61.3		16.8	23.0	16.3	50.8	50.8	17.3	50.8	9.5
Total Split (s)	26.0	61.3		16.8	52.1	21.0	53.5	53.5	18.4	50.9	26.0
Total Split (%)	17.3%	40.9%		11.2%	34.7%	14.0%	35.7%	35.7%	12.3%	33.9%	17.3%
Yellow Time (s)	3.0	4.3		4.8	4.0	4.3	4.8	4.8	4.3	4.8	3.0
All-Red Time (s)	1.0	2.0		2.0	1.0	2.0	2.0	2.0	3.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.3		6.8	5.0	6.3	6.8	6.8	7.3	6.8	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	None	None	None	None

Intersection Summary

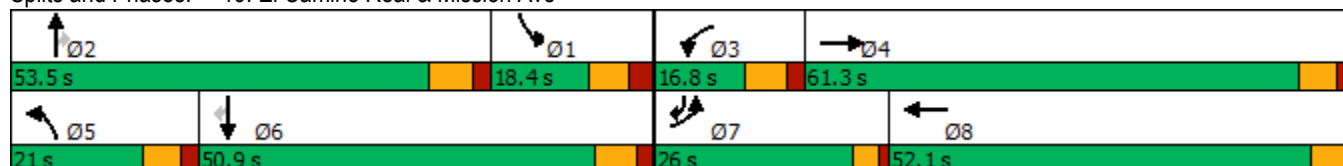
Cycle Length: 150

Actuated Cycle Length: 135.7

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 19: El Camino Real & Mission Ave



Existing + Cumulative + Project PM
19: El Camino Real & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	427	699	209	135	438	112	296	702	250	170	429	353
Future Volume (veh/h)	427	699	209	135	438	112	296	702	250	170	429	353
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	464	760	0	147	476	122	322	763	272	185	466	384
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	546	951		320	641	163	246	1010	428	204	893	648
Arrive On Green	0.16	0.27	0.00	0.09	0.23	0.23	0.14	0.27	0.27	0.11	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	2805	714	1781	3741	1585	1781	3554	1585
Grp Volume(v), veh/h	464	760	0	147	300	298	322	763	272	185	466	384
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1742	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	13.9	21.2	0.0	4.3	16.7	16.9	14.7	19.9	11.2	10.9	12.0	20.1
Cycle Q Clear(g_c), s	13.9	21.2	0.0	4.3	16.7	16.9	14.7	19.9	11.2	10.9	12.0	20.1
Prop In Lane	1.00		1.00	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	546	951		320	406	398	246	1010	428	204	893	648
V/C Ratio(X)	0.85	0.80		0.46	0.74	0.75	1.31	0.76	0.64	0.91	0.52	0.59
Avail Cap(c_a), veh/h	714	1834		324	785	770	246	1640	695	204	1471	906
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	36.3	0.0	45.8	38.1	38.2	45.9	35.7	16.7	46.6	34.4	24.6
Incr Delay (d2), s/veh	7.6	1.6	0.0	1.0	2.7	2.8	165.7	1.2	1.6	38.7	0.5	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	6.3	9.0	0.0	1.8	7.3	7.2	17.8	9.1	4.0	7.0	5.2	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	37.9	0.0	46.8	40.8	41.0	211.6	36.8	18.3	85.3	34.9	25.4
LnGrp LOS	D	D		D	D	D	F	D	B	F	C	C
Approach Vol, veh/h		1224	A		745			1357			1035	
Approach Delay, s/veh		43.0			42.1			74.6			40.4	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	35.6	16.7	34.8	21.0	34.1	20.8	30.7				
Change Period (Y+Rc), s	7.3	6.8	6.8	6.3	6.3	* 7.3	4.0	* 6.3				
Max Green Setting (Gmax), s	11.1	46.7	10.0	55.0	14.7	* 44	22.0	* 47				
Max Q Clear Time (g_c+I1), s	12.9	21.9	6.3	23.2	16.7	22.1	15.9	18.9				
Green Ext Time (p_c), s	0.0	6.9	0.1	5.3	0.0	4.6	0.9	3.5				

Intersection Summary

HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

Notes

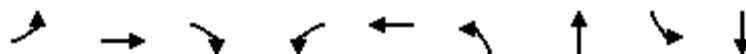
User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Existing + Cumulative + Project PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↰↰	↱↱	↰	↰	↱↱	↰	↱↱	↰	↱↱
Traffic Volume (vph)	82	1066	63	34	551	76	134	33	124
Future Volume (vph)	82	1066	63	34	551	76	134	33	124
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.1	40.4	40.4	10.1	38.4	10.1	32.8	10.1	34.8
Total Split (s)	10.4	41.0	41.0	10.1	40.7	12.0	38.3	10.6	36.9
Total Split (%)	10.4%	41.0%	41.0%	10.1%	40.7%	12.0%	38.3%	10.6%	36.9%
Yellow Time (s)	4.1	4.4	4.4	4.1	4.4	4.1	4.8	4.1	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	5.4	5.4	5.1	5.4	5.1	5.8	5.1	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 67.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 20: Douglas Drive /Douglas Dr & Mission Ave

↰ Ø1	↱ Ø2	↰ Ø3	↱ Ø4
10.6 s	38.3 s	10.1 s	41 s
↰ Ø5	↱ Ø6	↰ Ø7	↱ Ø8
12 s	36.9 s	10.4 s	40.7 s

Existing + Cumulative + Project PM
20: Douglas Drive /Douglas Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 			 	
Traffic Volume (veh/h)	82	1066	63	34	551	55	76	134	26	33	124	99
Future Volume (veh/h)	82	1066	63	34	551	55	76	134	26	33	124	99
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	84	1088	64	35	562	56	78	137	27	34	127	101
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	1463	652	66	1259	125	108	470	90	64	260	192
Arrive On Green	0.06	0.41	0.41	0.04	0.39	0.39	0.06	0.16	0.16	0.04	0.13	0.13
Sat Flow, veh/h	3456	3554	1585	1781	3264	325	1781	2972	572	1781	1951	1437
Grp Volume(v), veh/h	84	1088	64	35	305	313	78	81	83	34	115	113
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1812	1781	1777	1767	1781	1777	1612
Q Serve(g_s), s	1.4	15.5	1.5	1.2	7.6	7.7	2.6	2.4	2.5	1.1	3.6	3.9
Cycle Q Clear(g_c), s	1.4	15.5	1.5	1.2	7.6	7.7	2.6	2.4	2.5	1.1	3.6	3.9
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.32	1.00		0.89
Lane Grp Cap(c), veh/h	217	1463	652	66	685	699	108	281	279	64	237	215
V/C Ratio(X)	0.39	0.74	0.10	0.53	0.45	0.45	0.72	0.29	0.30	0.53	0.48	0.53
Avail Cap(c_a), veh/h	306	2113	942	149	1047	1068	205	964	959	164	923	837
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(l)	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	27.0	14.9	10.8	28.3	13.6	13.7	27.6	22.2	22.3	28.4	24.0	24.2
Incr Delay (d2), s/veh	1.1	0.8	0.1	6.6	0.5	0.4	8.7	0.6	0.6	6.6	1.5	2.0
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	0.6	5.1	0.4	0.6	2.5	2.6	1.3	1.0	1.0	0.6	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	15.8	10.9	34.9	14.1	14.1	36.3	22.8	22.9	35.0	25.6	26.2
LnGrp LOS	C	B	B	C	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1236			653			242			262	
Approach Delay, s/veh		16.4			15.2			27.2			27.0	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	15.3	7.3	30.0	8.7	13.8	8.9	28.5				
Change Period (Y+Rc), s	5.1	5.8	5.1	5.4	5.1	5.8	5.1	5.4				
Max Green Setting (Gmax), s	5.5	32.5	5.0	35.6	6.9	31.1	5.3	35.3				
Max Q Clear Time (g_c+I1), s	3.1	4.5	3.2	17.5	4.6	5.9	3.4	9.7				
Green Ext Time (p_c), s	0.0	0.9	0.0	7.1	0.0	1.3	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Existing + Cumulative + Project PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	818	408	126	525	324	14	10	19
Future Volume (vph)	14	818	408	126	525	324	14	10	19
Turn Type	Prot	NA	Perm	Prot	NA	Split	NA	Split	NA
Protected Phases	5	2		1	6	8	8	4	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	7.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	28.0	28.0	24.0	24.0
Total Split (s)	11.1	58.0	58.0	15.0	61.9	28.0	28.0	24.0	24.0
Total Split (%)	8.9%	46.4%	46.4%	12.0%	49.5%	22.4%	22.4%	19.2%	19.2%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	4.8	4.8	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	5.8	5.8	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 125

Actuated Cycle Length: 112.8

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

 Ø1	 Ø2	 Ø4	 Ø8
15 s	58 s	24 s	28 s
 Ø5	 Ø6		
11.1 s	61.9 s		

Timings

N:\3145\Analysis\Synchro\08 Ex + C + P PM.syn

Synchro 10 Report

Existing + Cumulative + Project PM
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	818	408	126	525	1	324	14	102	10	19	16
Future Volume (veh/h)	14	818	408	126	525	1	324	14	102	10	19	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.96	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	15	889	443	137	571	1	352	15	111	11	21	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	873	728	158	1005	2	355	37	273	87	47	38
Arrive On Green	0.02	0.47	0.47	0.09	0.54	0.54	0.20	0.20	0.20	0.05	0.05	0.05
Sat Flow, veh/h	1781	1870	1560	1781	1866	3	1781	185	1372	1781	957	774
Grp Volume(v), veh/h	15	889	443	137	0	572	352	0	126	11	0	38
Grp Sat Flow(s),veh/h/ln	1781	1870	1560	1781	0	1870	1781	0	1558	1781	0	1731
Q Serve(g_s), s	0.9	52.0	23.6	8.5	0.0	22.7	22.0	0.0	7.9	0.7	0.0	2.4
Cycle Q Clear(g_c), s	0.9	52.0	23.6	8.5	0.0	22.7	22.0	0.0	7.9	0.7	0.0	2.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.88	1.00		0.45
Lane Grp Cap(c), veh/h	30	873	728	158	0	1007	355	0	310	87	0	85
V/C Ratio(X)	0.51	1.02	0.61	0.87	0.00	0.57	0.99	0.00	0.41	0.13	0.00	0.45
Avail Cap(c_a), veh/h	96	873	728	158	0	1007	355	0	310	304	0	295
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.3	29.7	22.2	50.1	0.0	17.1	44.5	0.0	38.9	50.7	0.0	51.5
Incr Delay (d2), s/veh	12.7	35.3	1.5	36.3	0.0	0.8	45.6	0.0	0.9	0.6	0.0	3.7
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	0.5	29.7	8.3	5.3	0.0	9.2	13.8	0.0	3.0	0.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	65.0	23.6	86.4	0.0	17.8	90.1	0.0	39.7	51.4	0.0	55.2
LnGrp LOS	E	F	C	F	A	B	F	A	D	D	A	E
Approach Vol, veh/h		1347			709			478			49	
Approach Delay, s/veh		51.4			31.1			76.8			54.3	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	58.0		10.5	7.0	66.0		28.0				
Change Period (Y+Rc), s	5.1	6.0		5.0	5.1	6.0		5.8				
Max Green Setting (Gmax), s	9.9	52.0		19.0	6.0	55.9		22.2				
Max Q Clear Time (g_c+I1), s	10.5	54.0		4.4	2.9	24.7		24.0				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	3.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			50.6									
HCM 6th LOS			D									

Existing + Cumulative + Project PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø3	Ø5
Lane Configurations	LT	RT	LT	TH	TH		
Traffic Volume (vph)	202	197	262	958	632		
Future Volume (vph)	202	197	262	958	632		
Turn Type	Prot	Perm	Perm	NA	NA		
Protected Phases	4			2	6	3	5
Permitted Phases		4	2				
Detector Phase	4	4	2	2	6		
Switch Phase							
Minimum Initial (s)	6.0	6.0	12.0	12.0	12.0	6.0	6.0
Minimum Split (s)	29.7	29.7	23.8	23.8	30.8	29.7	11.1
Total Split (s)	29.7	29.7	85.6	85.6	74.5	29.7	11.1
Total Split (%)	20.5%	20.5%	59.0%	59.0%	51.4%	20%	8%
Yellow Time (s)	3.7	3.7	4.3	4.3	4.3	3.7	4.1
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.7	4.7	5.8	5.8	5.8		
Lead/Lag	Lag	Lag			Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 145

Actuated Cycle Length: 109.9

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Splits and Phases: 22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ø2	Ø3	Ø4
85.6 s	29.7 s	29.7 s
Ø5		
11.1 s		
Ø6		
74.5 s		

Existing + Cumulative + Project PM
22: El Camino Real & Los Arbolitos Blvd & Santa Clara

Ocean Kamp
02/16/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	←←	→	←	↑↑	↑↑		←	→
Traffic Volume (vph)	202	197	262	958	632	91	0	0
Future Volume (vph)	202	197	262	958	632	91	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	4.7	5.8	5.8	5.8			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95			
Frpb, ped/bikes	1.00	0.96	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			
Frt	1.00	0.85	1.00	1.00	0.98			
Flt Protected	0.95	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	1527	1770	3539	3463			
Flt Permitted	0.95	1.00	0.35	1.00	1.00			
Satd. Flow (perm)	3433	1527	654	3539	3463			
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	210	205	273	998	658	95	0	0
RTOR Reduction (vph)	0	181	0	0	0	0	0	0
Lane Group Flow (vph)	210	24	273	998	753	0	0	0
Confl. Peds. (#/hr)		15						
Confl. Bikes (#/hr)		2				3		
Turn Type	Prot	Perm	Perm	NA	NA		Prot	Perm
Protected Phases	4			2	6		3	
Permitted Phases		4	2					3
Actuated Green, G (s)	13.2	13.2	81.5	81.5	81.5			
Effective Green, g (s)	13.2	13.2	81.5	81.5	81.5			
Actuated g/C Ratio	0.12	0.12	0.72	0.72	0.72			
Clearance Time (s)	4.7	4.7	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	398	177	468	2536	2482			
v/s Ratio Prot	c0.06			0.28	0.22			
v/s Ratio Perm		0.02	c0.42					
v/c Ratio	0.53	0.13	0.58	0.39	0.30			
Uniform Delay, d1	47.3	45.1	7.8	6.4	5.8			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.3	0.3	1.9	0.1	0.1			
Delay (s)	48.6	45.5	9.7	6.5	5.9			
Level of Service	D	D	A	A	A			
Approach Delay (s)	47.0			7.1	5.9		0.0	
Approach LOS	D			A	A		A	
Intersection Summary								
HCM 2000 Control Delay			13.5		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.58					
Actuated Cycle Length (s)			113.7		Sum of lost time (s)		20.3	
Intersection Capacity Utilization			75.6%		ICU Level of Service		D	
Analysis Period (min)			15					
c Critical Lane Group								

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	22	76	7	11	21	33	69	5	16	1
Future Vol, veh/h	0	3	22	76	7	11	21	33	69	5	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	89	92	89	92	89	89	89	89	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	24	85	8	12	23	37	78	6	18	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	27	0	0	209	205	15	257	211	14
Stage 1	-	-	-	-	-	-	15	15	-	184	184	-
Stage 2	-	-	-	-	-	-	194	190	-	73	27	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1596	-	-	1587	-	-	748	691	1065	696	686	1066
Stage 1	-	-	-	-	-	-	1005	883	-	818	747	-
Stage 2	-	-	-	-	-	-	808	743	-	937	873	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1596	-	-	1587	-	-	702	654	1065	592	649	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	702	654	-	592	649	-
Stage 1	-	-	-	-	-	-	1005	883	-	818	707	-
Stage 2	-	-	-	-	-	-	744	703	-	832	873	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6			10.1			10.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	848	1596	-	-	1587	-	-	646				
HCM Lane V/C Ratio	0.162	-	-	-	0.054	-	-	0.038				
HCM Control Delay (s)	10.1	0	-	-	7.4	0	-	10.8				
HCM Lane LOS	B	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.6	0	-	-	0.2	-	-	0.1				

Intersection												
Int Delay, s/veh	143.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	246	144	218	53	131	10	163	16	39	10	21	180
Future Vol, veh/h	246	144	218	53	131	10	163	16	39	10	21	180
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	92	88	92	92	92	88	88	92	92	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	157	248	58	142	11	185	18	42	11	24	205

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	0	405	0	0	1219	1110	281	1135	1229	148
Stage 1	-	-	-	-	-	-	841	841	-	264	264	-
Stage 2	-	-	-	-	-	-	378	269	-	871	965	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1428	-	-	1154	-	-	~ 157	209	758	179	178	899
Stage 1	-	-	-	-	-	-	359	380	-	741	690	-
Stage 2	-	-	-	-	-	-	644	687	-	346	333	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1428	-	-	1154	-	-	~ 80	146	758	118	124	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 80	146	-	118	124	-
Stage 1	-	-	-	-	-	-	265	280	-	547	652	-
Stage 2	-	-	-	-	-	-	453	649	-	225	246	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	2.3	\$ 776.8	20.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	98	1428	-	-	1154	-	-	467
HCM Lane V/C Ratio	2.508	0.196	-	-	0.05	-	-	0.512
HCM Control Delay (s)	\$ 776.8	8.1	0	-	8.3	0	-	20.5
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	22.6	0.7	-	-	0.2	-	-	2.9

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Existing + Cumulative + Project PM
25: Foussat Rd & Alex Rd/Proj Dwy

Ocean Kamp
02/16/2021

Intersection												
Int Delay, s/veh	76											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	11	48	156	8	55	21	550	211	74	387	1
Future Vol, veh/h	1	11	48	156	8	55	21	550	211	74	387	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	92	95	92	92	92	95	95	92	92	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	12	51	170	9	60	22	579	229	80	407	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1340	1420	408	1337	1306	694	408	0	0	808	0	0
Stage 1	568	568	-	738	738	-	-	-	-	-	-	-
Stage 2	772	852	-	599	568	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	130	136	643	~ 130	160	443	1151	-	-	817	-	-
Stage 1	508	506	-	410	424	-	-	-	-	-	-	-
Stage 2	392	376	-	488	506	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	116	643	~ 98	137	443	1151	-	-	817	-	-
Mov Cap-2 Maneuver	95	116	-	~ 98	137	-	-	-	-	-	-	-
Stage 1	498	442	-	402	416	-	-	-	-	-	-	-
Stage 2	326	369	-	382	442	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	18.5		\$ 508.9		0.2		1.6					
HCM LOS	C		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1151	-	-	330	123	817	-	-				
HCM Lane V/C Ratio	0.019	-	-	0.193	1.935	0.098	-	-				
HCM Control Delay (s)	8.2	-	-	18.5	\$ 508.9	9.9	-	-				
HCM Lane LOS	A	-	-	C	F	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.7	19.1	0.3	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Existing + Cumulative + Project PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

	↖	↗	↑	↘	↓	
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø5
Lane Configurations	↖	↗	↕	↖	↗	
Traffic Volume (vph)	42	84	881	90	654	
Future Volume (vph)	42	84	881	90	654	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	4		2	1	6	5
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	4.0	7.0	4.0
Minimum Split (s)	27.0	27.0	28.0	9.5	28.0	9.5
Total Split (s)	27.0	27.0	29.0	24.0	36.0	17.0
Total Split (%)	33.8%	33.8%	36.3%	30.0%	45.0%	21%
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0	
Lead/Lag			Lag	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 51.2

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 26: Rancho Del Oro Dr & Via Rancho Rd

↖ Ø1	↗ Ø2	↘ Ø4
24 s	29 s	27 s
↗ Ø5	↓ Ø6	
17 s	36 s	

Existing + Cumulative + Project PM
26: Rancho Del Oro Dr & Via Rancho Rd

Ocean Kamp
02/16/2021

							
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	42	84	0	881	86	90	654
Future Volume (veh/h)	42	84	0	881	86	90	654
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	1870	1870
Adj Flow Rate, veh/h	43	87		908	89	93	674
Peak Hour Factor	0.97	0.97		0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	152	135		1343	132	120	2185
Arrive On Green	0.09	0.09		0.41	0.41	0.07	0.61
Sat Flow, veh/h	1781	1585		3363	320	1781	3647
Grp Volume(v), veh/h	43	87		494	503	93	674
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1813	1781	1777
Q Serve(g_s), s	0.8	1.9		8.3	8.3	1.9	3.3
Cycle Q Clear(g_c), s	0.8	1.9		8.3	8.3	1.9	3.3
Prop In Lane	1.00	1.00			0.18	1.00	
Lane Grp Cap(c), veh/h	152	135		730	745	120	2185
V/C Ratio(X)	0.28	0.64		0.68	0.68	0.77	0.31
Avail Cap(c_a), veh/h	1068	951		1114	1137	923	2906
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	15.7	16.2		8.8	8.8	16.8	3.4
Incr Delay (d2), s/veh	1.0	5.0		1.1	1.1	10.0	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	0.3	1.9		1.9	1.9	0.9	0.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	16.7	21.3		9.9	9.9	26.9	3.4
LnGrp LOS	B	C		A	A	C	A
Approach Vol, veh/h	130			997			767
Approach Delay, s/veh	19.8			9.9			6.3
Approach LOS	B			A			A
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	7.5	21.1		8.1		28.6	
Change Period (Y+Rc), s	5.0	6.0		5.0		6.0	
Max Green Setting (Gmax), s	19.0	23.0		22.0		30.0	
Max Q Clear Time (g_c+I1), s	3.9	10.3		3.9		5.3	
Green Ext Time (p_c), s	0.2	4.8		0.3		4.3	
Intersection Summary							
HCM 6th Ctrl Delay			9.1				
HCM 6th LOS			A				
Notes							
User approved ignoring U-Turning movement.							

Existing + Cumulative + Project PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	334	120	291	617	125	140	439	209	125	690	162
Future Volume (vph)	83	334	120	291	617	125	140	439	209	125	690	162
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	10.4	32.2	32.2	10.4	32.2	32.2	10.1	31.8	31.8	10.1	31.8	31.8
Total Split (s)	25.3	35.0	35.0	25.0	34.7	34.7	19.4	44.3	44.3	10.7	35.6	35.6
Total Split (%)	22.0%	30.4%	30.4%	21.7%	30.2%	30.2%	16.9%	38.5%	38.5%	9.3%	31.0%	31.0%
Yellow Time (s)	4.4	5.2	5.2	4.4	5.2	5.2	4.1	4.8	4.8	4.1	4.8	4.8
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	7.2	7.2	5.4	7.2	7.2	5.1	6.8	6.8	5.1	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 115

Actuated Cycle Length: 100.3

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Rancho Del Oro Dr & Mesa Dr

			
10.7 s	44.3 s	25 s	35 s
			
19.4 s	35.6 s	25.3 s	34.7 s

Existing + Cumulative + Project PM
27: Rancho Del Oro Dr & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	334	120	291	617	125	140	439	209	125	690	162
Future Volume (veh/h)	83	334	120	291	617	125	140	439	209	125	690	162
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	89	359	129	313	663	134	151	472	225	134	742	174
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	521	232	352	992	442	187	1073	478	117	933	416
Arrive On Green	0.07	0.15	0.15	0.20	0.28	0.28	0.11	0.30	0.30	0.07	0.26	0.26
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	89	359	129	313	663	134	151	472	225	134	742	174
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.2	8.2	6.4	14.5	14.1	5.7	7.1	9.1	9.8	5.6	16.6	7.7
Cycle Q Clear(g_c), s	4.2	8.2	6.4	14.5	14.1	5.7	7.1	9.1	9.8	5.6	16.6	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	521	232	352	992	442	187	1073	478	117	933	416
V/C Ratio(X)	0.77	0.69	0.56	0.89	0.67	0.30	0.81	0.44	0.47	1.14	0.80	0.42
Avail Cap(c_a), veh/h	417	1161	518	410	1149	512	299	1567	699	117	1203	537
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	39.1	34.5	33.7	33.2	27.2	24.1	37.2	23.9	24.2	39.7	29.2	26.0
Incr Delay (d2), s/veh	10.0	1.6	2.1	18.6	1.2	0.4	8.1	0.3	0.7	126.6	2.9	0.7
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	2.1	3.4	2.5	7.7	5.7	2.0	3.3	3.6	3.5	6.4	6.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	36.1	35.8	51.8	28.4	24.5	45.4	24.2	24.9	166.3	32.1	26.7
LnGrp LOS	D	D	D	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		577			1110			848			1050	
Approach Delay, s/veh		38.0			34.5			28.1			48.4	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	32.5	22.2	19.7	14.0	29.1	11.0	30.9				
Change Period (Y+Rc), s	5.1	6.8	5.4	7.2	5.1	6.8	5.4	7.2				
Max Green Setting (Gmax), s	5.6	37.5	19.6	27.8	14.3	28.8	19.9	27.5				
Max Q Clear Time (g_c+I1), s	7.6	11.8	16.5	10.2	9.1	18.6	6.2	16.1				
Green Ext Time (p_c), s	0.0	3.7	0.3	2.3	0.2	3.8	0.1	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			37.6									
HCM 6th LOS			D									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	274	114	374	186	111	189	1328	669	99	785	30
Future Volume (vph)	35	274	114	374	186	111	189	1328	669	99	785	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	8.0	7.0	7.0	5.0	10.0	8.0	5.0	10.0	10.0
Minimum Split (s)	9.5	23.4	23.4	33.8	23.0	23.0	10.4	28.0	33.8	10.4	32.0	32.0
Total Split (s)	9.5	23.4	23.4	34.3	48.2	48.2	13.2	46.3	34.3	26.0	59.1	59.1
Total Split (%)	7.3%	18.0%	18.0%	26.4%	37.1%	37.1%	10.2%	35.6%	26.4%	20.0%	45.5%	45.5%
Yellow Time (s)	3.0	4.4	4.4	4.8	4.0	4.0	4.4	5.0	4.8	4.4	5.0	5.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.4	5.4	5.8	5.0	5.0	5.4	7.0	5.8	5.4	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 110.1

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Splits and Phases: 28: El Camino Real & Mesa Dr

 Ø1	 Ø2	 Ø3	 Ø4
26 s	46.3 s	34.3 s	23.4 s
 Ø5	 Ø6	 Ø7	 Ø8
13.2 s	59.1 s	9.5 s	48.2 s

Existing + Cumulative + Project PM
28: El Camino Real & Mesa Dr

Ocean Kamp
02/16/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	274	114	374	186	111	189	1328	669	99	785	30
Future Volume (veh/h)	35	274	114	374	186	111	189	1328	669	99	785	30
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	38	295	123	402	200	119	203	1428	719	106	844	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	409	183	506	494	419	146	1470	888	136	1450	647
Arrive On Green	0.03	0.12	0.12	0.15	0.26	0.26	0.08	0.41	0.41	0.08	0.41	0.41
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	38	295	123	402	200	119	203	1428	719	106	844	32
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	7.6	7.1	10.7	8.4	5.7	7.8	37.4	34.7	5.6	17.5	1.2
Cycle Q Clear(g_c), s	2.0	7.6	7.1	10.7	8.4	5.7	7.8	37.4	34.7	5.6	17.5	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	409	183	506	494	419	146	1470	888	136	1450	647
V/C Ratio(X)	0.80	0.72	0.67	0.80	0.40	0.28	1.39	0.97	0.81	0.78	0.58	0.05
Avail Cap(c_a), veh/h	122	673	300	1037	850	721	146	1470	888	386	1949	869
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	46.0	40.6	40.3	39.2	28.8	27.8	43.6	27.3	16.8	43.1	21.8	17.0
Incr Delay (d2), s/veh	24.9	2.4	4.3	2.9	0.5	0.4	211.1	17.1	5.7	9.2	0.4	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	1.2	3.3	2.9	4.5	3.6	2.1	12.0	18.5	12.0	2.8	7.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	43.0	44.6	42.1	29.3	28.2	254.7	44.4	22.5	52.2	22.2	17.0
LnGrp LOS	E	D	D	D	C	C	F	D	C	D	C	B
Approach Vol, veh/h	456			721			2350			982		
Approach Delay, s/veh	45.7			36.2			55.9			25.3		
Approach LOS	D			D			E			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	46.3	19.7	16.3	13.2	45.8	5.5	30.5				
Change Period (Y+Rc), s	5.4	7.0	5.8	5.4	5.4	7.0	3.0	* 5.4				
Max Green Setting (Gmax), s	20.6	39.3	28.5	18.0	7.8	52.1	6.5	* 43				
Max Q Clear Time (g_c+I1), s	7.6	39.4	12.7	9.6	9.8	19.5	4.0	10.4				
Green Ext Time (p_c), s	0.2	0.0	1.2	1.3	0.0	7.1	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh13.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	201	23	11	168	103	23	193	16	76	124	35
Future Vol, veh/h	51	201	23	11	168	103	23	193	16	76	124	35
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	205	23	11	171	105	23	197	16	78	127	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.2	13.8	13.3	13.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	19%	4%	32%
Vol Thru, %	83%	73%	60%	53%
Vol Right, %	7%	8%	37%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	232	275	282	235
LT Vol	23	51	11	76
Through Vol	193	201	168	124
RT Vol	16	23	103	35
Lane Flow Rate	237	281	288	240
Geometry Grp	1	1	1	1
Degree of Util (X)	0.403	0.468	0.464	0.408
Departure Headway (Hd)	6.13	6.008	5.811	6.12
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	587	603	622	588
Service Time	4.18	4.021	3.824	4.17
HCM Lane V/C Ratio	0.404	0.466	0.463	0.408
HCM Control Delay	13.3	14.2	13.8	13.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.9	2.5	2.5	2

Intersection

Intersection Delay, s/veh 9.6

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	254	4	13	175	16	5	22	12	22	20	23
Future Vol, veh/h	39	254	4	13	175	16	5	22	12	22	20	23
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	265	4	14	182	17	5	23	13	23	21	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	9.2	8.4	8.6
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	13%	6%	34%
Vol Thru, %	56%	86%	86%	31%
Vol Right, %	31%	1%	8%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	297	204	65
LT Vol	5	39	13	22
Through Vol	22	254	175	20
RT Vol	12	4	16	23
Lane Flow Rate	41	309	212	68
Geometry Grp	1	1	1	1
Degree of Util (X)	0.057	0.383	0.266	0.094
Departure Headway (Hd)	5.039	4.455	4.505	5.011
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	708	807	797	712
Service Time	3.089	2.485	2.538	3.059
HCM Lane V/C Ratio	0.058	0.383	0.266	0.096
HCM Control Delay	8.4	10.2	9.2	8.6
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	1.8	1.1	0.3

APPENDIX I

SANDAG TAZ INFORMATION

Select A Forecast Series

Series 13

Series 12

Forecast Year 2035

Enter a Single TAZ number between 13-4682

Run Taz Report

Legend





Final 2050 Regional Transportation Plan

San Diego Regional Traffic Forecast Information Center

Trip Generation and Land Use by Zone - Year: 2035

Traffic Analysis Zone: 329

Land Use Code	Description	Type	Amount	Person Trips	Vehicle Trips
4112	RIGHT-OF-WAY	acre	2.9	0	0
4113	COMMUNICATION OR UTILITY	acre	10.6	33	25
5003	COMMUNITY COMMERCIAL	acre	33.4	27,020	18,976
7210	OTHER RECREATION-HIGH	acre	0	0	0
9101	INACTIVE USE	acre	29.3	0	0
TOTAL				27,053	19,001
LOADED VEHICLE TRIPS					18,503

$$\rightarrow \text{Taz } 329 + 349 = \boxed{19,013} \text{ Loaded Vehicle Trips.}$$

$$\rightarrow \text{Project} = \boxed{19,010}$$

$$\boxed{\Delta = 27 \text{ ADT}}$$

Disclaimer: Reported person and vehicle trips are only estimates. The difference between estimated and loaded vehicle trips can be attributed to regional trip balancing, the mode choice model, and / or intrazonal trips.

Source: San Diego Association of Governments Traffic Forecast, October 2011



Final 2050 Regional Transportation Plan
San Diego Regional Traffic Forecast Information Center
Trip Generation and Land Use by Zone - Year: 2035
Traffic Analysis Zone: 349

Land Use Code	Description	Type	Amount	Person Trips	Vehicle Trips
4112	RIGHT-OF-WAY	acre	3	0	0
5003	COMMUNITY COMMERCIAL	acre	0.9	732	517
8003	FIELD CROPS	acre	5.2	0	0
9101	INACTIVE USE	acre	26.2	0	0
TOTAL				732	517
LOADED VEHICLE TRIPS					510

Disclaimer: Reported person and vehicle trips are only estimates. The difference between estimated and loaded vehicle trips can be attributed to regional trip balancing, the mode choice model, and / or intrazonal trips.

Source: San Diego Association of Governments Traffic Forecast, October 2011

APPENDIX J

INTERSECTION ANALYSIS WORKSHEETS – WEEKDAY EXISTING + NEAR-TERM CUMULATIVE PROJECTS + PROJECT + MITIGATION MEASURES

4: Canyon Dr & SR 76

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↑↑	↖↖	↖
Traffic Volume (vph)	1175	127	2582	23	131
Future Volume (vph)	1175	127	2582	23	131
Turn Type	NA	Prot	NA	Prot	pm+ov
Protected Phases	2	1	6	8	1
Permitted Phases					8
Detector Phase	2	1	6	8	1
Switch Phase					
Minimum Initial (s)	25.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	15.7	33.0	39.1	15.7
Total Split (s)	84.8	26.1	110.9	39.1	26.1
Total Split (%)	56.5%	17.4%	73.9%	26.1%	17.4%
Yellow Time (s)	5.5	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.7	8.0	6.1	5.7
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Min	None	C-Min	None	None

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



4: Canyon Dr & SR 76

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘	↑↑	↘↘	↗
Traffic Volume (veh/h)	1175	11	127	2582	23	131
Future Volume (veh/h)	1175	11	127	2582	23	131
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	1870	1870
Adj Flow Rate, veh/h	1263	12	137	2776	25	141
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3558	34	160	2879	331	294
Arrive On Green	0.68	0.68	0.09	0.81	0.10	0.10
Sat Flow, veh/h	5383	50	1781	3647	3456	1585
Grp Volume(v), veh/h	824	451	137	2776	25	141
Grp Sat Flow(s),veh/h/ln	1702	1860	1781	1777	1728	1585
Q Serve(g_s), s	15.2	15.2	11.4	101.7	1.0	11.9
Cycle Q Clear(g_c), s	15.2	15.2	11.4	101.7	1.0	11.9
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2322	1269	160	2879	331	294
V/C Ratio(X)	0.36	0.36	0.86	0.96	0.08	0.48
Avail Cap(c_a), veh/h	2322	1269	242	2879	760	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.52	0.52	1.00	1.00
Uniform Delay (d), s/veh	10.0	10.0	67.3	12.4	61.8	54.6
Incr Delay (d2), s/veh	0.4	0.8	9.6	6.3	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	5.8	5.5	27.3	0.4	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.4	10.8	76.9	18.6	61.9	55.8
LnGrp LOS	B	B	E	B	E	E
Approach Vol, veh/h	1275			2913	166	
Approach Delay, s/veh	10.5			21.4	56.7	
Approach LOS	B			C	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.2	110.3			129.5	20.5
Change Period (Y+Rc), s	* 5.7	8.0			8.0	6.1
Max Green Setting (Gmax), s	* 20	76.8			102.9	33.0
Max Q Clear Time (g_c+I1), s	13.4	17.2			103.7	13.9
Green Ext Time (p_c), s	0.2	9.5			0.0	0.5

Intersection Summary

HCM 6th Ctrl Delay 19.6

HCM 6th LOS B

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative + Project AM (Mitigation)
5: Benet Rd & SR 76

Ocean Kamp
03/31/2021

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  						
Traffic Volume (vph)	79	1115	43	2250	73	22	53	11	17	229
Future Volume (vph)	79	1115	43	2250	73	22	53	11	17	229
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	3	8		7	4	5
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	5
Switch Phase										
Minimum Initial (s)	13.0	25.0	12.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	17.7	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	18.7	64.4	17.8	63.5	18.9	50.1	50.1	17.7	48.9	18.7
Total Split (%)	12.5%	42.9%	11.9%	42.3%	12.6%	33.4%	33.4%	11.8%	32.6%	12.5%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

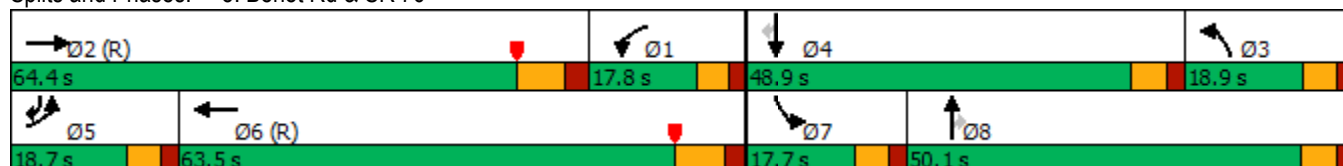
Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Cumulative + Project AM (Mitigation)
5: Benet Rd & SR 76

Ocean Kamp
03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	79	1115	111	43	2250	11	73	22	53	11	17	229
Future Volume (veh/h)	79	1115	111	43	2250	11	73	22	53	11	17	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1212	121	47	2446	12	79	24	58	12	18	249
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	1484	148	564	3080	15	137	337	286	56	247	338
Arrive On Green	0.08	0.29	0.29	0.32	0.53	0.53	0.08	0.18	0.18	0.03	0.13	0.13
Sat Flow, veh/h	1781	5184	517	1781	5768	28	1781	1870	1585	1781	1870	1549
Grp Volume(v), veh/h	86	875	458	47	1587	871	79	24	58	12	18	249
Grp Sat Flow(s),veh/h/ln	1781	1872	1957	1781	1872	2052	1781	1870	1585	1781	1870	1549
Q Serve(g_s), s	7.0	32.7	32.7	2.8	51.4	51.5	6.4	1.6	2.3	1.0	1.3	16.9
Cycle Q Clear(g_c), s	7.0	32.7	32.7	2.8	51.4	51.5	6.4	1.6	2.3	1.0	1.3	16.9
Prop In Lane	1.00		0.26	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	1072	560	564	1999	1096	137	337	286	56	247	338
V/C Ratio(X)	0.57	0.82	0.82	0.08	0.79	0.79	0.58	0.07	0.20	0.21	0.07	0.74
Avail Cap(c_a), veh/h	154	1408	736	564	1999	1096	157	549	465	143	534	576
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)	0.94	0.94	0.94	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.1	49.9	49.9	36.0	28.3	28.3	66.9	51.0	13.0	70.8	57.0	32.1
Incr Delay (d2), s/veh	4.5	6.5	11.8	0.0	2.1	3.8	3.9	0.1	0.3	1.9	0.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	15.7	17.2	1.2	21.8	24.5	3.1	0.8	1.9	0.5	0.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	56.4	61.7	36.0	30.4	32.1	70.7	51.1	13.4	72.7	57.2	35.2
LnGrp LOS	E	E	E	D	C	C	E	D	B	E	E	D
Approach Vol, veh/h		1419			2505			161			279	
Approach Delay, s/veh		58.9			31.1			47.2			38.2	
Approach LOS		E			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	55.5	50.9	17.7	25.9	18.3	88.1	10.4	33.1				
Change Period (Y+Rc), s	8.0	* 8	6.1	* 6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	12.1	* 56	13.2	* 43	* 13	55.5	* 12	44.0				
Max Q Clear Time (g_c+I1), s	4.8	34.7	8.4	18.9	9.0	53.5	3.0	4.3				
Green Ext Time (p_c), s	0.0	8.3	0.1	0.9	0.1	1.8	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Notes

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

Existing + Cumulative + Project AM (Mitigation)
6: Airport Rd & SR 76

Ocean Kamp
03/31/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	24	1450	36	2283	86	27	38	31	11
Future Volume (vph)	24	1450	36	2283	86	27	38	31	11
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases									4
Detector Phase	5	2	1	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	10.0	25.0	9.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	17.7	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	15.8	65.8	18.0	68.0	21.0	45.2	16.0	40.2	40.2
Total Split (%)	10.9%	45.4%	12.4%	46.9%	14.5%	31.2%	11.0%	27.7%	27.7%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 145

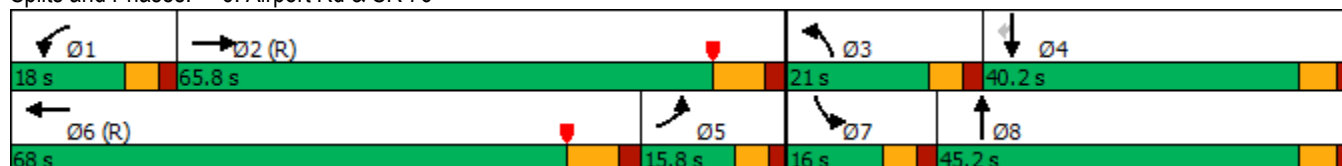
Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



Existing + Cumulative + Project AM (Mitigation)
6: Airport Rd & SR 76

Ocean Kamp
03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	24	1450	37	36	2283	25	86	27	91	38	31	11
Future Volume (veh/h)	24	1450	37	36	2283	25	86	27	91	38	31	11
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	1510	39	38	2378	26	90	28	95	40	32	11
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	432	3512	91	87	2370	26	147	36	122	98	129	109
Arrive On Green	0.24	0.62	0.62	0.05	0.41	0.41	0.08	0.10	0.10	0.06	0.07	0.07
Sat Flow, veh/h	1781	5630	145	1781	5728	63	1781	374	1268	1781	1870	1585
Grp Volume(v), veh/h	25	1004	545	38	1553	851	90	0	123	40	32	11
Grp Sat Flow(s),veh/h/ln	1781	1872	2031	1781	1872	2046	1781	0	1642	1781	1870	1585
Q Serve(g_s), s	1.6	20.0	20.0	3.0	60.0	60.0	7.1	0.0	10.6	3.1	2.3	0.6
Cycle Q Clear(g_c), s	1.6	20.0	20.0	3.0	60.0	60.0	7.1	0.0	10.6	3.1	2.3	0.6
Prop In Lane	1.00		0.07	1.00		0.03	1.00		0.77	1.00		1.00
Lane Grp Cap(c), veh/h	432	2336	1267	87	1549	847	147	0	158	98	129	109
V/C Ratio(X)	0.06	0.43	0.43	0.44	1.00	1.00	0.61	0.00	0.78	0.41	0.25	0.10
Avail Cap(c_a), veh/h	432	2336	1267	151	1549	847	188	0	443	127	440	373
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)	0.87	0.87	0.87	0.56	0.56	0.56	0.98	0.00	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	14.0	14.0	67.0	42.5	42.5	64.2	0.0	64.0	66.2	63.9	25.5
Incr Delay (d2), s/veh	0.0	0.5	0.9	1.9	17.7	24.3	4.0	0.0	7.7	2.7	1.0	0.4
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	0.7	7.8	8.6	1.4	29.7	34.0	3.4	0.0	4.8	1.5	1.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	14.5	15.0	69.0	60.2	66.8	68.2	0.0	71.7	68.9	64.9	25.9
LnGrp LOS	D	B	B	E	F	F	E	A	E	E	E	C
Approach Vol, veh/h	1574		2442				213		83			
Approach Delay, s/veh	15.1		62.6				70.2		61.7			
Approach LOS	B		E				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	98.5	17.7	16.1	43.2	68.0	13.7	20.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 12	57.8	* 15	34.1	10.1	* 60	* 10	39.1				
Max Q Clear Time (g_c+I1), s	5.0	22.0	9.1	4.3	3.6	62.0	5.1	12.6				
Green Ext Time (p_c), s	0.0	11.9	0.1	0.1	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			45.6									
HCM 6th LOS			D									
Notes												

Existing + Cumulative + Project AM (Mitigation)
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
03/31/2021

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	161	1371	79	2103	37	86	77	106	97	213
Future Volume (vph)	161	1371	79	2103	37	86	77	106	97	213
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	13.0	25.0	12.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	17.7	48.0	18.7	52.1	52.1	18.7	19.1	19.1
Total Split (s)	18.7	61.4	17.8	60.5	18.8	52.1	52.1	18.7	52.0	52.0
Total Split (%)	12.5%	40.9%	11.9%	40.3%	12.5%	34.7%	34.7%	12.5%	34.7%	34.7%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

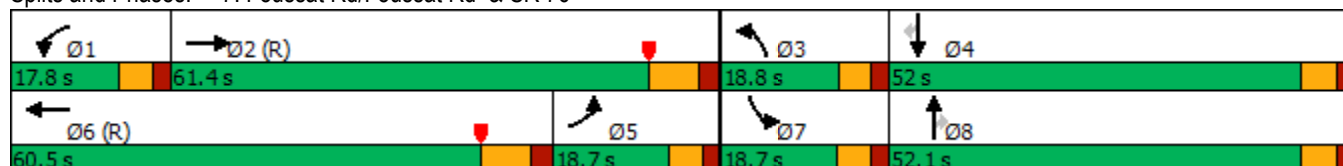
Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	1371	71	79	2103	75	37	86	77	106	97	213
Future Volume (veh/h)	161	1371	71	79	2103	75	37	86	77	106	97	213
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	1385	72	80	2124	76	37	87	78	107	98	215
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1033	3210	167	267	1949	70	235	284	127	296	347	272
Arrive On Green	0.30	0.59	0.59	0.08	0.35	0.35	0.07	0.08	0.08	0.09	0.10	0.10
Sat Flow, veh/h	3456	5467	284	3456	5568	199	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	163	949	508	80	1426	774	37	87	78	107	98	215
Grp Sat Flow(s),veh/h/ln	1728	1872	2006	1728	1872	2022	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	5.2	21.0	21.0	3.3	52.5	52.5	1.5	3.5	7.1	4.4	3.8	6.4
Cycle Q Clear(g_c), s	5.2	21.0	21.0	3.3	52.5	52.5	1.5	3.5	7.1	4.4	3.8	6.4
Prop In Lane	1.00		0.14	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1033	2199	1178	267	1311	708	235	284	127	296	347	272
V/C Ratio(X)	0.16	0.43	0.43	0.30	1.09	1.09	0.16	0.31	0.62	0.36	0.28	0.79
Avail Cap(c_a), veh/h	1033	2199	1178	279	1311	708	302	1090	486	299	1087	854
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)	0.87	0.87	0.87	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	17.1	17.1	65.4	48.8	48.8	65.8	65.1	66.8	64.7	62.8	21.1
Incr Delay (d2), s/veh	0.1	0.5	1.0	0.6	52.6	62.1	0.3	0.6	4.5	0.7	0.4	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.5	9.3	1.4	32.8	37.3	0.7	1.6	3.1	2.0	1.8	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	17.7	18.1	66.0	101.3	110.9	66.1	65.6	71.3	65.4	63.3	26.2
LnGrp LOS	D	B	B	E	F	F	E	E	E	E	E	C
Approach Vol, veh/h		1620			2280			202			420	
Approach Delay, s/veh		19.9			103.3			67.9			44.8	
Approach LOS		B			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	96.1	15.9	20.7	52.9	60.5	18.5	18.1				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 12	53.4	* 13	45.9	13.0	* 53	* 13	46.0				
Max Q Clear Time (g_c+I1), s	5.3	23.0	3.5	8.4	7.2	54.5	6.4	9.1				
Green Ext Time (p_c), s	0.1	10.4	0.0	1.5	0.2	0.0	0.1	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			66.4									
HCM 6th LOS			E									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

8: Douglas Dr & SR 76



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø8
Lane Configurations						
Traffic Volume (vph)	283	906	1749	290	582	
Future Volume (vph)	283	906	1749	290	582	
Turn Type	Prot	NA	NA	Prot	pm+ov	
Protected Phases	5	2	6	7	5	8
Permitted Phases					7	
Detector Phase	5	2	6	7	5	
Switch Phase						
Minimum Initial (s)	13.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	19.1	18.7	50.1
Total Split (s)	18.7	68.9	50.2	26.0	18.7	50.1
Total Split (%)	12.9%	47.5%	34.6%	17.9%	12.9%	35%
Yellow Time (s)	3.7	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	6.1	5.7	
Lead/Lag	Lag		Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 145

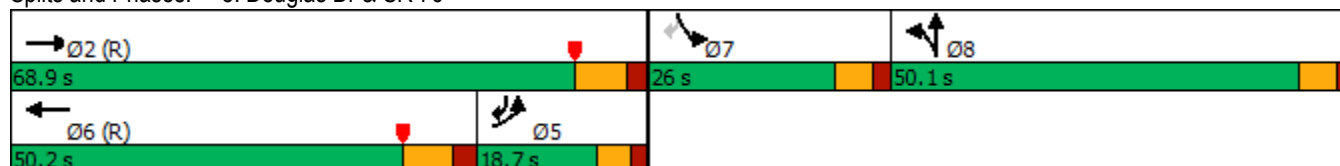
Actuated Cycle Length: 145

Offset: 42.2 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: Douglas Dr & SR 76



Existing + Cumulative + Project AM (Mitigation)
8: Douglas Dr & SR 76

Ocean Kamp
03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	906	0	0	1749	218	0	0	0	290	0	582
Future Volume (veh/h)	283	906	0	0	1749	218	0	0	0	290	0	582
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	2057	0	0	2057	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	308	985	0	0	1901	237	0	0	0	315	0	633
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	2069	3693	0	0	1474	182	0	1	0	0	0	0
Arrive On Green	0.60	0.94	0.00	0.00	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	4012	0	0	5249	626	0	1870	0		0	
Grp Volume(v), veh/h	308	985	0	0	1401	737	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1955	0	0	1872	1945	0	1870	0			
Q Serve(g_s), s	5.7	2.7	0.0	0.0	42.2	42.2	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	5.7	2.7	0.0	0.0	42.2	42.2	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.32	0.00		0.00			
Lane Grp Cap(c), veh/h	2069	3693	0	0	1090	566	0	1	0			
V/C Ratio(X)	0.15	0.27	0.00	0.00	1.29	1.30	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	2069	3693	0	0	1090	566	0	568	0			
HCM Platoon Ratio	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	0.55	0.55	0.00	0.00	0.00			
Uniform Delay (d), s/veh	12.8	0.3	0.0	0.0	51.4	51.4	0.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	132.7	142.8	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			
%ile BackOfQ(50%),veh/ln	2.1	0.1	0.0	0.0	39.8	42.9	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	0.5	0.0	0.0	184.1	194.2	0.0	0.0	0.0			
LnGrp LOS	B	A	A	A	F	F	A	A	A			
Approach Vol, veh/h	1293			2138			0					
Approach Delay, s/veh	3.4			187.5			0.0					
Approach LOS	A			F								
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	145.0			94.8			50.2			0.0		
Change Period (Y+Rc), s	8.0			8.0			* 8			6.1		
Max Green Setting (Gmax), s	60.9			13.0			* 42			44.0		
Max Q Clear Time (g_c+I1), s	4.7			7.7			44.2			0.0		
Green Ext Time (p_c), s	7.6			0.5			0.0			0.0		
Intersection Summary												
HCM 6th Ctrl Delay			118.2									
HCM 6th LOS			F									
Notes												

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

Existing + Cumulative + Project AM (Mitigation)
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
03/31/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	49	884	241	361	1546	288	398	49	346
Future Volume (vph)	49	884	241	361	1546	288	398	49	346
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	15.0	18.5	18.5	16.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	26.5	26.5	21.7	57.0	18.7	55.1	17.7	54.1
Total Split (s)	20.7	53.9	53.9	26.0	59.2	21.0	57.4	17.7	54.1
Total Split (%)	13.4%	34.8%	34.8%	16.8%	38.2%	13.5%	37.0%	11.4%	34.9%
Yellow Time (s)	3.7	5.5	5.5	3.7	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	8.0	5.7	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 155

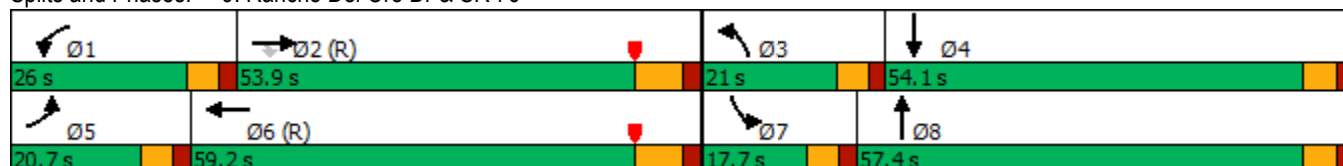
Actuated Cycle Length: 155

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 155

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	884	241	361	1546	81	288	398	365	49	346	64
Future Volume (veh/h)	49	884	241	361	1546	81	288	398	365	49	346	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	961	262	392	1680	88	313	433	384	53	376	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	1408	563	435	2180	114	341	498	435	240	749	138
Arrive On Green	0.09	0.36	0.36	0.13	0.40	0.40	0.10	0.28	0.28	0.07	0.25	0.25
Sat Flow, veh/h	1781	3909	1564	3456	5464	286	3456	1777	1554	3456	2987	550
Grp Volume(v), veh/h	53	961	262	392	1151	617	313	433	384	53	222	224
Grp Sat Flow(s),veh/h/ln	1781	1955	1564	1728	1872	2006	1728	1777	1554	1728	1777	1760
Q Serve(g_s), s	4.3	32.3	20.0	17.3	41.3	41.4	13.9	36.0	36.6	2.2	16.6	16.9
Cycle Q Clear(g_c), s	4.3	32.3	20.0	17.3	41.3	41.4	13.9	36.0	36.6	2.2	16.6	16.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	155	1408	563	435	1494	800	341	498	435	240	446	442
V/C Ratio(X)	0.34	0.68	0.47	0.90	0.77	0.77	0.92	0.87	0.88	0.22	0.50	0.51
Avail Cap(c_a), veh/h	172	1408	563	453	1494	800	341	588	514	268	550	545
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)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	66.6	42.1	38.1	66.8	40.4	40.4	69.2	53.1	53.4	68.1	49.7	49.8
Incr Delay (d2), s/veh	1.0	2.0	2.1	20.6	3.9	7.1	28.8	11.8	14.6	0.4	0.7	0.7
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	2.0	15.4	7.9	8.7	19.0	21.1	7.4	17.3	15.8	1.0	7.4	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	44.1	40.2	87.4	44.3	47.5	98.0	64.9	68.0	68.5	50.4	50.5
LnGrp LOS	E	D	D	F	D	D	F	E	E	E	D	D
Approach Vol, veh/h		1276			2160			1130			499	
Approach Delay, s/veh		44.3			53.0			75.1			52.4	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.2	63.8	21.0	45.0	19.2	69.8	16.5	49.5				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	* 20	45.9	* 15	48.0	* 15	51.2	* 12	51.3				
Max Q Clear Time (g_c+I1), s	19.3	34.3	15.9	18.9	6.3	43.4	4.2	38.6				
Green Ext Time (p_c), s	0.2	5.2	0.0	2.5	0.0	5.6	0.1	4.0				

Intersection Summary

HCM 6th Ctrl Delay 55.7

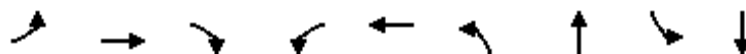
HCM 6th LOS E

Notes

User approved pedestrian interval to be less than phase max green.

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

21: Rancho Del Oro Dr & Mission Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	46	530	282	164	607	331	44	2	4
Future Volume (vph)	46	530	282	164	607	331	44	2	4
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	3	8	7	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	3.0	6.0	6.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	10.1	28.0	23.1	24.0
Total Split (s)	11.1	33.9	33.9	15.0	37.8	22.0	28.0	23.1	29.1
Total Split (%)	11.1%	33.9%	33.9%	15.0%	37.8%	22.0%	28.0%	23.1%	29.1%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	3.0	4.8	4.1	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	4.0	5.8	5.1	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 73.2

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

Ø1	Ø2	Ø3	Ø4
15 s	33.9 s	22 s	29.1 s
Ø5	Ø6	Ø7	Ø8
11.1 s	37.8 s	23.1 s	28 s

Existing + Cumulative + Project AM (Mitigation)
21: Rancho Del Oro Dr & Mission Ave

Ocean Kamp
03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	530	282	164	607	18	331	44	115	2	4	13
Future Volume (veh/h)	46	530	282	164	607	18	331	44	115	2	4	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.98
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	631	336	195	723	21	394	52	137	2	5	15
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	705	534	234	851	25	510	68	179	142	41	123
Arrive On Green	0.05	0.34	0.34	0.13	0.43	0.43	0.15	0.15	0.15	0.08	0.10	0.10
Sat Flow, veh/h	1781	2057	1559	1781	1987	58	3456	440	1160	1781	405	1215
Grp Volume(v), veh/h	55	631	336	195	0	744	394	0	189	2	0	20
Grp Sat Flow(s),veh/h/ln	1781	2057	1559	1781	0	2045	1728	0	1600	1781	0	1620
Q Serve(g_s), s	2.3	21.9	13.6	8.0	0.0	24.6	8.3	0.0	8.5	0.1	0.0	0.8
Cycle Q Clear(g_c), s	2.3	21.9	13.6	8.0	0.0	24.6	8.3	0.0	8.5	0.1	0.0	0.8
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.72	1.00		0.75
Lane Grp Cap(c), veh/h	81	705	534	234	0	876	510	0	247	142	0	163
V/C Ratio(X)	0.68	0.90	0.63	0.83	0.00	0.85	0.77	0.00	0.77	0.01	0.00	0.12
Avail Cap(c_a), veh/h	142	763	578	234	0	876	827	0	472	426	0	519
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.4	23.5	20.7	31.9	0.0	19.3	30.9	0.0	30.5	31.9	0.0	30.8
Incr Delay (d2), s/veh	9.6	12.5	1.9	22.1	0.0	7.9	2.5	0.0	4.9	0.0	0.0	0.3
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	1.1	11.7	4.6	4.7	0.0	12.0	3.3	0.0	3.4	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	36.0	22.7	54.0	0.0	27.3	33.4	0.0	35.5	31.9	0.0	31.1
LnGrp LOS	D	D	C	D	A	C	C	A	D	C	A	C
Approach Vol, veh/h		1022			939			583			22	
Approach Delay, s/veh		32.1			32.8			34.1			31.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	31.8	15.1	13.4	8.5	38.2	11.1	17.4				
Change Period (Y+Rc), s	5.1	6.0	4.0	* 5.8	5.1	6.0	5.1	5.8				
Max Green Setting (Gmax), s	9.9	27.9	18.0	* 24	6.0	31.8	18.0	22.2				
Max Q Clear Time (g_c+I1), s	10.0	23.9	10.3	2.8	4.3	26.6	2.1	10.5				
Green Ext Time (p_c), s	0.0	1.9	0.9	0.0	0.0	2.2	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project AM (Mitigation)
 24: N. Foussat Rd/N. Foussat Rd & Foussat Rd/Proj Dwy

Ocean Kamp
 03/31/2021

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	109	76	96	23	83	128	12	10	8
Future Volume (vph)	109	76	96	23	83	128	12	10	8
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	22.5	35.1	35.1	9.9	22.5	12.5	25.5	9.5	22.5
Total Split (%)	28.1%	43.9%	43.9%	12.4%	28.1%	15.6%	31.9%	11.9%	28.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 46.7

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 24: N. Foussat Rd/N. Foussat Rd & Foussat Rd/Proj Dwy

			
Ø1	Ø2	Ø3	Ø4
9.5 s	25.5 s	9.9 s	35.1 s
			
Ø5	Ø6	Ø7	Ø8
12.5 s	22.5 s	22.5 s	22.5 s

Existing + Cumulative + Project AM (Mitigation)
 24: N. Foussat Rd/N. Foussat Rd & Foussat Rd/Proj Dwy

Ocean Kamp
 03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	76	96	23	83	10	128	12	30	10	8	275
Future Volume (veh/h)	109	76	96	23	83	10	128	12	30	10	8	275
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	83	116	25	90	11	154	14	33	11	10	331
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	701	312	53	349	42	198	181	426	25	13	415
Arrive On Green	0.12	0.20	0.20	0.03	0.11	0.11	0.11	0.37	0.37	0.01	0.27	0.27
Sat Flow, veh/h	1781	3554	1581	1781	3194	384	1781	495	1166	1781	47	1545
Grp Volume(v), veh/h	131	83	116	25	49	52	154	0	47	11	0	341
Grp Sat Flow(s),veh/h/ln	1781	1777	1581	1781	1777	1801	1781	0	1661	1781	0	1592
Q Serve(g_s), s	3.2	0.9	2.9	0.6	1.2	1.2	3.9	0.0	0.8	0.3	0.0	9.1
Cycle Q Clear(g_c), s	3.2	0.9	2.9	0.6	1.2	1.2	3.9	0.0	0.8	0.3	0.0	9.1
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.70	1.00		0.97
Lane Grp Cap(c), veh/h	210	701	312	53	194	197	198	0	607	25	0	428
V/C Ratio(X)	0.62	0.12	0.37	0.47	0.25	0.26	0.78	0.00	0.08	0.43	0.00	0.80
Avail Cap(c_a), veh/h	700	2375	1057	210	699	708	311	0	762	195	0	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	15.1	15.9	21.9	18.7	18.7	19.8	0.0	9.5	22.4	0.0	15.6
Incr Delay (d2), s/veh	3.0	0.1	0.7	6.4	0.7	0.7	6.4	0.0	0.1	11.2	0.0	4.5
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	1.3	0.3	1.0	0.3	0.5	0.5	1.7	0.0	0.2	0.2	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	15.2	16.7	28.2	19.4	19.4	26.2	0.0	9.5	33.6	0.0	20.1
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	C
Approach Vol, veh/h		330			126			201			352	
Approach Delay, s/veh		18.5			21.1			22.3			20.5	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	21.2	5.9	13.5	9.6	16.8	9.9	9.5				
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	21.0	5.4	30.6	8.0	18.0	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.3	2.8	2.6	4.9	5.9	11.1	5.2	3.2				
Green Ext Time (p_c), s	0.0	0.1	0.0	0.8	0.1	1.2	0.2	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									

Existing + Cumulative + Project AM (Mitigation)
25: Foussat Rd & Alex Rd/Proj Dwy

Ocean Kamp
03/31/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	4	121	6	34	238	91	32	452
Future Volume (vph)	2	4	121	6	34	238	91	32	452
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	28.0	17.0	22.5	10.6	24.7	24.7	10.3	24.4
Total Split (%)	28.1%	35.0%	21.3%	28.1%	13.3%	30.9%	30.9%	12.9%	30.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 80

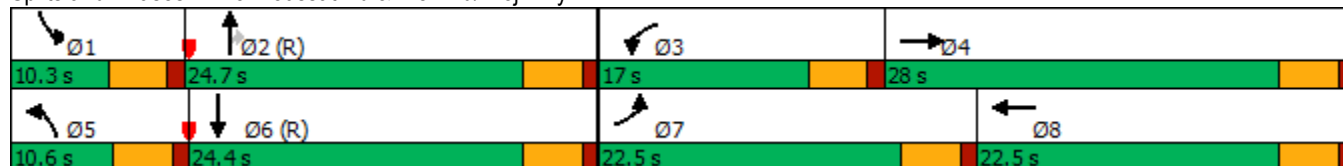
Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 25: Foussat Rd & Alex Rd/Proj Dwy



Existing + Cumulative + Project AM (Mitigation)

Ocean Kamp

25: Foussat Rd & Alex Rd/Proj Dwy

03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	4	13	121	6	43	34	238	91	32	452	2
Future Volume (veh/h)	2	4	13	121	6	43	34	238	91	32	452	2
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	2	4	15	132	7	47	40	283	99	35	538	2
Peak Hour Factor	0.84	0.92	0.84	0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	17	66	167	18	118	66	2121	946	60	2156	8
Arrive On Green	0.06	0.05	0.05	0.09	0.08	0.08	0.04	0.60	0.60	0.03	0.59	0.59
Sat Flow, veh/h	1781	345	1293	1781	210	1407	1781	3554	1585	1781	3631	13
Grp Volume(v), veh/h	2	0	19	132	0	54	40	283	99	35	263	277
Grp Sat Flow(s),veh/h/ln	1781	0	1638	1781	0	1617	1781	1777	1585	1781	1777	1868
Q Serve(g_s), s	0.1	0.0	0.9	5.8	0.0	2.5	1.8	2.8	2.1	1.5	5.7	5.7
Cycle Q Clear(g_c), s	0.1	0.0	0.9	5.8	0.0	2.5	1.8	2.8	2.1	1.5	5.7	5.7
Prop In Lane	1.00		0.79	1.00		0.87	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	108	0	83	167	0	136	66	2121	946	60	1055	1109
V/C Ratio(X)	0.02	0.00	0.23	0.79	0.00	0.40	0.61	0.13	0.10	0.58	0.25	0.25
Avail Cap(c_a), veh/h	401	0	481	278	0	364	136	2121	946	129	1055	1109
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	0.94	0.94	0.94
Uniform Delay (d), s/veh	35.4	0.0	36.5	35.5	0.0	34.7	38.0	7.1	6.9	38.1	7.8	7.8
Incr Delay (d2), s/veh	0.1	0.0	1.4	8.1	0.0	1.9	8.8	0.1	0.2	8.1	0.5	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	0.0	0.0	0.4	2.8	0.0	1.0	0.9	1.0	0.7	0.8	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	37.9	43.6	0.0	36.6	46.8	7.2	7.2	46.2	8.3	8.3
LnGrp LOS	D	A	D	D	A	D	D	A	A	D	A	A
Approach Vol, veh/h		21			186			422			575	
Approach Delay, s/veh		37.6			41.5			10.9			10.6	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	52.2	12.0	8.6	7.4	52.0	9.3	11.2				
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	5.8	20.2	12.5	23.5	6.1	19.9	18.0	18.0				
Max Q Clear Time (g_c+I1), s	3.5	4.8	7.8	2.9	3.8	7.7	2.1	4.5				
Green Ext Time (p_c), s	0.0	1.9	0.1	0.0	0.0	2.6	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			16.0									
HCM 6th LOS			B									

4: Canyon Dr & SR 76

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↑↑	↖↖	↖
Traffic Volume (vph)	2386	168	1518	8	112
Future Volume (vph)	2386	168	1518	8	112
Turn Type	NA	Prot	NA	Prot	pm+ov
Protected Phases	2	1	6	8	1
Permitted Phases					8
Detector Phase	2	1	6	8	1
Switch Phase					
Minimum Initial (s)	25.0	10.0	25.0	9.0	10.0
Minimum Split (s)	34.0	15.7	33.0	37.1	15.7
Total Split (s)	63.7	19.2	82.9	37.1	19.2
Total Split (%)	53.1%	16.0%	69.1%	30.9%	16.0%
Yellow Time (s)	5.5	3.7	5.5	4.1	3.7
All-Red Time (s)	2.5	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.7	8.0	6.1	5.7
Lead/Lag	Lead	Lag			Lag
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Min	None	C-Min	None	None

Intersection Summary

Cycle Length: 120

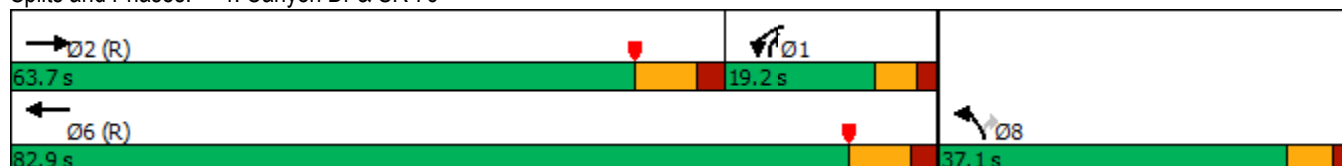
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Splits and Phases: 4: Canyon Dr & SR 76



4: Canyon Dr & SR 76

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘	↑↑	↘↘	↗
Traffic Volume (veh/h)	2386	56	168	1518	8	112
Future Volume (veh/h)	2386	56	168	1518	8	112
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	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	2057	1870	1870	2057	1870	1870
Adj Flow Rate, veh/h	2566	60	181	1632	9	120
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2620	61	495	3161	256	557
Arrive On Green	0.46	0.46	0.28	0.81	0.07	0.07
Sat Flow, veh/h	5829	131	1781	4012	3456	1585
Grp Volume(v), veh/h	1698	928	181	1632	9	120
Grp Sat Flow(s),veh/h/ln	1872	2030	1781	1955	1728	1585
Q Serve(g_s), s	53.3	54.2	9.8	16.5	0.3	0.0
Cycle Q Clear(g_c), s	53.3	54.2	9.8	16.5	0.3	0.0
Prop In Lane		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1738	942	495	3161	256	557
V/C Ratio(X)	0.98	0.98	0.37	0.52	0.04	0.22
Avail Cap(c_a), veh/h	1738	942	495	3161	893	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.74	0.74	1.00	1.00
Uniform Delay (d), s/veh	31.5	31.7	34.8	3.8	51.6	27.3
Incr Delay (d2), s/veh	16.7	25.9	0.3	0.4	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.5	30.5	4.1	3.5	0.1	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.3	57.7	35.2	4.2	51.6	27.5
LnGrp LOS	D	E	D	A	D	C
Approach Vol, veh/h	2626			1813	129	
Approach Delay, s/veh	51.6			7.3	29.2	
Approach LOS	D			A	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	41.3	63.7			105.0	15.0
Change Period (Y+Rc), s	8.0	* 8			8.0	6.1
Max Green Setting (Gmax), s	13.5	* 56			74.9	31.0
Max Q Clear Time (g_c+I1), s	11.8	56.2			18.5	2.3
Green Ext Time (p_c), s	0.1	0.0			17.1	0.4

Intersection Summary

HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

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

Existing + Cumulative + Project PM (Mitigation)
5: Benet Rd & SR 76

Ocean Kamp
03/31/2021

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	198	1966	38	1438	136	16	107	35	17	112
Future Volume (vph)	198	1966	38	1438	136	16	107	35	17	112
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	3	8		7	4	5
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	5
Switch Phase										
Minimum Initial (s)	13.0	25.0	12.0	25.0	12.0	12.0	12.0	12.0	11.0	13.0
Minimum Split (s)	18.7	33.0	17.7	52.0	18.7	50.1	50.1	17.7	21.1	18.7
Total Split (s)	25.2	64.5	17.7	57.0	27.0	50.1	50.1	17.7	40.8	25.2
Total Split (%)	16.8%	43.0%	11.8%	38.0%	18.0%	33.4%	33.4%	11.8%	27.2%	16.8%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	4.1	3.7	4.1	3.7
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	6.1	5.7	6.1	5.7
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 150

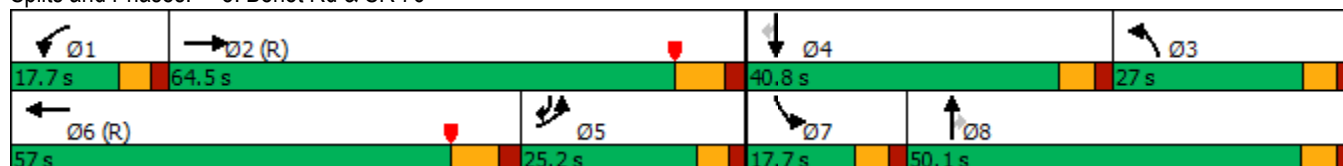
Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Benet Rd & SR 76



Existing + Cumulative + Project PM (Mitigation)
5: Benet Rd & SR 76

Ocean Kamp
03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	198	1966	101	38	1438	12	136	16	107	35	17	112
Future Volume (veh/h)	198	1966	101	38	1438	12	136	16	107	35	17	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	215	2137	110	41	1563	13	148	17	116	38	18	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	596	3235	166	117	1767	15	172	203	167	113	137	644
Arrive On Green	0.33	0.59	0.59	0.07	0.31	0.31	0.10	0.11	0.11	0.06	0.07	0.07
Sat Flow, veh/h	1781	5463	280	1781	5744	48	1781	1870	1538	1781	1870	1545
Grp Volume(v), veh/h	215	1461	786	41	1019	557	148	17	116	38	18	122
Grp Sat Flow(s),veh/h/ln	1781	1872	1998	1781	1872	2047	1781	1870	1538	1781	1870	1545
Q Serve(g_s), s	13.7	39.1	39.7	3.3	38.8	38.8	12.3	1.2	10.9	3.1	1.4	0.0
Cycle Q Clear(g_c), s	13.7	39.1	39.7	3.3	38.8	38.8	12.3	1.2	10.9	3.1	1.4	0.0
Prop In Lane	1.00		0.14	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	596	2217	1183	117	1152	630	172	203	167	113	137	644
V/C Ratio(X)	0.36	0.66	0.66	0.35	0.88	0.88	0.86	0.08	0.69	0.34	0.13	0.19
Avail Cap(c_a), veh/h	596	2217	1183	143	1223	669	253	549	451	143	433	888
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)	0.64	0.64	0.64	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	20.5	20.6	67.0	49.4	49.4	66.8	60.1	64.4	67.2	65.0	28.5
Incr Delay (d2), s/veh	0.2	1.0	1.9	1.5	8.4	14.0	17.8	0.2	5.1	1.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	15.9	17.5	1.5	18.7	21.5	6.5	0.6	4.5	1.5	0.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	21.5	22.5	68.5	57.8	63.4	84.6	60.3	69.5	68.9	65.5	28.6
LnGrp LOS	D	C	C	E	E	E	F	E	E	E	E	C
Approach Vol, veh/h		2462			1617			281			178	
Approach Delay, s/veh		23.2			60.0			76.9			40.9	
Approach LOS		C			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	96.8	20.6	17.1	58.2	54.1	15.2	22.4				
Change Period (Y+Rc), s	* 5.7	8.0	6.1	* 6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 12	56.5	21.3	* 35	19.5	* 49	* 12	44.0				
Max Q Clear Time (g_c+I1), s	5.3	41.7	14.3	3.4	15.7	40.8	5.1	12.9				
Green Ext Time (p_c), s	0.0	11.3	0.2	0.5	0.2	5.3	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			40.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project PM (Mitigation)
6: Airport Rd & SR 76

Ocean Kamp
03/31/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	←	↑↑↑	←	↑↑↑	←	↑	←	↑	←
Traffic Volume (vph)	23	2356	80	1520	102	93	39	69	40
Future Volume (vph)	23	2356	80	1520	102	93	39	69	40
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases									4
Detector Phase	5	2	1	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	10.0	25.0	9.0	25.0	12.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.7	33.0	17.7	33.0	20.7	45.1	15.7	21.1	21.1
Total Split (s)	15.8	66.5	17.7	68.4	22.2	45.1	15.7	38.6	38.6
Total Split (%)	10.9%	45.9%	12.2%	47.2%	15.3%	31.1%	10.8%	26.6%	26.6%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	5.7	6.1	6.1
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None

Intersection Summary

Cycle Length: 145

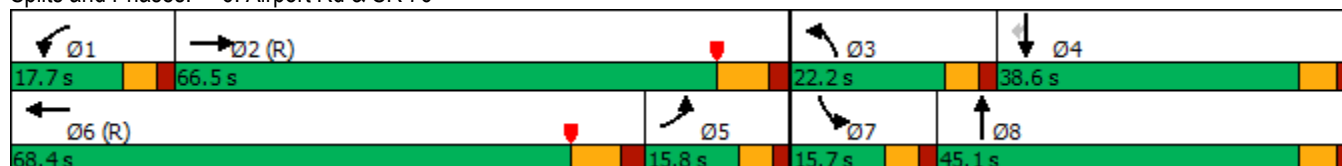
Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 6: Airport Rd & SR 76



6: Airport Rd & SR 76

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2356	46	80	1520	25	102	93	93	39	69	40
Future Volume (veh/h)	23	2356	46	80	1520	25	102	93	93	39	69	40
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	2506	49	85	1617	27	109	99	99	41	73	43
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	525	3256	63	107	1842	31	147	115	115	99	201	170
Arrive On Green	0.29	0.57	0.57	0.12	0.65	0.65	0.08	0.13	0.13	0.06	0.11	0.11
Sat Flow, veh/h	1781	5671	110	1781	5690	95	1781	858	858	1781	1870	1585
Grp Volume(v), veh/h	24	1651	904	85	1064	580	109	0	198	41	73	43
Grp Sat Flow(s),veh/h/ln	1781	1872	2038	1781	1872	2040	1781	0	1716	1781	1870	1585
Q Serve(g_s), s	1.4	48.7	49.2	6.7	33.6	33.7	8.7	0.0	16.4	3.2	5.3	2.0
Cycle Q Clear(g_c), s	1.4	48.7	49.2	6.7	33.6	33.7	8.7	0.0	16.4	3.2	5.3	2.0
Prop In Lane	1.00		0.05	1.00		0.05	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	525	2150	1170	107	1212	661	147	0	230	99	201	170
V/C Ratio(X)	0.05	0.77	0.77	0.79	0.88	0.88	0.74	0.00	0.86	0.41	0.36	0.25
Avail Cap(c_a), veh/h	525	2150	1170	147	1560	850	203	0	462	123	419	355
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.72	0.72	0.72	0.96	0.00	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	23.5	23.6	62.9	23.2	23.2	65.0	0.0	61.4	66.2	60.1	18.7
Incr Delay (d2), s/veh	0.0	1.7	3.2	13.7	6.8	11.6	8.5	0.0	8.7	2.7	1.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	20.0	22.4	3.2	8.8	10.5	4.3	0.0	7.7	1.6	2.6	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	25.3	26.9	76.7	30.0	34.9	73.5	0.0	70.1	68.9	61.2	19.5
LnGrp LOS	D	C	C	E	C	C	E	A	E	E	E	B
Approach Vol, veh/h		2579			1729			307			157	
Approach Delay, s/veh		25.9			33.9			71.3			51.8	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	91.2	17.7	21.6	50.7	54.9	13.8	25.6				
Change Period (Y+Rc), s	* 5.7	8.0	* 5.7	6.1	8.0	* 8	* 5.7	6.1				
Max Green Setting (Gmax), s	* 12	58.5	* 17	32.5	10.1	* 60	* 10	39.0				
Max Q Clear Time (g_c+I1), s	8.7	51.2	10.7	7.3	3.4	35.7	5.2	18.4				
Green Ext Time (p_c), s	0.0	6.5	0.1	0.5	0.0	11.3	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project PM (Mitigation)
7: Foussat Rd/Foussat Rd & SR 76

Ocean Kamp
03/31/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	409	2013	144	1336	62	181	126	128	185	290
Future Volume (vph)	409	2013	144	1336	62	181	126	128	185	290
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	13.0	25.0	12.0	25.0	13.0	12.0	12.0	13.0	13.0	13.0
Minimum Split (s)	18.7	33.0	18.7	54.0	18.7	52.1	52.1	18.7	20.1	20.1
Total Split (s)	19.0	55.5	18.7	55.2	18.7	52.1	52.1	18.7	52.1	52.1
Total Split (%)	13.1%	38.3%	12.9%	38.1%	12.9%	35.9%	35.9%	12.9%	35.9%	35.9%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	4.1	3.7	4.1	4.1
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	6.1	5.7	6.1	6.1
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 145

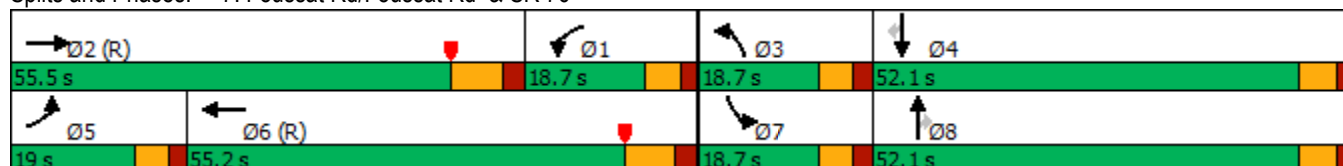
Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 7: Foussat Rd/Foussat Rd & SR 76



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	2013	119	144	1336	181	62	181	126	128	185	290
Future Volume (veh/h)	409	2013	119	144	1336	181	62	181	126	128	185	290
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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	426	2097	124	150	1392	189	65	189	131	133	193	302
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	317	1777	105	903	2566	348	287	463	206	308	484	380
Arrive On Green	0.18	0.66	0.66	0.26	0.51	0.51	0.08	0.13	0.13	0.09	0.14	0.14
Sat Flow, veh/h	3456	5425	319	3456	5001	679	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	426	1444	777	150	1042	539	65	189	131	133	193	302
Grp Sat Flow(s),veh/h/ln	1728	1872	2000	1728	1872	1935	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	13.3	47.5	47.5	4.9	27.2	27.2	2.5	7.1	6.7	5.3	7.2	15.2
Cycle Q Clear(g_c), s	13.3	47.5	47.5	4.9	27.2	27.2	2.5	7.1	6.7	5.3	7.2	15.2
Prop In Lane	1.00		0.16	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	1227	655	903	1921	993	287	463	206	308	484	380
V/C Ratio(X)	1.34	1.18	1.19	0.17	0.54	0.54	0.23	0.41	0.63	0.43	0.40	0.79
Avail Cap(c_a), veh/h	317	1227	655	903	1921	993	310	1127	503	310	1127	885
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.32	0.32	0.32	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	25.0	25.0	41.4	23.8	23.8	62.1	57.9	20.7	62.5	57.2	60.7
Incr Delay (d2), s/veh	161.6	82.7	89.0	0.1	1.1	2.1	0.4	0.5	3.0	1.0	0.5	3.8
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	12.2	24.5	27.4	2.0	11.6	12.2	1.1	3.2	2.7	2.4	3.3	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	220.8	107.7	114.0	41.4	24.9	26.0	62.5	58.5	23.6	63.5	57.7	64.4
LnGrp LOS	F	F	F	D	C	C	E	E	C	E	E	E
Approach Vol, veh/h		2647			1731			385			628	
Approach Delay, s/veh		127.8			26.7			47.3			62.2	
Approach LOS		F			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	45.9	55.5	17.8	25.9	19.0	82.4	18.6	25.0				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	13.0	* 48	* 13	46.0	* 13	47.2	* 13	46.0				
Max Q Clear Time (g_c+I1), s	6.9	49.5	4.5	17.2	15.3	29.2	7.3	9.1				
Green Ext Time (p_c), s	0.2	0.0	0.1	2.6	0.0	9.2	0.2	1.7				

Intersection Summary

HCM 6th Ctrl Delay 81.9

HCM 6th LOS F

Notes

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

Existing + Cumulative + Project PM (Mitigation)
8: SR 76 & Douglas Drive

Ocean Kamp
03/31/2021



Lane Group	EBL	EBT	WBT	SBL	SBR	Ø8
Lane Configurations	↰↰	↱↱	↱↱↱	↰	↱↱	
Traffic Volume (vph)	595	1959	1398	263	357	
Future Volume (vph)	595	1959	1398	263	357	
Turn Type	Prot	NA	NA	Prot	pm+ov	
Protected Phases	5	2	6	7	5	8
Permitted Phases					7	
Detector Phase	5	2	6	7	5	
Switch Phase						
Minimum Initial (s)	13.0	25.0	25.0	13.0	13.0	5.0
Minimum Split (s)	18.7	33.0	33.0	19.1	18.7	50.1
Total Split (s)	25.0	70.9	45.9	24.0	25.0	50.1
Total Split (%)	17.2%	48.9%	31.7%	16.6%	17.2%	35%
Yellow Time (s)	3.7	5.5	5.5	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.7	8.0	8.0	6.1	5.7	
Lead/Lag	Lead		Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	None	None

Intersection Summary

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 37.9 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Splits and Phases: 8: SR 76 & Douglas Drive

→ Ø2 (R)		↰ Ø7	↱ Ø8
70.9 s		24 s	50.1 s
↰ Ø5	← Ø6 (R)		
25 s	45.9 s		

Timings

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Synchro 10 Report

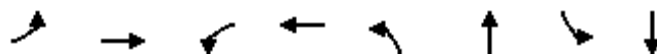
Existing + Cumulative + Project PM (Mitigation)
8: SR 76 & Douglas Drive

Ocean Kamp
03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			   			 				 
Traffic Volume (veh/h)	595	1959	0	0	1398	264	0	0	0	263	0	357
Future Volume (veh/h)	595	1959	0	0	1398	264	0	0	0	263	0	357
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	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	647	2129	0	0	1520	287	0	0	0	286	0	388
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	460	3358	0	0	3334	627	0	1	0	0	0	0
Arrive On Green	0.13	0.94	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	3456	3647	0	0	4484	812	0	1870	0		0	
Grp Volume(v), veh/h	647	2129	0	0	1198	609	0	0	0		0.0	
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1724	0	1870	0			
Q Serve(g_s), s	19.3	12.0	0.0	0.0	32.2	32.4	0.0	0.0	0.0			
Cycle Q Clear(g_c), s	19.3	12.0	0.0	0.0	32.2	32.4	0.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.47	0.00		0.00			
Lane Grp Cap(c), veh/h	460	3358	0	0	2629	1332	0	1	0			
V/C Ratio(X)	1.41	0.63	0.00	0.00	0.46	0.46	0.00	0.00	0.00			
Avail Cap(c_a), veh/h	460	3358	0	0	2629	1332	0	568	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.79	0.79	0.00	0.00	0.00			
Uniform Delay (d), s/veh	62.8	0.6	0.0	0.0	15.7	15.8	0.0	0.0	0.0			
Incr Delay (d2), s/veh	195.6	0.9	0.0	0.0	0.5	0.9	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			
%ile BackOfQ(50%),veh/ln	20.7	0.4	0.0	0.0	13.2	13.7	0.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	258.5	1.5	0.0	0.0	16.2	16.7	0.0	0.0	0.0			
LnGrp LOS	F	A	A	A	B	B	A	A	A			
Approach Vol, veh/h		2776			1807			0				
Approach Delay, s/veh		61.4			16.3			0.0				
Approach LOS		E			B							
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		145.0			25.0	120.0		0.0				
Change Period (Y+Rc), s		8.0			* 5.7	8.0		6.1				
Max Green Setting (Gmax), s		62.9			* 19	37.9		44.0				
Max Q Clear Time (g_c+I1), s		14.0			21.3	34.4		0.0				
Green Ext Time (p_c), s		26.9			0.0	2.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			43.6									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Existing + Cumulative + Project PM (Mitigation)
9: Rancho Del Oro Dr & SR 76

Ocean Kamp
03/31/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	69	1654	277	1103	272	348	72	283
Future Volume (vph)	69	1654	277	1103	272	348	72	283
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases								
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	15.0	25.0	16.0	25.0	13.0	12.0	12.0	13.0
Minimum Split (s)	20.7	54.1	21.7	55.1	18.7	55.1	17.7	54.1
Total Split (s)	20.7	55.5	21.7	56.5	18.7	55.1	17.7	54.1
Total Split (%)	13.8%	37.0%	14.5%	37.7%	12.5%	36.7%	11.8%	36.1%
Yellow Time (s)	3.7	5.5	3.7	5.5	3.7	4.1	3.7	4.1
All-Red Time (s)	2.0	2.5	2.0	2.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	8.0	5.7	8.0	5.7	6.1	5.7	6.1
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 150

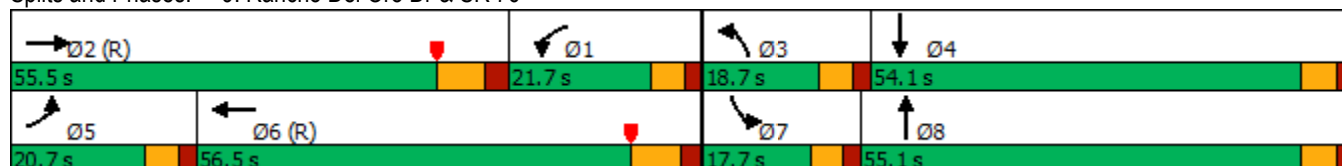
Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 9: Rancho Del Oro Dr & SR 76



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 	 		 	 	
Traffic Volume (veh/h)	69	1654	308	277	1103	61	272	348	321	72	283	63
Future Volume (veh/h)	69	1654	308	277	1103	61	272	348	321	72	283	63
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		0.98	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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	1705	318	286	1137	63	280	359	331	74	292	65
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	169	1508	279	574	2196	122	299	454	396	264	710	156
Arrive On Green	0.09	0.32	0.32	0.17	0.40	0.40	0.09	0.26	0.26	0.08	0.25	0.25
Sat Flow, veh/h	1781	4761	880	3456	5446	302	3456	1777	1549	3456	2897	635
Grp Volume(v), veh/h	71	1338	685	286	782	418	280	359	331	74	177	180
Grp Sat Flow(s),veh/h/ln	1781	1872	1896	1728	1872	2003	1728	1777	1549	1728	1777	1755
Q Serve(g_s), s	5.6	47.5	47.5	11.3	23.6	23.6	12.1	28.3	30.4	3.0	12.6	12.9
Cycle Q Clear(g_c), s	5.6	47.5	47.5	11.3	23.6	23.6	12.1	28.3	30.4	3.0	12.6	12.9
Prop In Lane	1.00		0.46	1.00		0.15	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	169	1186	600	574	1510	808	299	454	396	264	436	430
V/C Ratio(X)	0.42	1.13	1.14	0.50	0.52	0.52	0.93	0.79	0.84	0.28	0.41	0.42
Avail Cap(c_a), veh/h	178	1186	600	574	1510	808	299	580	506	276	569	562
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)	0.13	0.13	0.13	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	64.0	51.3	51.3	56.9	33.7	33.8	68.1	52.1	52.9	65.4	47.5	47.6
Incr Delay (d2), s/veh	0.2	59.3	66.7	0.7	1.3	2.4	35.2	5.7	9.4	0.5	0.5	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	2.5	31.0	32.6	4.8	10.6	11.6	6.7	13.1	12.6	1.3	5.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	110.6	117.9	57.5	35.0	36.1	103.3	57.8	62.3	65.8	48.0	48.1
LnGrp LOS	E	F	F	E	D	D	F	E	E	E	D	D
Approach Vol, veh/h		2094			1486			970			431	
Approach Delay, s/veh		111.4			39.7			72.4			51.1	
Approach LOS		F			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.9	55.5	18.7	42.9	19.9	68.5	17.2	44.4				
Change Period (Y+Rc), s	8.0	* 8	* 5.7	6.1	* 5.7	8.0	* 5.7	6.1				
Max Green Setting (Gmax), s	16.0	* 48	* 13	48.0	* 15	48.5	* 12	49.0				
Max Q Clear Time (g_c+I1), s	13.3	49.5	14.1	14.9	7.6	25.6	5.0	32.4				
Green Ext Time (p_c), s	0.3	0.0	0.0	2.0	0.1	7.3	0.1	3.7				

Intersection Summary

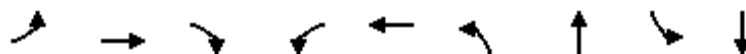
HCM 6th Ctrl Delay 77.2

HCM 6th LOS E

Notes

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

21: Rancho Del Oro Dr & Mission Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	818	408	126	525	324	14	10	19
Future Volume (vph)	14	818	408	126	525	324	14	10	19
Turn Type	Prot	NA	Perm	Prot	NA	Split	NA	Split	NA
Protected Phases	5	2		1	6	8	8	4	4
Permitted Phases			2						
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	6.0	6.0	7.0	7.0
Minimum Split (s)	11.1	28.0	28.0	10.1	24.0	28.0	28.0	24.0	24.0
Total Split (s)	11.1	58.0	58.0	15.0	61.9	28.0	28.0	24.0	24.0
Total Split (%)	8.9%	46.4%	46.4%	12.0%	49.5%	22.4%	22.4%	19.2%	19.2%
Yellow Time (s)	4.1	5.0	5.0	4.1	5.0	4.8	4.8	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.1	6.0	6.0	5.1	6.0	5.8	5.8	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 125

Actuated Cycle Length: 104.7

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Splits and Phases: 21: Rancho Del Oro Dr & Mission Ave

Ø1	Ø2	Ø4	Ø8
15 s	58 s	24 s	28 s
Ø5	Ø6		
11.1 s	61.9 s		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	818	408	126	525	1	324	14	102	10	19	16
Future Volume (veh/h)	14	818	408	126	525	1	324	14	102	10	19	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.95	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	2057	1870	1870	2057	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	889	443	137	571	1	352	15	111	11	21	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	31	991	751	168	1147	2	479	26	189	96	51	42
Arrive On Green	0.02	0.48	0.48	0.09	0.56	0.56	0.14	0.14	0.14	0.05	0.05	0.05
Sat Flow, veh/h	1781	2057	1560	1781	2053	4	3456	184	1361	1781	957	774
Grp Volume(v), veh/h	15	889	443	137	0	572	352	0	126	11	0	38
Grp Sat Flow(s),veh/h/ln	1781	2057	1560	1781	0	2057	1728	0	1545	1781	0	1731
Q Serve(g_s), s	0.8	37.3	19.4	7.1	0.0	16.1	9.2	0.0	7.2	0.6	0.0	2.0
Cycle Q Clear(g_c), s	0.8	37.3	19.4	7.1	0.0	16.1	9.2	0.0	7.2	0.6	0.0	2.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.88	1.00		0.45
Lane Grp Cap(c), veh/h	31	991	751	168	0	1149	479	0	214	96	0	93
V/C Ratio(X)	0.49	0.90	0.59	0.82	0.00	0.50	0.73	0.00	0.59	0.12	0.00	0.41
Avail Cap(c_a), veh/h	113	1133	859	187	0	1217	812	0	363	358	0	348
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(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	22.3	17.7	42.0	0.0	12.7	39.0	0.0	38.2	42.6	0.0	43.3
Incr Delay (d2), s/veh	11.5	8.8	0.8	21.9	0.0	0.3	2.2	0.0	2.6	0.5	0.0	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	0.4	18.1	6.4	4.1	0.0	6.6	3.9	0.0	2.8	0.2	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	31.2	18.6	63.9	0.0	13.1	41.2	0.0	40.7	43.1	0.0	46.1
LnGrp LOS	E	C	B	E	A	B	D	A	D	D	A	D
Approach Vol, veh/h	1347			709			478			49		
Approach Delay, s/veh	27.3			22.9			41.1			45.4		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	51.5		10.1	6.7	58.8		18.9				
Change Period (Y+Rc), s	5.1	6.0		5.0	5.1	6.0		5.8				
Max Green Setting (Gmax), s	9.9	52.0		19.0	6.0	55.9		22.2				
Max Q Clear Time (g_c+I1), s	9.1	39.3		4.0	2.8	18.1		11.2				
Green Ext Time (p_c), s	0.0	6.2		0.1	0.0	3.9		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				29.0								
HCM 6th LOS				C								

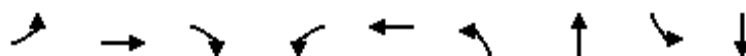
Intersection				
Intersection Delay, s/veh	5.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	305	126	185	319
Demand Flow Rate, veh/h	311	129	189	325
Vehicles Circulating, veh/h	45	275	216	259
Vehicles Exiting, veh/h	539	130	140	144
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	4.6	4.9	6.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	311	129	189	325
Cap Entry Lane, veh/h	1318	1042	1107	1060
Entry HV Adj Factor	0.982	0.978	0.977	0.981
Flow Entry, veh/h	305	126	185	319
Cap Entry, veh/h	1294	1020	1082	1039
V/C Ratio	0.236	0.124	0.171	0.307
Control Delay, s/veh	4.8	4.6	4.9	6.5
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	1

Intersection				
Intersection Delay, s/veh	6.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	20	186	395	528
Demand Flow Rate, veh/h	20	190	403	539
Vehicles Circulating, veh/h	672	304	42	180
Vehicles Exiting, veh/h	47	141	650	314
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	5.4	5.5	8.3
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	20	190	403	539
Cap Entry Lane, veh/h	695	1012	1322	1148
Entry HV Adj Factor	0.996	0.978	0.980	0.980
Flow Entry, veh/h	20	186	395	528
Cap Entry, veh/h	693	990	1295	1125
V/C Ratio	0.029	0.188	0.305	0.469
Control Delay, s/veh	5.5	5.4	5.5	8.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	3

Intersection				
Intersection Delay, s/veh	7.9			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	661	211	236	230
Demand Flow Rate, veh/h	674	215	241	234
Vehicles Circulating, veh/h	93	470	443	385
Vehicles Exiting, veh/h	526	214	324	300
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.0	7.0	7.1	6.5
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	674	215	241	234
Cap Entry Lane, veh/h	1255	854	878	932
Entry HV Adj Factor	0.981	0.982	0.978	0.981
Flow Entry, veh/h	661	211	236	230
Cap Entry, veh/h	1231	839	859	914
V/C Ratio	0.537	0.252	0.274	0.251
Control Delay, s/veh	9.0	7.0	7.1	6.5
LOS	A	A	A	A
95th %tile Queue, veh	3	1	1	1

Intersection				
Intersection Delay, s/veh	10.6			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	65	239	850	502
Demand Flow Rate, veh/h	66	243	867	512
Vehicles Circulating, veh/h	684	634	95	205
Vehicles Exiting, veh/h	33	328	655	672
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	9.3	12.7	8.3
Approach LOS	A	A	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	66	243	867	512
Cap Entry Lane, veh/h	687	723	1252	1120
Entry HV Adj Factor	0.981	0.983	0.980	0.980
Flow Entry, veh/h	65	239	850	502
Cap Entry, veh/h	674	710	1228	1097
V/C Ratio	0.096	0.336	0.692	0.457
Control Delay, s/veh	6.4	9.3	12.7	8.3
LOS	A	A	B	A
95th %tile Queue, veh	0	1	6	2

24: N. Foussat Rd & Foussat Rd/Proj Dwy



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↰	↶↶	↷	↰	↶↶	↰	↶	↰	↶
Traffic Volume (vph)	246	144	218	53	131	163	16	10	21
Future Volume (vph)	246	144	218	53	131	163	16	10	21
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	22.5	33.6	33.6	11.4	22.5	12.0	25.5	9.5	23.0
Total Split (%)	28.1%	42.0%	42.0%	14.3%	28.1%	15.0%	31.9%	11.9%	28.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min

Intersection Summary

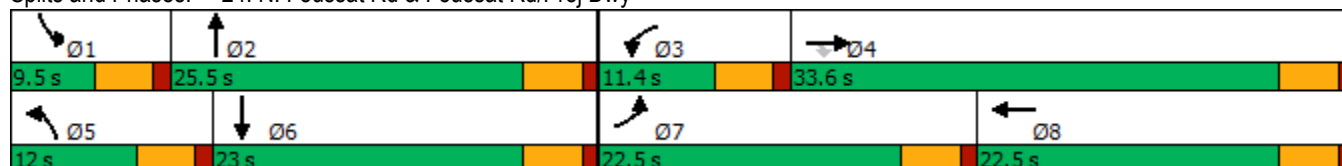
Cycle Length: 80

Actuated Cycle Length: 52.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 24: N. Foussat Rd & Foussat Rd/Proj Dwy



Existing + Cumulative + Project PM (Mitigation)

Ocean Kamp

24: N. Foussat Rd & Foussat Rd/Proj Dwy

03/31/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	144	218	53	131	10	163	16	39	10	21	180
Future Volume (veh/h)	246	144	218	53	131	10	163	16	39	10	21	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	280	157	248	58	142	11	185	18	42	11	24	205
Peak Hour Factor	0.88	0.92	0.88	0.92	0.92	0.92	0.88	0.88	0.92	0.92	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	883	394	100	344	26	233	155	361	25	33	280
Arrive On Green	0.20	0.25	0.25	0.06	0.10	0.10	0.13	0.31	0.31	0.01	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3344	257	1781	498	1163	1781	169	1442
Grp Volume(v), veh/h	280	157	248	58	75	78	185	0	60	11	0	229
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1824	1781	0	1661	1781	0	1611
Q Serve(g_s), s	7.2	1.7	6.8	1.5	1.9	2.0	4.9	0.0	1.3	0.3	0.0	6.5
Cycle Q Clear(g_c), s	7.2	1.7	6.8	1.5	1.9	2.0	4.9	0.0	1.3	0.3	0.0	6.5
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.70	1.00		0.90
Lane Grp Cap(c), veh/h	359	883	394	100	183	188	233	0	516	25	0	313
V/C Ratio(X)	0.78	0.18	0.63	0.58	0.41	0.42	0.79	0.00	0.12	0.43	0.00	0.73
Avail Cap(c_a), veh/h	660	2130	950	253	659	676	275	0	718	183	0	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	14.3	16.3	22.4	20.4	20.4	20.5	0.0	12.0	23.7	0.0	18.4
Incr Delay (d2), s/veh	3.7	0.1	1.7	5.3	1.5	1.5	12.7	0.0	0.1	11.3	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.6	2.3	0.7	0.8	0.8	2.6	0.0	0.4	0.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	14.4	17.9	27.7	21.9	21.9	33.2	0.0	12.1	35.1	0.0	21.7
LnGrp LOS	C	B	B	C	C	C	C	A	B	D	A	C
Approach Vol, veh/h		685			211			245			240	
Approach Delay, s/veh		18.8			23.5			28.0			22.3	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	19.6	7.2	16.6	10.9	13.9	14.3	9.5				
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	21.0	6.9	29.1	7.5	18.5	18.0	18.0				
Max Q Clear Time (g_c+I1), s	2.3	3.3	3.5	8.8	6.9	8.5	9.2	4.0				
Green Ext Time (p_c), s	0.0	0.2	0.0	1.8	0.0	0.9	0.6	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			21.8									
HCM 6th LOS			C									

25: Foussat Rd & Alex Rd/Proj Dwy



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	1	11	156	8	21	550	211	74	387
Future Volume (vph)	1	11	156	8	21	550	211	74	387
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	22.5	25.3	19.7	22.5	9.5	24.0	24.0	11.0	25.5
Total Split (%)	28.1%	31.6%	24.6%	28.1%	11.9%	30.0%	30.0%	13.8%	31.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 50

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

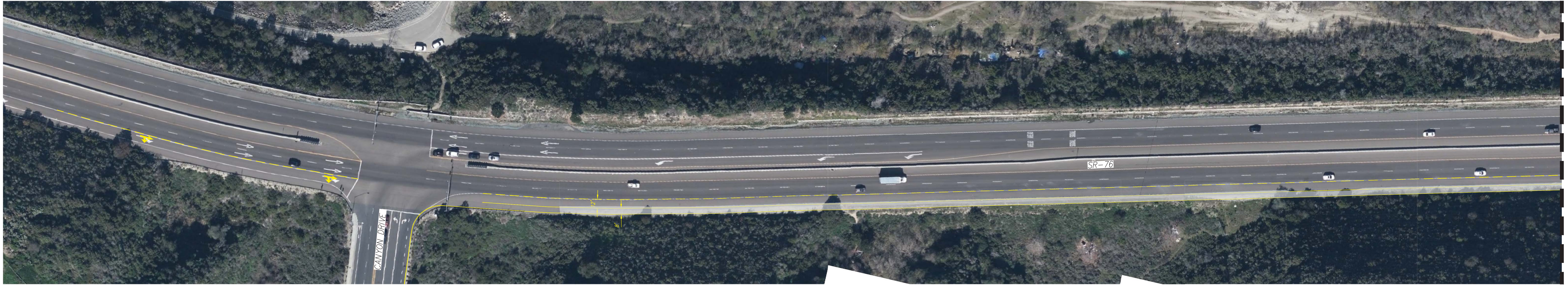
Splits and Phases: 25: Foussat Rd & Alex Rd/Proj Dwy

Ø1	Ø2	Ø3	Ø4
11 s	24 s	19.7 s	25.3 s
Ø5	Ø6	Ø7	Ø8
9.5 s	25.5 s	22.5 s	22.5 s

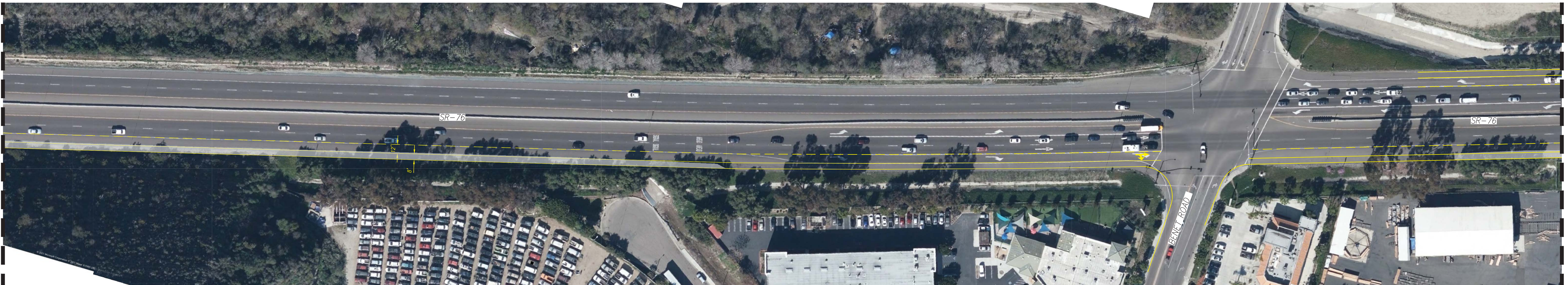
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	11	48	156	8	55	21	550	211	74	387	1
Future Volume (veh/h)	1	11	48	156	8	55	21	550	211	74	387	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	1	12	51	170	9	60	22	579	229	80	407	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	31	131	225	24	162	48	980	437	128	1167	3
Arrive On Green	0.11	0.10	0.10	0.13	0.12	0.12	0.03	0.28	0.28	0.07	0.32	0.32
Sat Flow, veh/h	1781	311	1322	1781	211	1406	1781	3554	1585	1781	3637	9
Grp Volume(v), veh/h	1	0	63	170	0	69	22	579	229	80	199	209
Grp Sat Flow(s),veh/h/ln	1781	0	1632	1781	0	1617	1781	1777	1585	1781	1777	1869
Q Serve(g_s), s	0.0	0.0	1.5	3.9	0.0	1.7	0.5	6.0	5.2	1.8	3.6	3.6
Cycle Q Clear(g_c), s	0.0	0.0	1.5	3.9	0.0	1.7	0.5	6.0	5.2	1.8	3.6	3.6
Prop In Lane	1.00		0.81	1.00		0.87	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	197	0	162	225	0	186	48	980	437	128	570	600
V/C Ratio(X)	0.01	0.00	0.39	0.75	0.00	0.37	0.46	0.59	0.52	0.62	0.35	0.35
Avail Cap(c_a), veh/h	760	0	804	641	0	690	211	1642	732	274	884	930
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	16.7	0.0	17.8	17.8	0.0	17.3	20.2	13.2	12.9	19.0	11.0	11.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	5.1	0.0	1.2	6.7	0.6	1.0	4.9	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.6	1.7	0.0	0.6	0.3	2.0	1.6	0.8	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	19.3	22.9	0.0	18.5	26.9	13.8	13.9	23.9	11.3	11.3
LnGrp LOS	B	A	B	C	A	B	C	B	B	C	B	B
Approach Vol, veh/h		64			239			830			488	
Approach Delay, s/veh		19.3			21.6			14.2			13.4	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	16.1	9.8	8.7	5.6	18.0	9.2	9.4				
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	6.5	19.5	15.2	20.8	5.0	21.0	18.0	18.0				
Max Q Clear Time (g_c+I1), s	3.8	8.0	5.9	3.5	2.5	5.6	2.0	3.7				
Green Ext Time (p_c), s	0.0	3.7	0.3	0.2	0.0	2.1	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			15.2									
HCM 6th LOS			B									

APPENDIX K

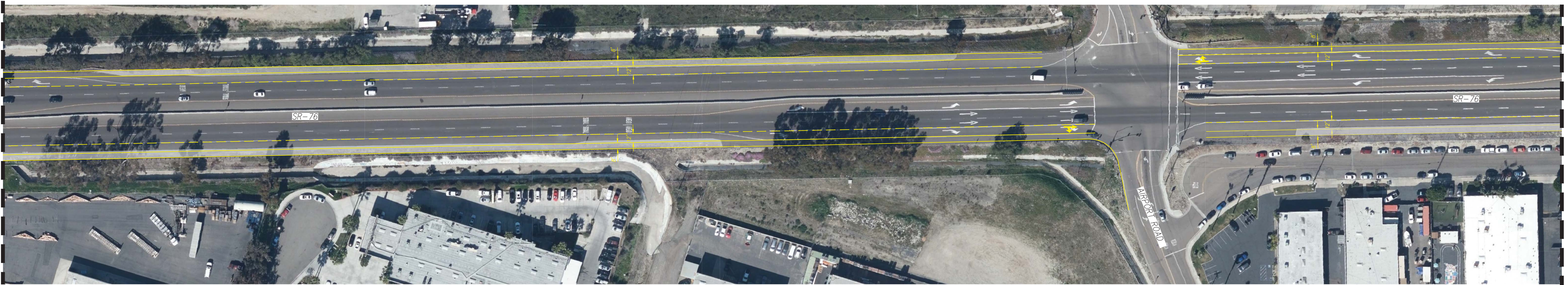
CONCEPTUAL DRAWINGS OF THE PROPOSED IMPROVEMENTS, FAIR SHARE CALCULATIONS, AND COST ESTIMATES



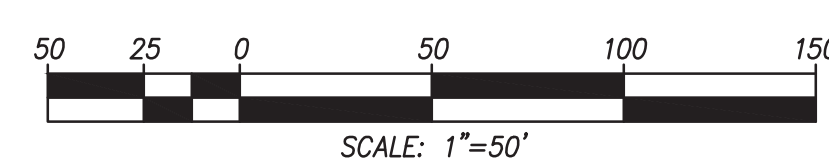
MATCHLINE - SEE BELOW LEFT



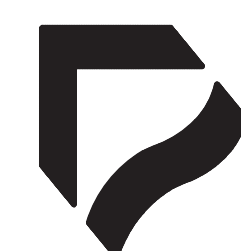
MATCHLINE - SEE BELOW LEFT



MATCHLINE - SEE SHEET 2



OCEAN KAMP TRAFFIC MITIGATION - SR76
SHEET 1



PROJECT DESIGN CONSULTANTS
 Planning | Landscape Architecture | Environmental | Engineering | Survey

701 B Street, Suite 900
 San Diego, CA 92101
 619.235.6471 Tel
 619.234.0349 Fax



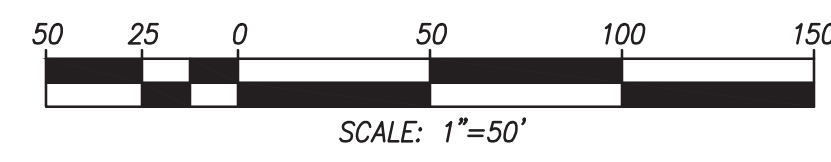
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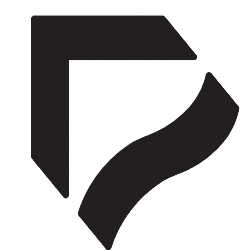


MATCHLINE - SEE ABOVE RIGHT

BRIDGE OVER MISSION DRIVE



OCEAN KAMP TRAFFIC MITIGATION - SR76
SHEET 2



PROJECT DESIGN CONSULTANTS
Planning | Landscape Architecture | Environmental | Engineering | Survey

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MATCHLINE - SEE BELOW LEFT

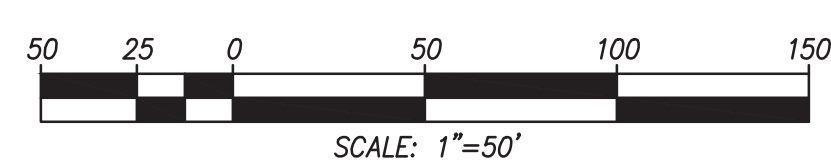


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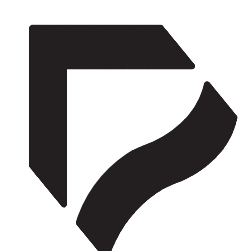
MATCHLINE - SEE BELOW LEFT



MATCHLINE - SEE ABOVE RIGHT



OCEAN KAMP TRAFFIC MITIGATION - SR76
SHEET 3



PROJECT DESIGN CONSULTANTS
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Table A
Ocean Kamp Fair Share Calculations

STREET SEGMENT	EXISTING	PROJECT	BUILDOUT	FAIR SHARE %
State Route 76				
Canyon Dr to Benet Rd	47,430	5,140	65,900	27.8%
Benet Rd to Airport Rd	43,860	5,330	65,900	24.2%
Airport Rd to Foussat Rd	48,450	5,520	65,900	31.6%
Foussat Rd to Douglas Dr	48,450	1,710	59,800	15.1%
Douglas Dr to Rancho Del Oro Dr	47,430	2,090	54,100	31.3%
Average				26.01%

Footnotes:

a. Fair share % = Project / (Buildout - Existing)

b. Buildout volumes from the Oceanside Circulation Element (Year 2030)

Total Cost of SR 76 Improvements	\$2,100,670
Project's Fair Share Contribution	\$546,367

Ocean Kamp
Offsite Traffic Mitigation
Conceptual Opinion of Cost

SR76 - Canyon Drive to Foussat Road Eastbound				
Item	Quantity	Unit	Unit Price	Extension
Subgrade Excavation	50,000	SF	\$ 1.00	\$ 50,000
New AC Berm	1,000	LF	\$ 10.00	\$ 10,000
AC over Base	50,000	SF	\$ 8.00	\$ 400,000
Traffic Control	1	LS	\$ 20,000.00	\$ 20,000
Remove/Replace Guard Rail	1,000	LF	\$ 30.00	\$ 30,000
Striping	17,000	LF	\$ 0.50	\$ 8,500
Subtotal				\$ 518,500
30% Fees, Soft Costs and Contigencies				\$ 155,550
Total				\$ 674,050
% Fairshare Contribution		x.x%		\$ -

SR76 - Canyon Drive to Foussat Road Westbound				
Subgrade Excavation	21,000	SF	\$ 1.00	\$ 21,000
New AC Berm	1,500	LF	\$ 10.00	\$ 15,000
AC over Base	21,000	SF	\$ 8.00	\$ 168,000
Traffic Control	1	LS	\$ 20,000.00	\$ 20,000
Remove/Replace Guard Rail	800	LF	\$ 30.00	\$ 24,000
Striping	9,000	LF	\$ 0.50	\$ 4,500
Subtotal				\$ 252,500
30% Fees, Soft Costs and Contigencies				\$ 75,750
Total				\$ 328,250
% Fairshare Contribution				\$ -

SR76 - Douglas Drive to Rancho del Oro Westbound				
Item	Quantity	Unit	Unit Price	Extension
Subgrade Excavation	24,500	SF	\$ 1.00	\$ 24,500
Relocate SD Inlets	8	EA	\$ 15,000.00	\$ 120,000
New AC Berm	3,500	LF	\$ 10.00	\$ 35,000
AC over Base	24,500	SF	\$ 8.00	\$ 196,000
Cut Slope	1	LS	\$ 50,000.00	\$ 50,000
Fill Slope	1	LS	\$ 50,000.00	\$ 50,000
New Sidewalk	1,350	SF	\$ 4.00	\$ 5,400
Ped Ramps	2	EA	\$ 5,000.00	\$ 10,000
Traffic Control	1	LS	\$ 20,000.00	\$ 20,000
Remove/Replace Guard Rail	1,000	LF	\$ 30.00	\$ 30,000
Striping	8,000	LF	\$ 0.50	\$ 4,000
Signal Modification	1	LS	\$ 300,000.00	\$ 300,000
Subtotal				\$ 844,900
30% Fees, Soft Costs and Contingencies				\$ 253,470
Total				\$ 1,098,370
% Fairshare Contribution			x.x%	\$ -

APPENDIX L

CUMULATIVE PROJECTS INFORMATION

OCEANPOINTE MULTI-FAMILY DEVELOPMENT
South of SR-76 between El Camino Real and Rancho Del Oro
City of Oceanside
March 22, 2005

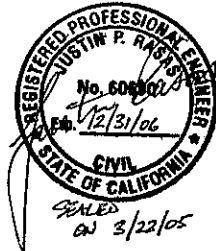
Traffic Impact Analysis

Prepared by:



LOS Engineering, Inc.

6342 Ferris Square, San Diego, CA 92121
Phone 619-890-1253, Fax 619-374-7247



In Cooperation With:

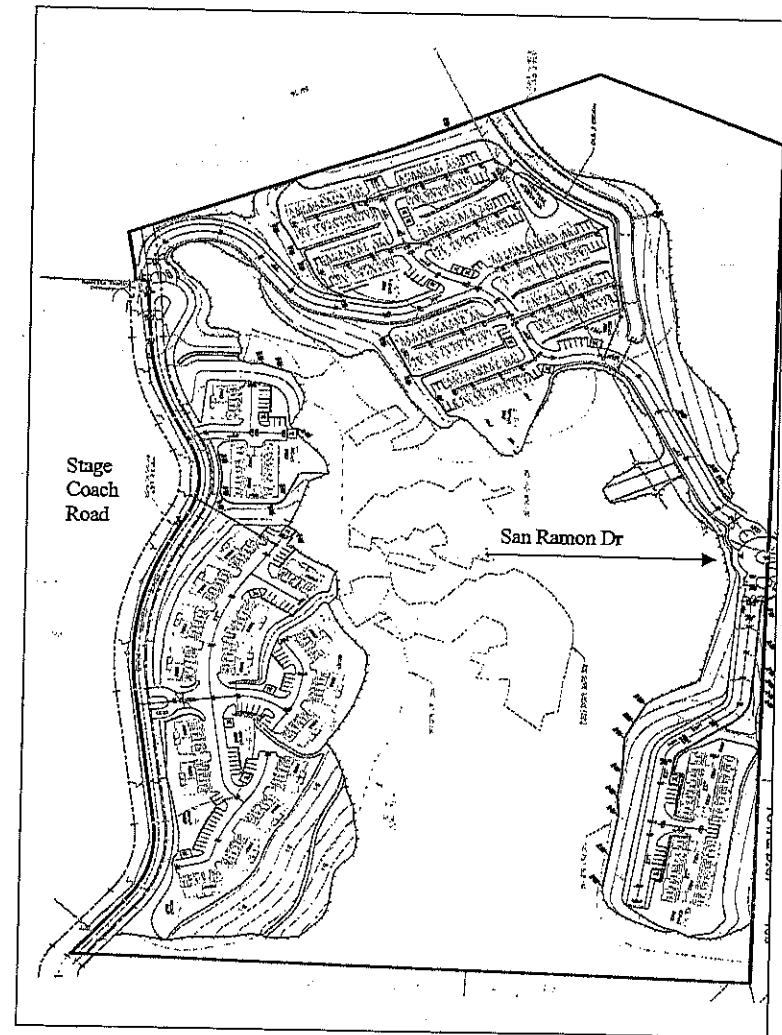


**INVESTIGATIVE SCIENCE
AND ENGINEERING, INC.**

16486 Bernardo Center Drive, #278
San Diego, CA 92128
Phone/Fax: (858) 451-3505 / (858) 451-0946
www.ise.us

Job #420

Figure 2: Site Plan



LOS Engineering, Inc.
Investigative Science and Engineering, Inc.

Oceanpointe Multi-Family Traffic Impact Analysis
3
March 22, 2005

4.0 Project Description

The Oceanpointe multi-family residential project will consist of a maximum of 200 dwelling units clustered in three groups on a vacant lot of approximately 36 acres.

4.1 Project Traffic Generation

The project traffic generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. Copies of SANDAG rates are included in Appendix D. Using SANDAG traffic generation rates, the project is calculated to generate 1,600 ADT, 128 AM peak hour trips (26 inbound and 102 outbound), and 160 PM peak hour trips (112 inbound and 48 outbound) as shown in Table 9.

TABLE 9: PROJECT TRAFFIC GENERATION

Proposed Land Use	Ratio	Size & Units	ADT	%	Split	AM			PM		
						IN	OUT	%	Split	IN	OUT
Multi-Family	8 Unit	200 DU	1800	8%	0.2 0.8	26	102	10%	0.7 0.3	112	48

Source: SANDAG Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002

DU - Dwelling Unit; ADT-Average Daily Traffic rounded to nearest 10 for total; Split-percent Inbound and outbound.

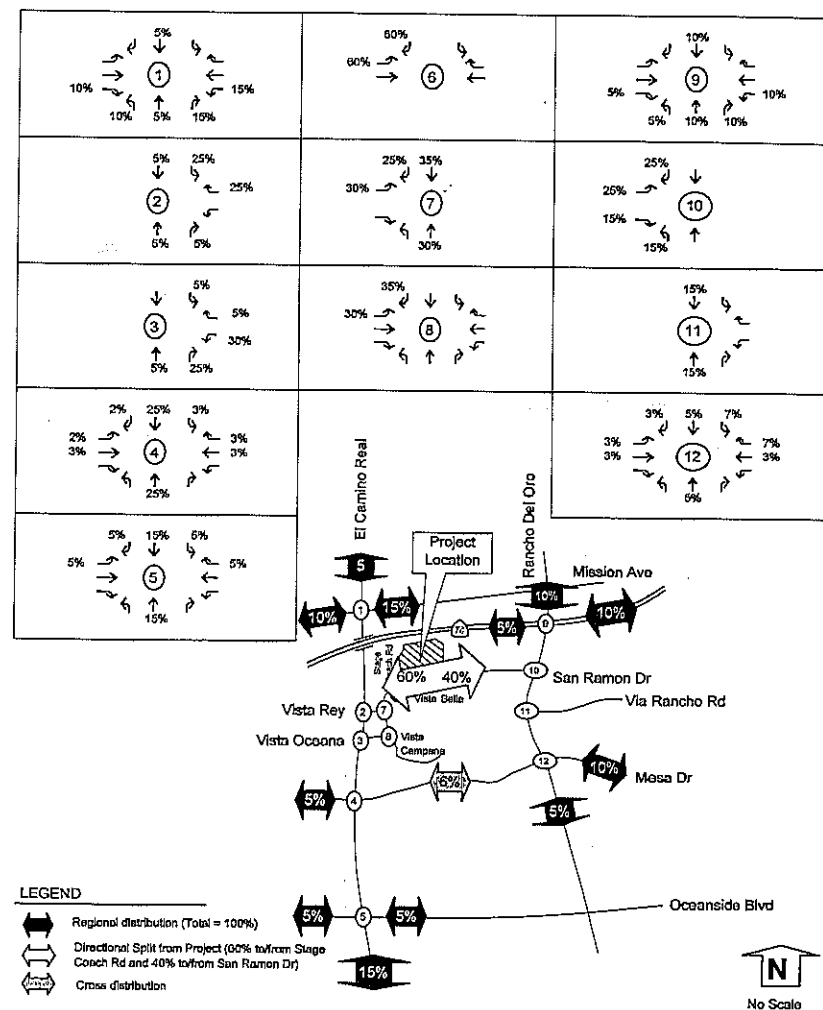
4.2 Project Access

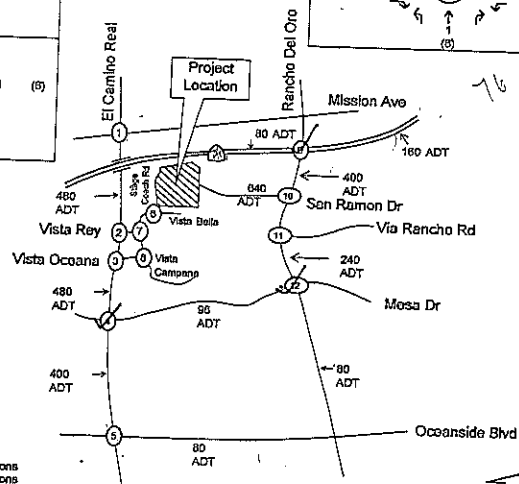
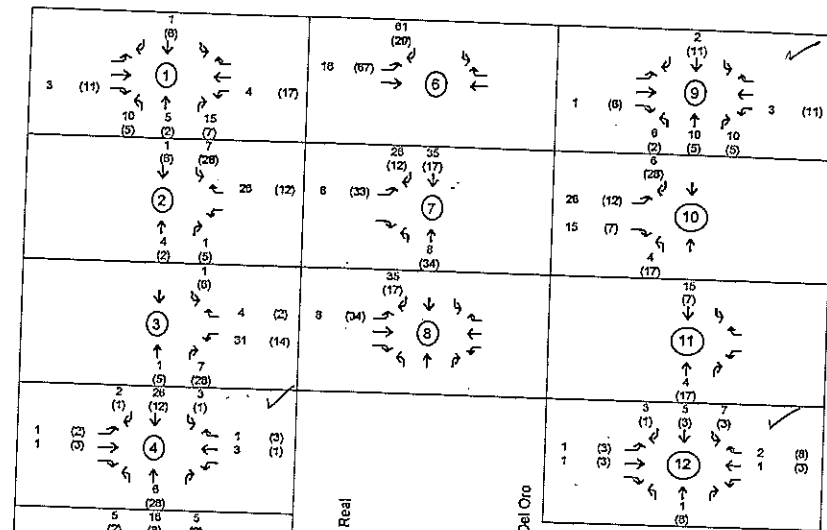
Project access will be provided from Stage Coach Road west of the project site and San Ramon Drive east of the site. The project will provide a connection between Stage Coach Road and San Ramon Drive; however, the project will be a gated community with restricted access to its residents and guests thereby controlling cut-through traffic.

4.3 Project Distribution and Assignment

Project trips were distributed to the adjacent roadway network based on expressway access and other attractions such as existing commercial centers. The distribution of project trips to Stage Coach Road and to San Ramon Drive was based on where the dwelling units were located and their access options. Sixty percent of the project trips were assigned to Stage Coach Road and four percent to San Ramon Drive due to their access options. The project distribution is shown in Figure 5 with assignment of the project volumes shown in Figure 6.

Figure 5: Project Distribution



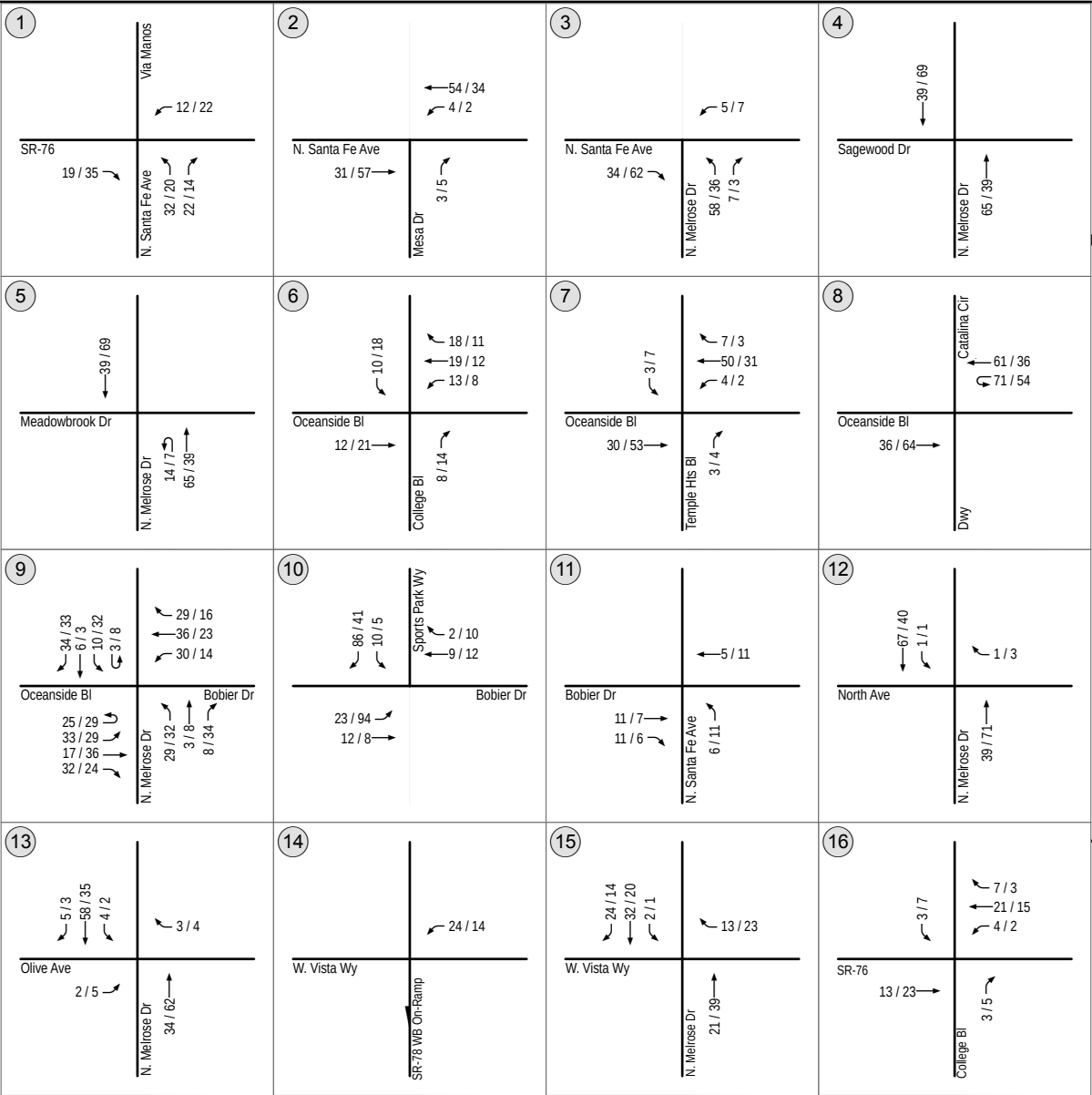


LEGEND
 XX AM peak hour volumes at intersections
 YY PM peak hour volumes at intersections
 ZZZZ ADT volumes shown along segments
 ① Intersection Reference Number to LOS Tables



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 16
 March 22, 2005



#

Study Intersections

AM / PM

AM / PM Intersection Peak Hour Volumes

X,XXX

Average Daily Traffic Volumes

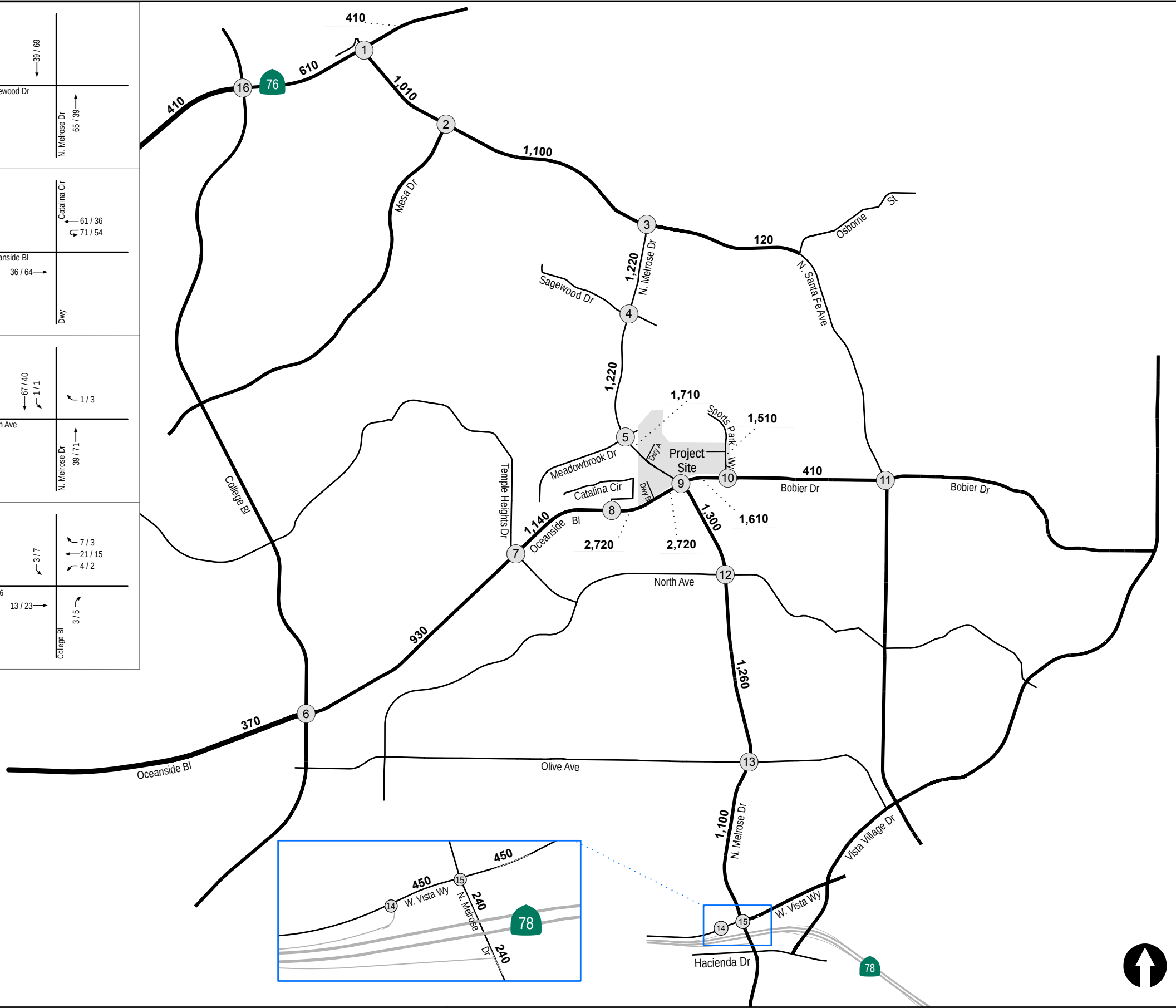


Figure 7-2

Project Traffic Volumes

MELROSE + OCEANSIDE

North River Road Residential Subdivision
Southside of N. River Rd btw Ave Descanso and Calle Montecito
City of Oceanside
October 10, 2016

Draft Traffic Impact Analysis

***Without Appendices**

Developer Deposit Account

Prepared for:

The Lightfoot Planning Group
5900 Pasteur Court, Suite 110
Carlsbad, CA 92008

RECEIVED

APR 19 2017

CITY OF OCEANSIDE
DEVELOPMENT SERVICES

Prepared by Justin Rasas (RCE 60690) with:



LOS Engineering, Inc.

11622 El Camino Real, San Diego, CA 92130
Phone 619-890-1253, Fax 619-374-7247

Job #1533

Douglas Dr 16% 16% 1% SR-76 1%	Douglas Dr 2% 17% 10% Mission Ave 10%	Douglas Dr 20% 29% 29% El Camino Real
Douglas Dr 49% 49% Pala Rd	Douglas Dr 49% 49% Rainier Way	Douglas Dr 1% 49% 49% N. River Rd 1%
Avenida Desencano 50% 50% N. River Rd	Westwinds 50% 50% N. River Rd	Riverview Way 50% 50% 50% N. River Rd 50%
Calle Montecito 50% 50% N. River Rd	Redondo Dr 5% 45% 50% N. River Rd 50%	Shopping Center Dwy 10% 35% 35% N. River Rd 10%
College Dr 1% 34% 34% Park Access	College Dr 34% 34% Adams St	College Dr 3% 31% 31% Via Cupeno
College Dr 1% 21% 9% SR-76 9%	College Dr 3% 18% 18% Frazee Rd	College Dr 4% 14% 14% Mesa Dr



800 Doug-las Dr (36) 33 (15) 1 1000 Doug-las Dr (4) 4 (2) 35 (16) 20 (10) Mission Ave 5 (22) 0 1000 Doug-las Dr (45) 41 (19) 59 (28) 0 El Camino Real 0 (0) 0	000 Doug-las Dr 0 100 (47) 2 (1) SR-76 1 (2) 0 000 Doug-las Dr 0 25 (110) 4 000 Doug-las Dr 0 0 0 Pala Rd 0 (0) 0	000 Doug-las Dr 0 100 (47) 4 (2) 35 (16) 20 (10) Mission Ave 5 (22) 0 000 Doug-las Dr 0 25 (110) 5 000 Doug-las Dr 0 0 0 Rainier Way 0 (0) 0	000 Doug-las Dr 0 100 (47) 41 (19) 59 (28) 0 N. River Rd 0 (0) 0 000 Doug-las Dr 0 25 (110) 6 000 Doug-las Dr 0 0 0 N. River Rd 0 (0) 0
0260 Ave-nida Des-canso (112) 0 0260 West-winds (112) 0 0260 River-view Way (112) 0	0260 Ave-nida Des-canso (112) 0 0260 West-winds (112) 0 0260 River-view Way (112) 0	0260 Ave-nida Des-canso (112) 0 0260 West-winds (112) 0 0260 River-view Way (112) 0	0260 Ave-nida Des-canso (112) 0 0260 West-winds (112) 0 0260 River-view Way (112) 0
01020 Calle Mon-tecito (48) 0 01020 Red-ondo Dr (43) 3 (11) 0 01020 Shop-ping Center Dwy (10) (34) 0	01020 Calle Mon-tecito (48) 0 01020 Red-ondo Dr (43) 3 (11) 0 01020 Shop-ping Center Dwy (10) (34) 0	01020 Calle Mon-tecito (48) 0 01020 Red-ondo Dr (43) 3 (11) 0 01020 Shop-ping Center Dwy (10) (34) 0	01020 Calle Mon-tecito (48) 0 01020 Red-ondo Dr (43) 3 (11) 0 01020 Shop-ping Center Dwy (10) (34) 0
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ONPOINT OCEANSIDE TRANSPORTATION IMPACT STUDY

MAY 2019

PREPARED BY:

Kimley»Horn

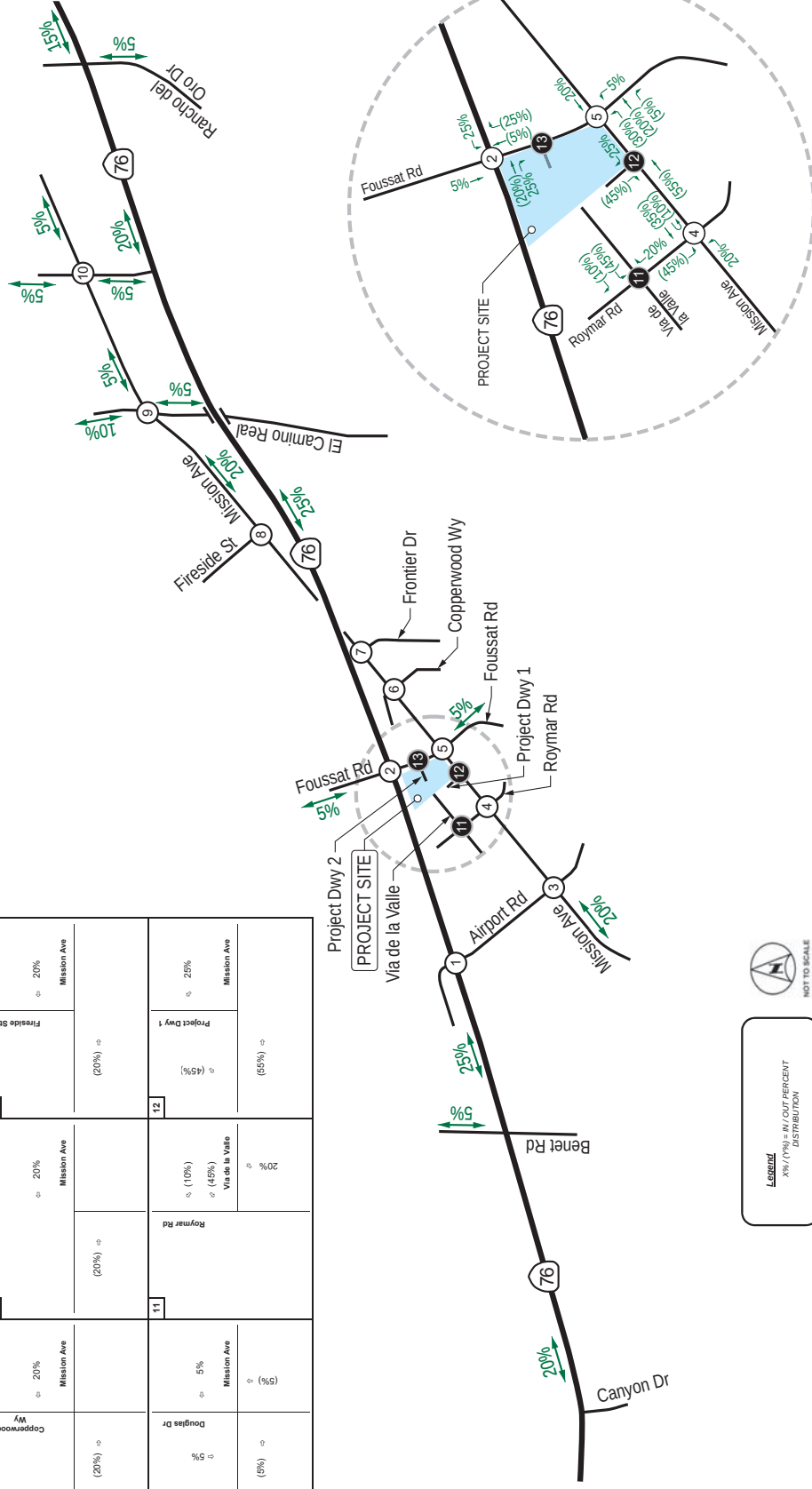
Table 4-1 Trip Generation Summary

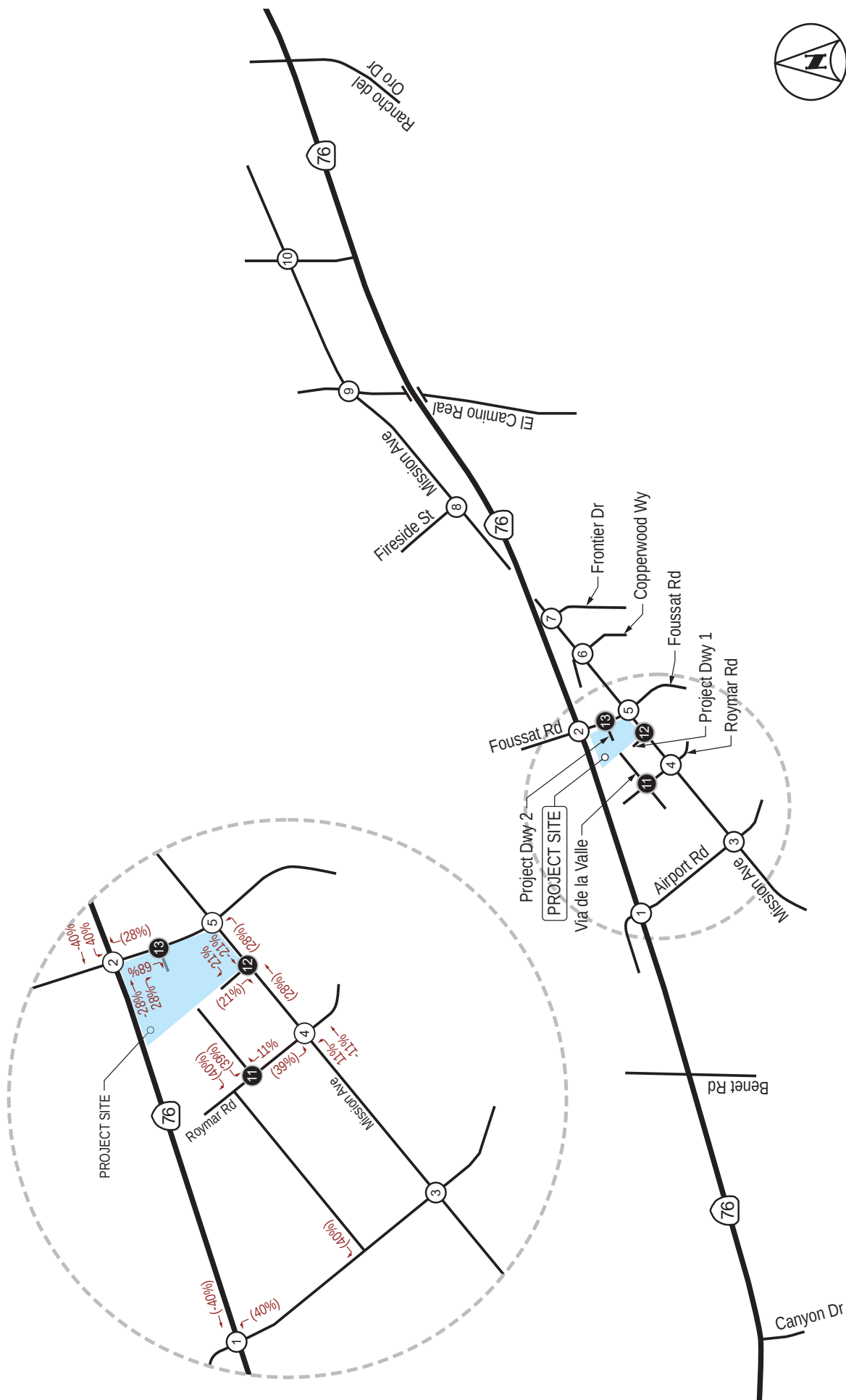
Land Use	SANDAG Land Use	Units ¹	Trip Rate ²	Daily Trips	AM Peak Hour		PM Peak Hour		
					In	Out	In	Out	
Proposed									
Building A: Gas Station + 3,000 sf Food Mart	Gas Station with/Food Mart	12 vfs	160 / vfs	1,920	67	67	77	77	154
Building B: Car Wash	Automatic	1.00 site	900 / site	900	18	18	41	40	81
Building C: Drive Thru Restaurant	Fast Food (w/drive-through)	1.50 ksf	650 / ksf	975	34	34	34	34	68
Building D: Restaurant	Sit-down, high turnover	2.32 ksf	160 / ksf	371	15	15	18	12	30
Building D: Retail	Specialty Retail/Strip Commercial	3.48 ksf	40 / ksf	139	3	1	6	7	13
Building E: Drive Thru Restaurant	Fast Food (w/drive-through)	1.00 ksf	650 / ksf	650	23	23	23	23	46
Building F: Tire/Oil Facility	Tire Store	4.50 ksf	25 / ksf	113	5	3	6	6	12
Proposed Total					165	161	205	199	404
Pass-by									
Specialty Retail (10%)							-1	-1	-3
Gas Station (50%)					-34	-34	-39	-39	-77
Fast Food (40%)					-23	-23	-23	-23	-46
Sit-down Restaurant (20%)							-4	-2	-6
Pass-by Sub-Total					-56	-56	-113	-65	-131
Net Trip Generation					109	105	139	134	273

Notes:

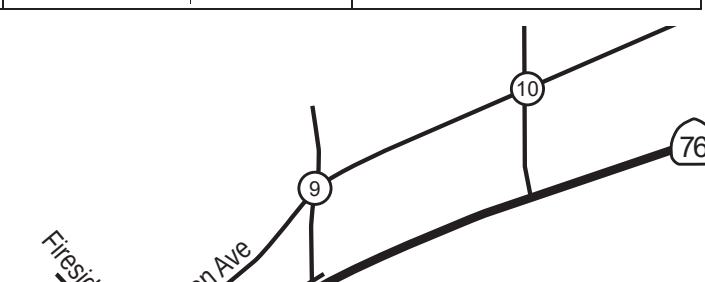
1. ksf = Thousand Square Feet; vfs = vehicle fueling stations
2. Trip rates referenced from the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG, April 2002

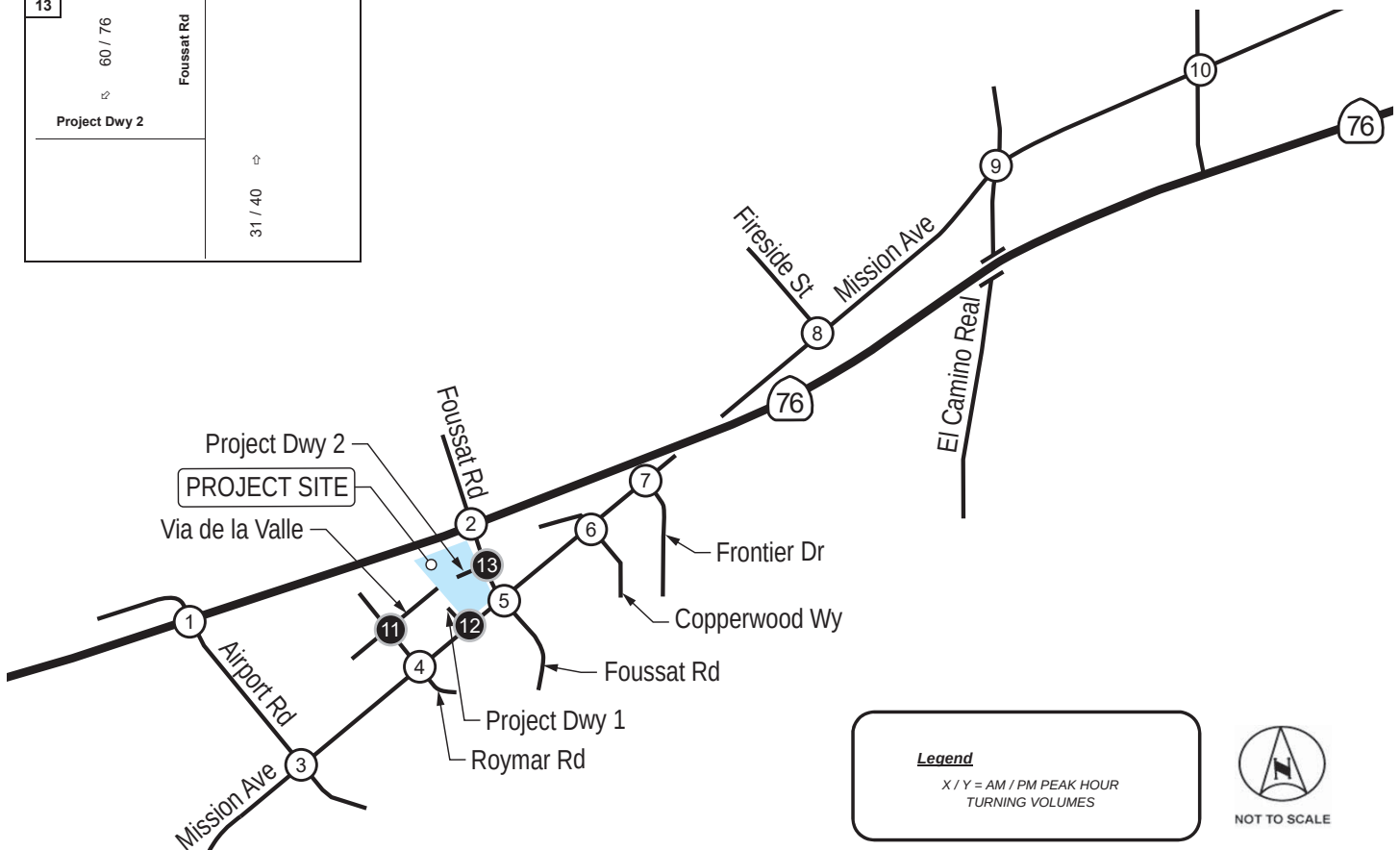
1	SR 76 Airport Rd	2	Foussat Rd	3	SR 76 Foussat Rd	4	SR 76 Mission Ave
5	25% Mission Ave	6	20% Mission Ave	7	20% Mission Ave	8	20% Mission Ave
9	10% El Camino Real	10	5% Mission Ave	11	5% Mission Ave	12	5% Mission Ave
13	55% Project Dwy 2	14	5% Mission Ave	15	5% Mission Ave	16	5% Mission Ave



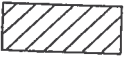


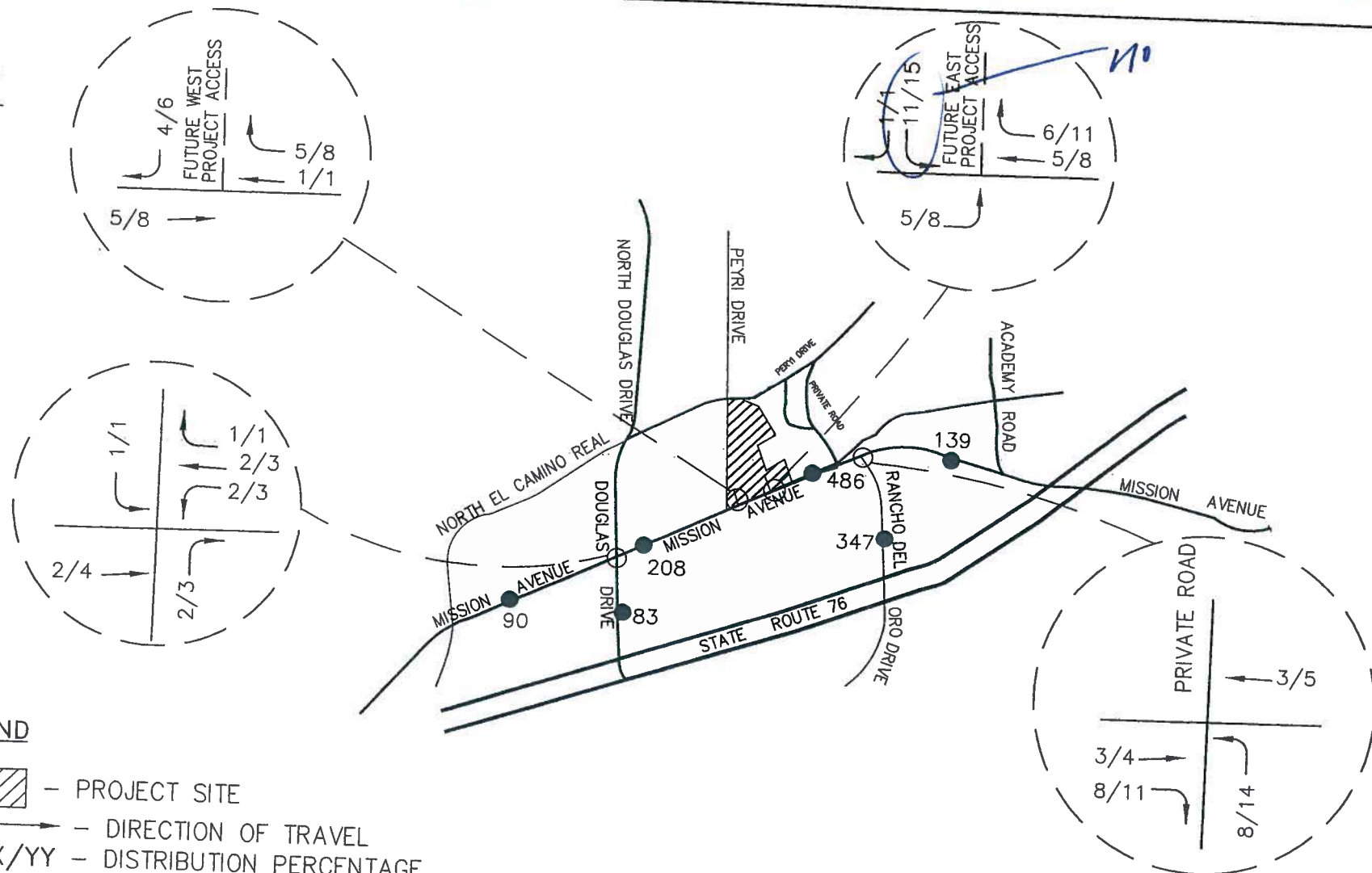
OnPoint - Oceanside

1	Airport Rd		2	5 / 7 ↔ Foussat Rd	27 / 35 ↕ SR 76	3	Airport Rd	↕ 16 / 20 ↕ 21 / 27 Mission Ave	4	↕ 47 / 60 Roymar Rd	↕ 37 / 47 ↕ 10 / 13 Mission Ave
27 / 35 ↕ Airport Rd	26 / 34 ↕		27 / 35 ↕	5 / 7 ↕ 26 / 34		22 / 28 ↕		22 / 28 ↕			
5	Foussat Rd		6	Copperwood Wy	22 / 28 ↕ Mission Ave	7	22 / 28 ↕ Mission Ave		8	Fireside St	22 / 28 ↕ Mission Ave
31 / 40 ↕ 21 / 27 5 / 7 ↕ ↕	5 / 7 ↕		21 / 27 ↕		21 / 27 ↕ Frontier Dr			21 / 27 ↕			
9	El Camino Real		10	Douglas Dr	5 / 7 ↕ Mission Ave	11	Roymar Rd	↕ 10 / 13 ↕ 47 / 60 Via de la Valle	12	47 / 60 ↕ Project Dwy 1	↕ 27 / 35 Mission Ave
10 / 13 5 / 7 5 / 7 ↕ ↕	5 / 7 ↕		5 / 7 ↕	5 / 7 ↕		22 / 28 ↕		58 / 74 ↕			
13	Foussat Rd										



LEGEND

-  - PROJECT SITE
-  - DIRECTION OF TRAVEL
- XX/YY - DISTRIBUTION PERCENTAGE
- Z,ZZZ - DISTRIBUTION PERCENTAGE



Darnell & ASSOCIATES, INC.

150303CC 11-07-16 JAM

FIGURE 6
PROJECT RELATED TRAFFIC

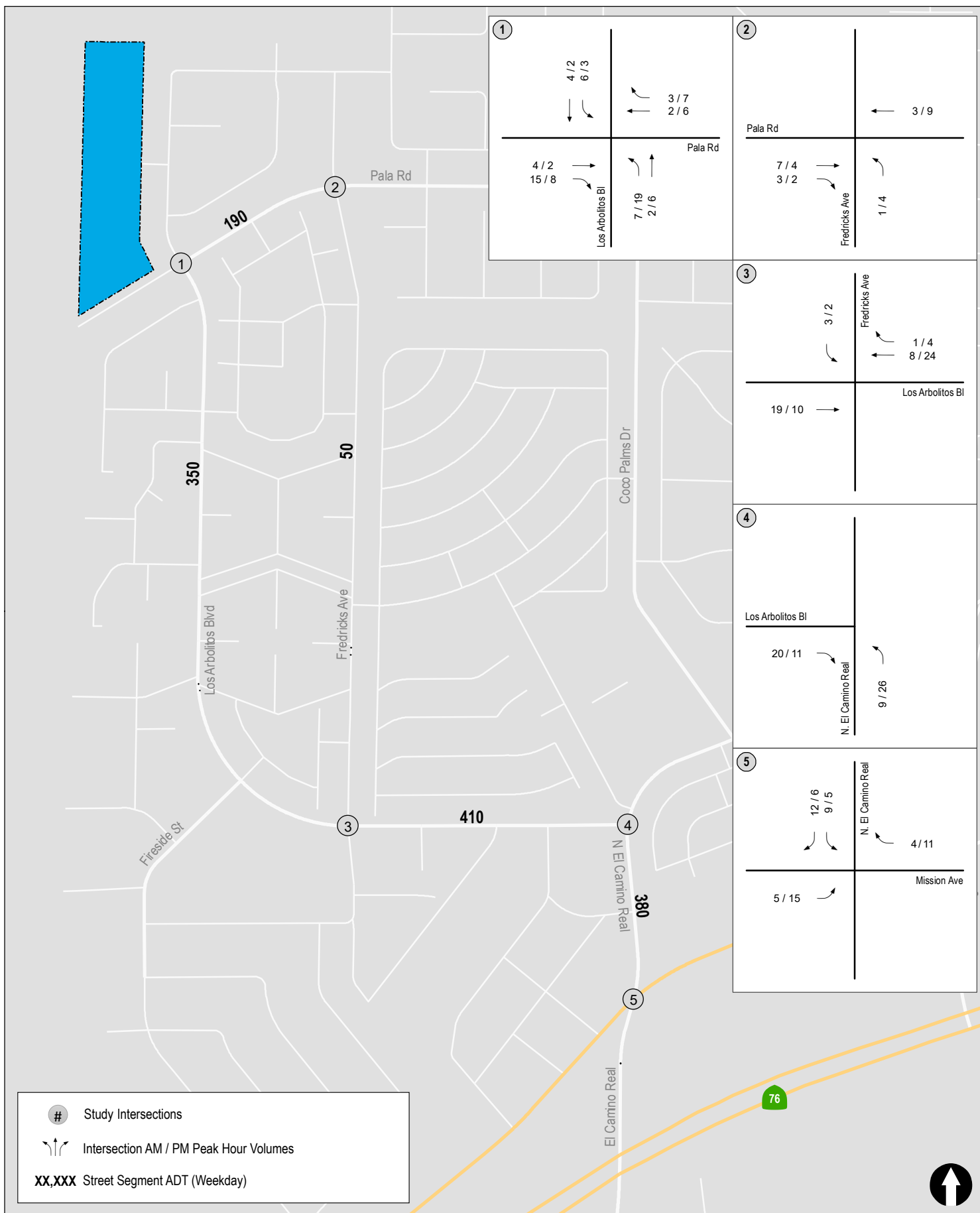


Figure 8-2

Project Traffic Volumes

CYPRESS POINT