APPENDIX B

- Existing Conditions Analysis Worksheets

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	136	708	45	199	585	49
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	162	843	54	237	696	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1505	54			54	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1505	54			54	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	17			55	
cM capacity (veh/h)	74	1014			1552	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	162	843	54	237	696	58
Volume Left	162	0	0	0	696	0
Volume Right	0	843	0	237	0	0
cSH	74	1014	1700	1700	1552	1700
Volume to Capacity	2.20	0.83	0.03	0.14	0.45	0.03
Queue Length 95th (ft)	377	252	0	0	60	0
Control Delay (s)	672.4	23.2	0.0	0.0	9.2	0.0
Lane LOS	F	C			A	
Approach Delay (s)	127.8		0.0		8.5	
Approach LOS	F					

Intersection Summary			
Average Delay	65.8		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	142	726	41	196	1079	46
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	156	798	45	215	1186	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2467	45			45	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2467	45			45	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	22			24	
cM capacity (veh/h)	8	1025			1563	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	156	798	45	215	1186	51
Volume Left	156	0	0	0	1186	0
Volume Right	0	798	0	215	0	0
cSH	8	1025	1700	1700	1563	1700
Volume to Capacity	19.42	0.78	0.03	0.13	0.76	0.03
Queue Length 95th (ft)	Err	205	0	0	201	0
Control Delay (s)	Err	19.6	0.0	0.0	14.1	0.0
Lane LOS	F	C			B	
Approach Delay (s)	1652.2		0.0		13.5	
Approach LOS	F					

Intersection Summary			
Average Delay	649.9		
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	528	202	54	253	0	0	0	0	15	2	660
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
Hourly flow rate (vph)	0	556	213	57	266	0	0	0	0	16	2	695
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					515							
pX, platoon unblocked												
vC, conflicting volume	266			768			1632	936	556	936	1148	266
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266			768			1632	936	556	936	1148	266
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			100	100	100	93	99	10
cM capacity (veh/h)	1298			846			8	247	531	233	185	772

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	556	213	57	266	18	695
Volume Left	0	0	57	0	16	0
Volume Right	0	213	0	0	0	695
cSH	1700	1700	846	1700	226	772
Volume to Capacity	0.33	0.13	0.07	0.16	0.08	0.90
Queue Length 95th (ft)	0	0	5	0	6	300
Control Delay (s)	0.0	0.0	9.6	0.0	22.3	36.0
Lane LOS			A		C	E
Approach Delay (s)	0.0		1.7		35.7	
Approach LOS					E	

Intersection Summary			
Average Delay	14.4		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1116	145	55	262	0	0	0	0	5	2	611
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
Hourly flow rate (vph)	0	1162	151	57	273	0	0	0	0	5	2	636
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					930							
pX, platoon unblocked												
vC, conflicting volume	273			1314			2188	1550	1162	1550	1701	273
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	273			1314			2188	1550	1162	1550	1701	273
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			89			100	100	100	94	97	17
cM capacity (veh/h)	1290			527			5	101	237	85	82	766

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	1162	151	57	273	7	636
Volume Left	0	0	57	0	5	0
Volume Right	0	151	0	0	0	636
cSH	1700	1700	527	1700	84	766
Volume to Capacity	0.68	0.09	0.11	0.16	0.09	0.83
Queue Length 95th (ft)	0	0	9	0	7	234
Control Delay (s)	0.0	0.0	12.7	0.0	51.9	28.3
Lane LOS			B		F	D
Approach Delay (s)	0.0		2.2		28.6	
Approach LOS					D	

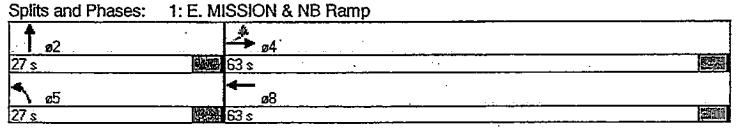
Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.998			0.860				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1863	0	0	1859	0	1770	1602	0	0	0	0
Flt Permitted	0.631						0.950					
Satd. Flow (perm)	1175	1863	0	0	1859	0	1770	1602	0	0	0	0
Satd. Flow (RTOR)					2			40				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	440	101	0	0	193	3	115	3	39	0	0	0
Lane Group Flow (vph)	454	104	0	0	202	0	119	43	0	0	0	0
Turn Type	Perm						Prot					
Protected Phases		4			8		5	2				
Permitted Phases	4											
Total Split (s)	63.0	63.0	0.0	0.0	63.0	0.0	27.0	27.0	0.0	0.0	0.0	0.0
Act Effct Green (s)	27.1	27.1			27.1		19.6	24.0				
Actuated g/C Ratio	0.46	0.46			0.46		0.32	0.40				
v/c Ratio	0.85	0.12			0.24		0.21	0.06				
Control Delay	16.8	8.0			8.8		16.9	7.5				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	16.8	8.0			8.8		16.9	7.5				
LOS	B	A			A		B	A				
Approach Delay		15.1			8.8			14.4				
Approach LOS		B			A			B				
Queue Length 50th (ft)	129	19			39		25	1				
Queue Length 95th (ft)	230	38			68		85	23				
Internal Link Dist (ft)		435			1002			564			848	
Turn Bay Length (ft)												
Base Capacity (vph)	770	1221			1219		643	671				
Starvation Cap Reductn	0	0			0		0	0				
Spillback Cap Reductn	0	0			0		0	0				
Storage Cap Reductn	0	0			0		0	0				
Reduced v/c Ratio	0.59	0.09			0.17		0.19	0.06				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 59.4
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 13.6 — Intersection LOS: B
Intersection Capacity Utilization 60.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: E. MISSION & NB Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.997			0.853				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1863	0	0	1857	0	1770	1589	0	0	0	0
Flt Permitted	0.590						0.950					
Satd. Flow (perm)	1099	1863	0	0	1857	0	1770	1589	0	0	0	0
Satd. Flow (RTOR)					4			142				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	901	240	0	0	257	7	97	3	138	0	0	0
Lane Group Flow (vph)	929	247	0	0	272	0	100	145	0	0	0	0
Turn Type	Perm						Prot					
Protected Phases		4			8		5	2				
Permitted Phases	4											
Total Split (s)	70.0	70.0	0.0	0.0	70.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
Act Effct Green (s)	66.0	66.0			66.0		14.3	16.0				
Actuated g/C Ratio	0.73	0.73			0.73		0.16	0.18				
v/c Ratio	1.15	0.18			0.20		0.36	0.36				
Control Delay	99.3	4.1			4.1		36.4	9.1				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	99.3	4.1			4.1		36.4	9.1				
LOS	F	A			A		D	A				
Approach Delay		79.3			4.1			20.2				
Approach LOS		E			A			C				
Queue Length 50th (ft)	~629	36			39		50	1				
Queue Length 95th (ft)	#858	58			63		97	51				
Internal Link Dist (ft)		850			894			951			1114	
Turn Bay Length (ft)												
Base Capacity (vph)	806	1366			1363		303	399				
Starvation Cap Reductn	0	0			0		0	0				
Spillback Cap Reductn	0	0			0		0	0				
Storage Cap Reductn	0	0			0		0	0				
Reduced v/c Ratio	1.15	0.18			0.20		0.33	0.36				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 58.6 — Intersection LOS: E
Intersection Capacity Utilization 85.9% — ICU Level of Service E
Analysis Period (min) 15

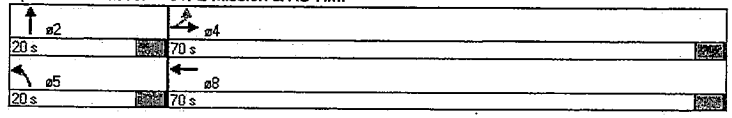
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

050702 - Fallbrook Oaks
Lanes, Volumes, Timings

Existing PM
31: E Mission & NB RMP

Splits and Phases: 31: E Mission & NB RMP



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