APPENDIX D

- Cumulative Conditions Without Project Analysis Worksheets

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	179	820	55	265	689	60
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	213	976	65	315	820	71
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	1777	65			65	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1777	65			65	
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	2			47	
cM capacity (veh/h)	42	998			1536	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	213	976	65	315	820	71
Volume Left	213	0	0	0	820	0
Volume Right	0	976	0	315	0	0
cSH	42	998	1700	1700	1536	1700
Volume to Capacity	5.04	0.98	0.04	0.19	0.53	0.04
Queue Length 95th (ft)	Err	445	0	0	83	0
Control Delay (s)	Err	43.7	0.0	0.0	10.0	0.0
Lane LOS	F	E			A	
Approach Delay (s)	1827.5		0.0		9.2	
Approach LOS	F					

Intersection Summary			
Average Delay	886.2		
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
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)	194	858	50	255	1240	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	202	894	52	266	1292	57
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	2693	52			52	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2693	52			52	
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	12			17	
cM capacity (veh/h)	4	1016			1554	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	202	894	52	266	1292	57
Volume Left	202	0	0	0	1292	0
Volume Right	0	894	0	266	0	0
cSH	4	1016	1700	1700	1554	1700
Volume to Capacity	50.26	0.88	0.03	0.16	0.83	0.03
Queue Length 95th (ft)	Err	305	0	0	276	0
Control Delay (s)	Err	27.7	0.0	0.0	17.4	0.0
Lane LOS	F	D			C	
Approach Delay (s)	1866.5		0.0		16.7	
Approach LOS	F					

Intersection Summary			
Average Delay	748.6		
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
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	650	244	60	320	0	0	0	0	15	2	764
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	684	257	63	337	0	0	0	0	16	2	804
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					591							
pX, platoon unblocked												
vC, conflicting volume	337			941			1953	1147	684	1147	1404	337
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	337			941			1953	1147	684	1147	1404	337
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			91			0	100	100	90	98	0
cM capacity (veh/h)	1222			729			0	182	449	164	127	705

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	684	257	63	337	18	804
Volume Left	0	0	63	0	16	0
Volume Right	0	257	0	0	0	804
cSH	1700	1700	729	1700	159	705
Volume to Capacity	0.40	0.15	0.09	0.20	0.11	1.14
Queue Length 95th (ft)	0	0	7	0	9	615
Control Delay (s)	0.0	0.0	10.4	0.0	30.5	101.8
Lane LOS			B		D	F
Approach Delay (s)	0.0		1.6		100.3	
Approach LOS					F	

Intersection Summary			
Average Delay	38.4		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
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	1359	171	60	346	0	0	0	0	5	2	713
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	1416	178	62	360	0	0	0	0	5	2	743
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					564							
pX, platoon unblocked												
vC, conflicting volume	360			1594			2645	1901	1416	1901	2079	360
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	360			1594			2645	1901	1416	1901	2079	360
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			85			0	100	100	89	95	0
cM capacity (veh/h)	1198			411			0	59	168	46	45	684

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	1416	178	62	360	7	743
Volume Left	0	0	62	0	5	0
Volume Right	0	178	0	0	0	743
cSH	1700	1700	411	1700	46	684
Volume to Capacity	0.83	0.10	0.15	0.21	0.16	1.09
Queue Length 95th (ft)	0	0	13	0	13	519
Control Delay (s)	0.0	0.0	15.3	0.0	97.4	83.8
Lane LOS			C		F	F
Approach Delay (s)	0.0		2.3		83.9	
Approach LOS					F	

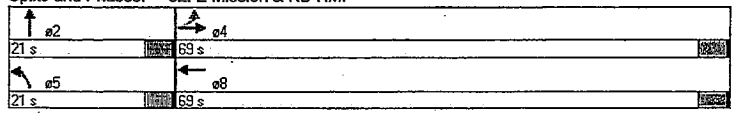
Intersection Summary			
Average Delay	23.1		
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

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					0.997			0.859				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1863	0	0	1857	0	1770	1600	0	0	0	0
Flt Permitted	0.602						0.950					
Satd. Flow (perm)	1121	1863	0	0	1857	0	1770	1600	0	0	0	0
Satd. Flow (RTOR)					3			46				
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)	510	125	0	0	240	5	140	3	45	0	0	0
Lane Group Flow (vph)	526	129	0	0	252	0	144	49	0	0	0	0
Turn Type	Perm						Prot					
Protected Phases		4			8		5	2				
Permitted Phases	4											
Total Split (s)	69.0	69.0	0.0	0.0	69.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Act Effct Green (s)	30.9	30.9			30.9		14.9	18.2				
Actuated g/C Ratio	0.54	0.54			0.54		0.25	0.32				
v/c Ratio	0.88	0.13			0.25		0.33	0.09				
Control Delay	14.6	5.4			6.2		22.6	9.4				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	14.6	5.4			6.2		22.6	9.4				
LOS	B	A			A		C	A				
Approach Delay		12.8			6.2			19.3				
Approach LOS		B			A			B				
Queue Length 50th (ft)	131	18			38		36	1				
Queue Length 95th (ft)	245	34			63		118	29				
Internal Link Dist (ft)		511			522			655			792	
Turn Bay Length (ft)												
Base Capacity (vph)	810	1346			1342		503	537				
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	0.65	0.10			0.19		0.29	0.09				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 57.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 12.4 — Intersection LOS: B
Intersection Capacity Utilization 70.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 32: E Mission & NB RMP



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					0.996			0.853				
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	1863	0	0	1855	0	1770	1589	0	0	0	0
Flt Permitted	0.543						0.950					
Satd. Flow (perm)	1011	1863	0	0	1855	0	1770	1589	0	0	0	0
Satd. Flow (RTOR)					5			165				
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)	1034	300	0	0	320	10	136	3	160	0	0	0
Lane Group Flow (vph)	1066	309	0	0	340	0	140	168	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		16.0	16.0				
Actuated g/C Ratio	0.73	0.73			0.73		0.18	0.18				
v/c Ratio	1.44	0.23			0.25		0.44	0.40				
Control Delay	223.5	4.3			4.4		38.2	8.9				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	223.5	4.3			4.4		38.2	8.9				
LOS	F	A			A		D	A				
Approach Delay		174.3			4.4			22.2				
Approach LOS		F			A			C				
Queue Length 50th (ft)	~831	46			51		72	1				
Queue Length 95th (ft)	#1069	73			80		129	55				
Internal Link Dist (ft)		484			788			663			1045	
Turn Bay Length (ft)												
Base Capacity (vph)	741	1366			1362		315	418				
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	1.44	0.23			0.25		0.44	0.40				

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 122.6 — Intersection LOS: F
Intersection Capacity Utilization 94.8% — ICU Level of Service F
Analysis Period (min) 15

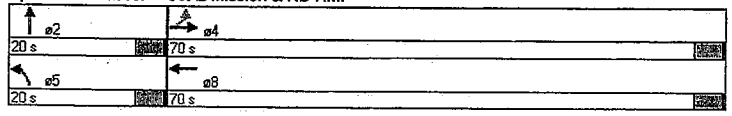
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

050702 - Fallbrook Oaks
Lanes, Volumes, Timings

NTC W/O Project PM
30: E Mission & NB RMP

Splits and Phases: 30: E Mission & NB RMP



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Sabita/Vonessa
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