

**Appendix K:
Supplemental Traffic Supporting Information**

THIS PAGE INTENTIONALLY LEFT BLANK

K.1 - Mitigation LOS Appendix Materials

THIS PAGE INTENTIONALLY LEFT BLANK

Existing Plus Background Plus Project – Alternative 1 – Mitigation

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	909	91	1	218	66	17
v/c Ratio	0.04	0.98	0.11	0.00	0.44	0.30	0.04
Control Delay	4.9	41.3	1.5	27.0	7.2	33.1	27.1
Queue Delay	0.0	2.8	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	44.2	1.5	27.0	7.2	33.1	27.1
Queue Length 50th (ft)	8	433	0	0	0	31	8
Queue Length 95th (ft)	17	#644	11	4	41	63	22
Internal Link Dist (ft)	117			115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	1168	927	809	300	501	217	434
Starvation Cap Reductn	0	13	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.99	0.11	0.00	0.44	0.30	0.04

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔		↔	↔	↔	↔	↔
Volume (vph)	2	37	0	745	0	75	1	0	179	54	14	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00		1.00		0.98		1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		0.99		1.00		1.00	1.00	1.00	1.00	
Frt		1.00		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95		1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1791		1151		1641	1433	1167	1863	
Flt Permitted		1.00		0.73		1.00		0.75	1.00	0.76	1.00	
Satd. Flow (perm)		1723		1370		1151		1289	1433	930	1863	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	2	45	0	909	0	91	1	0	218	66	17	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	167	0	0	0
Lane Group Flow (vph)	0	47	0	909	0	62	0	1	51	66	17	0
Confl. Peds. (#/hr)	2		4	4		2			2	2		
Heavy Vehicles (%)	10%	10%	0%	0%	0%	37%	10%	10%	10%	54%	2%	0%
Turn Type	Perm	NA		Perm		Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4						2				6
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		61.0		61.0		61.0		21.0	21.0	21.0		21.0
Effective Green, g (s)		61.0		61.0		61.0		21.0	21.0	21.0		21.0
Actuated g/C Ratio		0.68		0.68		0.68		0.23	0.23	0.23		0.23
Clearance Time (s)		4.0		4.0		4.0		4.0	4.0	4.0		4.0
Lane Grp Cap (vph)		1167		928		780		300	334	217		434
v/s Ratio Prot												0.01
v/s Ratio Perm		0.03		0.66		0.05		0.00	0.04	0.07		
v/c Ratio		0.04		0.98		0.08		0.00	0.15	0.30		0.04
Uniform Delay, d1		4.8		13.9		4.9		26.5	27.4	28.5		26.7
Progression Factor		1.00		1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.1		25.0		0.2		0.0	1.0	3.6		0.2
Delay (s)		4.9		38.9		5.1		26.5	28.4	32.1		26.9
Level of Service		A		D		A		C	C	C		C
Approach Delay (s)		4.9			35.8			28.4				31.0
Approach LOS		A			D			C				C

Intersection Summary

HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	16	254	30	1	851	103	5
v/c Ratio	0.02	0.45	0.05	0.00	0.71	0.18	0.01
Control Delay	10.2	15.2	4.8	8.0	4.8	10.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	15.2	4.8	8.0	4.8	10.0	8.2
Queue Length 50th (ft)	3	58	0	0	0	19	1
Queue Length 95th (ft)	10	88	9	2	16	35	5
Internal Link Dist (ft)	117			115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	690	567	605	863	1198	568	863
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.45	0.05	0.00	0.71	0.18	0.01

Intersection Summary

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔		↔	↔	↔	↔	↔
Volume (vph)	0	12	0	193	0	23	0	1	647	78	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frt		1.00		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1727		1805		1468		1900	1615	1570	1900	
Flt Permitted		1.00		0.75		1.00		1.00	1.00	0.76	1.00	
Satd. Flow (perm)		1727		1419		1468		1900	1615	1251	1900	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	16	0	254	0	30	0	1	851	103	5	0
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	464	0	0	0
Lane Group Flow (vph)	0	16	0	254	0	12	0	1	387	103	5	0
Heavy Vehicles (%)	0%	10%	0%	0%	0%	10%	0%	0%	0%	15%	0%	0%
Turn Type		NA		Perm		Perm		NA	Perm	Perm	NA	
Protected Phases		4						2				6
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		22.0		22.0		22.0		25.0	25.0	25.0		25.0
Effective Green, g (s)		22.0		22.0		22.0		25.0	25.0	25.0		25.0
Actuated g/C Ratio		0.40		0.40		0.40		0.45	0.45	0.45		0.45
Clearance Time (s)		4.0		4.0		4.0		4.0	4.0	4.0		4.0
Lane Grp Cap (vph)		690		567		587		863	734	568		863
v/s Ratio Prot		0.01						0.00				0.00
v/s Ratio Perm				c0.18		0.01			c0.24	0.08		
v/c Ratio		0.02		0.45		0.02		0.00	0.53	0.18		0.01
Uniform Delay, d1		10.0		12.1		10.0		8.2	10.8	8.9		8.2
Progression Factor		1.00		1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.1		2.6		0.1		0.0	2.7	0.7		0.0
Delay (s)		10.1		14.6		10.0		8.2	13.5	9.6		8.2
Level of Service		B		B		B		A	B	A		A
Approach Delay (s)		10.1			14.1			13.5				9.6
Approach LOS		B			B			B				A

Intersection Summary

HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Existing Plus Background Plus Project – Alternative 2 – Mitigation

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	909	91	1	218	66	17
v/c Ratio	0.04	0.98	0.11	0.00	0.44	0.30	0.04
Control Delay	4.9	41.3	1.5	27.0	7.2	33.1	27.1
Queue Delay	0.0	2.8	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	44.2	1.5	27.0	7.2	33.1	27.1
Queue Length 50th (ft)	8	433	0	0	0	31	8
Queue Length 95th (ft)	17	#644	11	4	41	63	22
Internal Link Dist (ft)	117			115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	1168	927	809	300	501	217	434
Starvation Cap Reductn	0	13	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.99	0.11	0.00	0.44	0.30	0.04

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖		↗		↖	↗	↖	↗	
Volume (vph)	2	37	0	745	0	75	1	0	179	54	14	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00		1.00		0.98		1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		0.99		1.00		1.00	1.00	1.00	1.00	
Frt		1.00		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95		1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)		1723		1791		1151		1641	1433	1167	1863	
Flt Permitted		1.00		0.73		1.00		0.75	1.00	0.76	1.00	
Satd. Flow (perm)		1723		1370		1151		1289	1433	930	1863	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	2	45	0	909	0	91	1	0	218	66	17	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	167	0	0	0
Lane Group Flow (vph)	0	47	0	909	0	62	0	1	51	66	17	0
Confl. Peds. (#/hr)	2		4	4		2			2	2		
Heavy Vehicles (%)	10%	10%	0%	0%	0%	37%	10%	10%	10%	54%	2%	0%
Turn Type	Perm	NA		Perm		Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4						2				6
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		61.0		61.0		61.0		21.0	21.0	21.0	21.0	
Effective Green, g (s)		61.0		61.0		61.0		21.0	21.0	21.0	21.0	
Actuated g/C Ratio		0.68		0.68		0.68		0.23	0.23	0.23	0.23	
Clearance Time (s)		4.0		4.0		4.0		4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)		1167		928		780		300	334	217	434	
v/s Ratio Prot												0.01
v/s Ratio Perm		0.03		0.66		0.05		0.00	0.04	0.07		
v/c Ratio		0.04		0.98		0.08		0.00	0.15	0.30	0.04	
Uniform Delay, d1		4.8		13.9		4.9		26.5	27.4	28.5	26.7	
Progression Factor		1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		25.0		0.2		0.0	1.0	3.6	0.2	
Delay (s)		4.9		38.9		5.1		26.5	28.4	32.1	26.9	
Level of Service		A		D		A		C	C	C	C	
Approach Delay (s)		4.9			35.8			28.4			31.0	
Approach LOS		A			D			C			C	

Intersection Summary

HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	16	254	30	1	851	103	5
v/c Ratio	0.02	0.45	0.05	0.00	0.71	0.18	0.01
Control Delay	10.2	15.2	4.8	8.0	4.8	10.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	15.2	4.8	8.0	4.8	10.0	8.2
Queue Length 50th (ft)	3	58	0	0	0	19	1
Queue Length 95th (ft)	10	88	9	2	16	35	5
Internal Link Dist (ft)	117			115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	690	567	605	863	1198	568	863
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.45	0.05	0.00	0.71	0.18	0.01

Intersection Summary

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔		↔		↔	↔	↔	↔	↔
Volume (vph)	0	12	0	193	0	23	0	1	647	78	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frt		1.00		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1727		1805		1468		1900	1615	1570	1900	
Flt Permitted		1.00		0.75		1.00		1.00	1.00	0.76	1.00	
Satd. Flow (perm)		1727		1419		1468		1900	1615	1251	1900	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	16	0	254	0	30	0	1	851	103	5	0
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	464	0	0	0
Lane Group Flow (vph)	0	16	0	254	0	12	0	1	387	103	5	0
Heavy Vehicles (%)	0%	10%	0%	0%	0%	10%	0%	0%	0%	15%	0%	0%
Turn Type		NA		Perm		Perm		NA	Perm	Perm	NA	
Protected Phases		4						2				6
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		22.0		22.0		22.0		25.0	25.0	25.0		25.0
Effective Green, g (s)		22.0		22.0		22.0		25.0	25.0	25.0		25.0
Actuated g/C Ratio		0.40		0.40		0.40		0.45	0.45	0.45		0.45
Clearance Time (s)		4.0		4.0		4.0		4.0	4.0	4.0		4.0
Lane Grp Cap (vph)		690		567		587		863	734	568		863
v/s Ratio Prot		0.01						0.00				0.00
v/s Ratio Perm				c0.18		0.01			c0.24	0.08		
v/c Ratio		0.02		0.45		0.02		0.00	0.53	0.18		0.01
Uniform Delay, d1		10.0		12.1		10.0		8.2	10.8	8.9		8.2
Progression Factor		1.00		1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.1		2.6		0.1		0.0	2.7	0.7		0.0
Delay (s)		10.1		14.6		10.0		8.2	13.5	9.6		8.2
Level of Service		B		B		B		A	B	A		A
Approach Delay (s)		10.1			14.1			13.5				9.6
Approach LOS		B			B			B				A

Intersection Summary

HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Cumulative Plus Project – Alternative 1 – Mitigation

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	345	160	145	138	138	394
v/c Ratio	0.15	0.61	0.25	0.21	0.20	0.40	0.51
Control Delay	9.2	17.6	4.6	11.2	3.2	15.7	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	17.6	4.6	11.2	3.2	15.7	14.5
Queue Length 50th (ft)	18	82	7	29	0	30	89
Queue Length 95th (ft)	38	135	29	53	20	62	137
Internal Link Dist (ft)	117		37	115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	734	567	630	697	680	342	778
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.61	0.25	0.21	0.20	0.40	0.51

Intersection Summary

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↖	↗	↖	↗	
Volume (vph)	10	70	10	283	30	101	10	109	113	113	313	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00		1.00	0.98			1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.99		1.00	0.88			1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1704		1797	1286			1720	1435	1170	1855	
Flt Permitted		0.97		0.69	1.00			0.97	1.00	0.66	1.00	
Satd. Flow (perm)		1667		1299	1286			1667	1435	818	1855	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	12	85	12	345	37	123	12	133	138	138	382	12
RTOR Reduction (vph)	0	7	0	0	69	0	0	0	80	0	2	0
Lane Group Flow (vph)	0	102	0	345	91	0	0	145	58	138	392	0
Confl. Peds. (#/hr)	2		4	4		2			2	2		
Heavy Vehicles (%)	10%	10%	0%	0%	0%	37%	10%	10%	10%	54%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		24.0		24.0	24.0			23.0	23.0	23.0	23.0	
Effective Green, g (s)		24.0		24.0	24.0			23.0	23.0	23.0	23.0	
Actuated g/C Ratio		0.44		0.44	0.44			0.42	0.42	0.42	0.42	
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)		727		566	561			697	600	342	775	
v/s Ratio Prot					0.07						c0.21	
v/s Ratio Perm		0.06		c0.27				0.09	0.04	0.17		
v/c Ratio		0.14		0.61	0.16			0.21	0.10	0.40	0.51	
Uniform Delay, d1		9.3		11.9	9.4			10.2	9.7	11.2	11.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4		4.8	0.6			0.7	0.3	3.5	2.3	
Delay (s)		9.7		16.7	10.0			10.9	10.0	14.7	14.2	
Level of Service		A		B	B			B	B	B	B	
Approach Delay (s)		9.7			14.6			10.5			14.3	
Approach LOS		A			B			B			B	

Intersection Summary

HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	157	241	228	389	299	146	248
v/c Ratio	0.24	0.45	0.31	0.46	0.33	0.44	0.29
Control Delay	10.5	15.6	5.3	12.6	2.6	15.6	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	15.6	5.3	12.6	2.6	15.6	10.0
Queue Length 50th (ft)	28	55	13	82	0	31	45
Queue Length 95th (ft)	49	86	34	113	18	57	68
Internal Link Dist (ft)	117		37	115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	666	531	730	840	897	331	857
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.45	0.31	0.46	0.33	0.44	0.29

Intersection Summary

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↕	↖	↗	↖	↗
Volume (vph)	20	80	20	183	50	123	20	276	227	111	169	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.98		1.00	0.89			1.00	0.85	1.00	0.98	
Flt Protected		0.99		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1727		1805	1585			1894	1615	1570	1870	
Flt Permitted		0.94		0.70	1.00			0.97	1.00	0.44	1.00	
Satd. Flow (perm)		1633		1328	1585			1849	1615	729	1870	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	26	105	26	241	66	162	26	363	299	146	222	26
RTOR Reduction (vph)	0	13	0	0	97	0	0	0	163	0	8	0
Lane Group Flow (vph)	0	144	0	241	131	0	0	389	136	146	240	0
Heavy Vehicles (%)	0%	10%	0%	0%	0%	10%	0%	0%	0%	15%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		22.0		22.0	22.0			25.0	25.0	25.0	25.0	
Effective Green, g (s)		22.0		22.0	22.0			25.0	25.0	25.0	25.0	
Actuated g/C Ratio		0.40		0.40	0.40			0.45	0.45	0.45	0.45	
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)		653		531	634			840	734	331	850	
v/s Ratio Prot					0.08							0.13
v/s Ratio Perm		0.09		c0.18				c0.21	0.08	0.20		
v/c Ratio		0.22		0.45	0.21			0.46	0.19	0.44	0.28	
Uniform Delay, d1		10.9		12.1	10.8			10.4	8.9	10.2	9.4	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8		2.8	0.7			1.8	0.6	4.2	0.8	
Delay (s)		11.6		14.9	11.5			12.2	9.5	14.5	10.2	
Level of Service		B		B	B			B	A	B	B	
Approach Delay (s)		11.6			13.3			11.0			11.8	
Approach LOS		B			B			B			B	

Intersection Summary

HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Cumulative Plus Project – Alternative 2 – Mitigation

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	109	354	189	145	146	168	394
v/c Ratio	0.15	0.62	0.30	0.21	0.21	0.49	0.51
Control Delay	9.2	18.0	4.5	11.2	3.1	17.8	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	18.0	4.5	11.2	3.1	17.8	14.5
Queue Length 50th (ft)	18	85	7	29	0	38	89
Queue Length 95th (ft)	38	139	30	53	21	77	137
Internal Link Dist (ft)	117		37	115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	732	567	637	697	685	342	778
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.62	0.30	0.21	0.21	0.49	0.51

Intersection Summary

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↖	↗	↖	↗	
Volume (vph)	10	70	10	290	30	125	10	109	120	138	313	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00		1.00	0.98			1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.99		1.00	0.88			1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1704		1797	1264			1720	1435	1170	1855	
Flt Permitted		0.97		0.69	1.00			0.97	1.00	0.66	1.00	
Satd. Flow (perm)		1663		1299	1264			1667	1435	818	1855	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	12	85	12	354	37	152	12	133	146	168	382	12
RTOR Reduction (vph)	0	7	0	0	86	0	0	0	85	0	2	0
Lane Group Flow (vph)	0	102	0	354	103	0	0	145	61	168	392	0
Confl. Peds. (#/hr)	2		4	4		2			2	2		
Heavy Vehicles (%)	10%	10%	0%	0%	0%	37%	10%	10%	10%	54%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		24.0		24.0	24.0			23.0	23.0	23.0	23.0	
Effective Green, g (s)		24.0		24.0	24.0			23.0	23.0	23.0	23.0	
Actuated g/C Ratio		0.44		0.44	0.44			0.42	0.42	0.42	0.42	
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)		725		566	551			697	600	342	775	
v/s Ratio Prot					0.08							c0.21
v/s Ratio Perm		0.06		c0.27				0.09	0.04	0.21		
v/c Ratio		0.14		0.63	0.19			0.21	0.10	0.49	0.51	
Uniform Delay, d1		9.3		12.0	9.5			10.2	9.7	11.7	11.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4		5.2	0.8			0.7	0.3	5.0	2.3	
Delay (s)		9.7		17.2	10.3			10.9	10.1	16.7	14.2	
Level of Service		A		B	B			B	B	B	B	
Approach Delay (s)		9.7			14.8			10.5			14.9	
Approach LOS		A			B			B			B	

Intersection Summary

HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues

18: Devlin Rd & S Kelly Rd

10/4/2016



Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	157	249	257	389	307	176	248
v/c Ratio	0.24	0.47	0.35	0.46	0.34	0.53	0.29
Control Delay	10.5	15.8	5.1	12.6	2.6	18.1	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	15.8	5.1	12.6	2.6	18.1	10.0
Queue Length 50th (ft)	28	57	13	82	0	39	45
Queue Length 95th (ft)	49	89	35	113	18	71	68
Internal Link Dist (ft)	117		37	115			193
Turn Bay Length (ft)						135	
Base Capacity (vph)	664	531	743	840	901	331	857
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.47	0.35	0.46	0.34	0.53	0.29

Intersection Summary

HCM Signalized Intersection Capacity Analysis

18: Devlin Rd & S Kelly Rd

10/4/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↕	↖	↗	↖	↗
Volume (vph)	20	80	20	189	50	145	20	276	233	134	169	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.98		1.00	0.89			1.00	0.85	1.00	0.98	
Flt Protected		0.99		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1727		1805	1571			1894	1615	1570	1870	
Flt Permitted		0.93		0.70	1.00			0.97	1.00	0.44	1.00	
Satd. Flow (perm)		1626		1328	1571			1849	1615	729	1870	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	26	105	26	249	66	191	26	363	307	176	222	26
RTOR Reduction (vph)	0	13	0	0	115	0	0	0	167	0	8	0
Lane Group Flow (vph)	0	144	0	249	142	0	0	389	140	176	240	0
Heavy Vehicles (%)	0%	10%	0%	0%	0%	10%	0%	0%	0%	15%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		22.0		22.0	22.0			25.0	25.0	25.0	25.0	
Effective Green, g (s)		22.0		22.0	22.0			25.0	25.0	25.0	25.0	
Actuated g/C Ratio		0.40		0.40	0.40			0.45	0.45	0.45	0.45	
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)		650		531	628			840	734	331	850	
v/s Ratio Prot					0.09						0.13	
v/s Ratio Perm		0.09		c0.19				0.21	0.09	c0.24		
v/c Ratio		0.22		0.47	0.23			0.46	0.19	0.53	0.28	
Uniform Delay, d1		10.9		12.2	10.9			10.4	9.0	10.8	9.4	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8		3.0	0.8			1.8	0.6	6.0	0.8	
Delay (s)		11.6		15.1	11.7			12.2	9.5	16.8	10.2	
Level of Service		B		B	B			B	A	B	B	
Approach Delay (s)		11.6			13.4			11.0			12.9	
Approach LOS		B			B			B			B	

Intersection Summary

HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

K.2 - Queuing Results

THIS PAGE INTENTIONALLY LEFT BLANK

SR 29 VISSIM
Vissim Post-Processor and Synchro

Queue Length	Cumulative No Project AM Peak Hour				Cumulative Plus Project Alternative 1 AM Peak Hour				Cumulative Plus Project Alternative 2 AM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Northbound Through Queue Length				Northbound Through Queue Length				Northbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	2300	2,803	3,288	AVG	2300	2,545	2,935	AVG	2300	2,522	2,919	AVG
SR 29/Napa Junction Rd	400	828	1,435	AVG	400	844	1,440	AVG	400	848	1,438	AVG
SR 29/Eucalyptus Dr	640	311	787	MAX	640	319	789	MAX	640	322	786	MAX
SR 29/Rio Del Mar	680	727	1,131	AVG	680	742	1,132	AVG	680	748	1,141	AVG
SR 29/Poco Way-S. Napa Junction Rd	480	1,310	1,908	AVG	480	1,389	1,909	AVG	480	1,375	1,917	AVG
SR 29/Donaldson Way	450	1,575	2,721	AVG	450	1,734	2,782	AVG	450	1,712	2,958	AVG
SR 29/American Canyon	500	2,384	2,475	AVG	500	2,389	2,472	AVG	500	2,394	2,475	AVG

Queue Length	Cumulative No Project AM Peak Hour				Cumulative Plus Project Alternative 1 AM Peak Hour				Cumulative Plus Project Alternative 2 AM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Southbound Through Queue Length				Southbound Through Queue Length				Southbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	770	1,938	2,361	AVG	770	1,812	2,162	AVG	770	1,858	2,216	AVG
SR 29/Napa Junction Rd	3,700	3,228	3,782	MAX	3,700	3,380	3,790	MAX	3,700	3,382	3,794	MAX
SR 29/Eucalyptus Dr	800	0	0	NO	800	0	5	NO	800	0	0	NO
SR 29/Rio Del Mar	640	46	492	NO	640	45	496	NO	640	53	518	NO
SR 29/Poco Way-S. Napa Junction Rd	670	0	6	NO	670	0	0	NO	670	0	8	NO
SR 29/Donaldson Way	1,130	131	1,113	NO	1,130	110	1,030	NO	1,130	137	1,137	MAX
SR 29/American Canyon	1,050	147	947	NO	1,050	143	1,017	NO	1,050	146	930	NO

Queue Length	Cumulative No Project PM Peak Hour				Cumulative Plus Project Alternative 1 PM Peak Hour				Cumulative Plus Project Alternative 2 PM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Northbound Through Queue Length				Northbound Through Queue Length				Northbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	2300	2,085	2,327	MAX	2300	1,796	2,216	NO	2300	2,025	2,297	NO
SR 29/Napa Junction Rd	400	108	996	MAX	400	81	794	MAX	400	43	590	MAX
SR 29/Eucalyptus Dr	640	73	725	MAX	640	62	726	MAX	640	59	725	MAX
SR 29/Rio Del Mar	680	57	1,002	MAX	680	58	918	MAX	680	59	998	MAX
SR 29/Poco Way-S. Napa Junction Rd	480	0	8	NO	480	0	19	NO	480	0	22	NO
SR 29/Donaldson Way	450	331	1,037	MAX	450	348	1,237	MAX	450	336	1,048	MAX
SR 29/American Canyon	500	2,272	2,474	AVG	500	2,268	2,475	AVG	500	2,266	2,475	AVG

Queue Length	Cumulative No Project PM Peak Hour				Cumulative Plus Project Alternative 1 PM Peak Hour				Cumulative Plus Project Alternative 2 PM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Southbound Through Queue Length				Southbound Through Queue Length				Southbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	770	2,345	2,587	AVG	770	2,048	2,481	AVG	770	2,386	2,662	AVG
SR 29/Napa Junction Rd	3,700	3,393	3,790	MAX	3,700	3,412	3,787	MAX	3,700	3,411	3,788	MAX
SR 29/Eucalyptus Dr	800	552	1,405	MAX	800	585	1,399	MAX	800	599	1,407	MAX
SR 29/Rio Del Mar	640	436	786	MAX	640	456	795	MAX	640	463	795	MAX
SR 29/Poco Way-S. Napa Junction Rd	670	154	504	NO	670	149	496	NO	670	156	499	NO
SR 29/Donaldson Way	1,130	1,815	2,504	AVG	1,130	1,808	2,506	AVG	1,130	1,829	2,508	AVG
SR 29/American Canyon	1,050	143	541	NO	1,050	145	580	NO	1,050	141	505	NO

SR 29 VISSIM

Vissim Post-Processor and Synchro

Existing Plus Background Plus Project Alternative 1 AM Peak Hour Existing Plus Background Plus Project Alternative 2 AM Peak Hour

Intersection	Northbound Through Queue Length				Northbound Through Queue Length				Northbound Through Queue Length			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	2300	638	1,305	NO	2300	683	1,336	NO	2300	680	1,332	NO
SR 29/Napa Junction Rd	400	545	1,435	AVG	400	352	1,414	MAX	400	450	1,418	AVG
SR 29/Eucalyptus Dr	640	92	734	MAX	640	61	626	NO	640	103	715	MAX
SR 29/Rio Del Mar	680	270	1,101	MAX	680	307	1,107	MAX	680	454	1,122	MAX
SR 29/Poco Way-S. Napa Junction Rd	480	59	742	MAX	480	117	983	MAX	480	393	1,626	MAX
SR 29/Donaldson Way	450	136	903	MAX	450	68	810	MAX	450	129	1,083	MAX
SR 29/American Canyon	500	346	879	MAX	500	405	963	MAX	500	444	984	MAX

Intersection	Southbound Through Queue Length				Southbound Through Queue Length				Southbound Through Queue Length			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	770	368	509	NO	770	414	576	NO	770	449	630	NO
SR 29/Napa Junction Rd	3,700	82	1,042	NO	3,700	63	714	NO	3,700	161	1,138	NO
SR 29/Eucalyptus Dr	800	3	82	NO	800	5	134	NO	800	5	136	NO
SR 29/Rio Del Mar	640	33	288	NO	640	25	299	NO	640	25	371	NO
SR 29/Poco Way-S. Napa Junction Rd	670	7	95	NO	670	0	0	NO	670	0	0	NO
SR 29/Donaldson Way	1,130	125	854	NO	1,130	65	714	NO	1,130	66	786	NO
SR 29/American Canyon	1,050	65	440	NO	1,050	29	247	NO	1,050	30	273	NO

Existing Plus Background Plus Project Alternative 1 PM Peak Hour Existing Plus Background Plus Project Alternative 2 PM Peak Hour

Intersection	Northbound Through Queue Length				Northbound Through Queue Length				Northbound Through Queue Length			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	2300	443	662	NO	2300	281	458	NO	2300	275	445	NO
SR 29/Napa Junction Rd	400	216	928	MAX	400	32	639	MAX	400	38	697	MAX
SR 29/Eucalyptus Dr	640	75	734	MAX	640	47	707	MAX	640	54	720	MAX
SR 29/Rio Del Mar	680	57	1,003	MAX	680	49	986	MAX	680	57	1,027	MAX
SR 29/Poco Way-S. Napa Junction Rd	480	0	38	NO	480	0	36	NO	480	0	23	NO
SR 29/Donaldson Way	450	458	1,348	AVG	450	329	950	MAX	450	352	1,062	MAX
SR 29/American Canyon	500	904	1,787	AVG	500	459	1,320	MAX	500	517	1,358	AVG

Intersection	Southbound Through Queue Length				Southbound Through Queue Length				Southbound Through Queue Length			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	770	1,213	1,608	AVG	770	938	1,313	AVG	770	1,090	1,369	AVG
SR 29/Napa Junction Rd	3,700	3,208	3,784	MAX	3,700	3,287	3,796	MAX	3,700	3,303	3,786	MAX
SR 29/Eucalyptus Dr	800	52	430	NO	800	44	384	NO	800	45	375	NO
SR 29/Rio Del Mar	640	171	769	MAX	640	152	764	MAX	640	152	768	MAX
SR 29/Poco Way-S. Napa Junction Rd	670	34	371	NO	670	2	74	NO	670	0	27	NO
SR 29/Donaldson Way	1,130	1,014	2,278	MAX	1,130	608	1,686	MAX	1,130	503	1,580	MAX
SR 29/American Canyon	1,050	131	413	NO	1,050	132	459	NO	1,050	129	437	NO

SR 29 VISSIM
Vissim Post-Processor and Synchro

Queue Length	Existing Conditions AM Peak Hour				Existing Plus Alternative 1 AM Peak Hour				Existing Plus Project Alternative 2 AM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Northbound Through Queue Length				Northbound Through Queue Length				Northbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	2300	519	1,169	NO	2300	519	1,196	NO	2300	563	1,205	NO
SR 29/Napa Junction Rd	400	87	854	MAX	400	111	946	MAX	400	141	1,281	MAX
SR 29/Eucalyptus Dr	640	12	314	NO	640	16	427	NO	640	3	228	NO
SR 29/Rio Del Mar	680	154	1,067	MAX	680	151	1,060	MAX	680	144	1,061	MAX
SR 29/Poco Way-S. Napa Junction Rd	480	1	107	NO	480	0	87	NO	480	0	78	NO
SR 29/Donaldson Way	450	58	561	MAX	450	44	568	MAX	450	105	805	MAX
SR 29/American Canyon	500	225	726	MAX	500	251	757	MAX	500	261	772	MAX

Queue Length	Existing Conditions AM Peak Hour				Existing Plus Alternative 1 AM Peak Hour				Existing Plus Project Alternative 2 AM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Southbound Through Queue Length				Southbound Through Queue Length				Southbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	770	193	316	NO	770	261	386	NO	770	310	409	NO
SR 29/Napa Junction Rd	3,700	28	291	NO	3,700	28	338	NO	3,700	45	454	NO
SR 29/Eucalyptus Dr	800	2	83	NO	800	2	117	NO	800	0	0	NO
SR 29/Rio Del Mar	640	22	247	NO	640	22	256	NO	640	22	181	NO
SR 29/Poco Way-S. Napa Junction Rd	670	0	0	NO	670	0	0	NO	670	0	5	NO
SR 29/Donaldson Way	1,130	71	597	NO	1,130	51	556	NO	1,130	33	373	NO
SR 29/American Canyon	1,050	24	183	NO	1,050	23	183	NO	1,050	57	364	NO

Queue Length	Existing Conditions Existing PM Peak Hour				Existing Plus Project Alternative 1 PM Peak Hour				Existing Plus Project Alternative 2 PM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Northbound Through Queue Length				Northbound Through Queue Length				Northbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	2300	247	398	NO	2300	248	402	NO	2300	245	391	NO
SR 29/Napa Junction Rd	400	47	758	MAX	400	28	624	MAX	400	30	698	MAX
SR 29/Eucalyptus Dr	640	46	661	MAX	640	44	682	MAX	640	49	681	MAX
SR 29/Rio Del Mar	680	37	861	MAX	680	38	842	MAX	680	40	864	MAX
SR 29/Poco Way-S. Napa Junction Rd	480	0	8	NO	480	0	21	NO	480	0	16	NO
SR 29/Donaldson Way	450	258	726	MAX	450	246	704	MAX	450	254	740	MAX
SR 29/American Canyon	500	189	737	MAX	500	191	716	MAX	500	187	689	MAX

Queue Length	Existing Conditions Existing PM Peak Hour				Existing Plus Project Alternative 1 PM Peak Hour				Existing Plus Project Alternative 2 PM Peak Hour			
	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
	Southbound Through Queue Length				Southbound Through Queue Length				Southbound Through Queue Length			
Intersection	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?	Storage (ft)	Average Queue (ft)	Maximum Queue (ft)	Exceeds Storage?
SR 29/South Kelly Road (Synchro)	770	371	963	MAX	770	623	1,025	MAX	770	892	1,204	MAX
SR 29/Napa Junction Rd	3,700	3,280	3,787	MAX	3,700	1,724	3,328	NO	3,700	2,217	3,665	NO
SR 29/Eucalyptus Dr	800	42	363	NO	800	40	356	NO	800	40	346	NO
SR 29/Rio Del Mar	640	144	759	MAX	640	140	755	MAX	640	139	751	MAX
SR 29/Poco Way-S. Napa Junction Rd	670	0	22	NO	670	0	11	NO	670	0	26	NO
SR 29/Donaldson Way	1,130	266	1,159	MAX	1,130	300	1,279	MAX	1,130	336	1,308	MAX
SR 29/American Canyon	1,050	92	334	NO	1,050	98	376	NO	1,050	102	345	NO

THIS PAGE INTENTIONALLY LEFT BLANK

K.3 - Revised VISSIM Results

THIS PAGE INTENTIONALLY LEFT BLANK

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

SR 29 VISSIM
Existing Conditions
AM Peak Hour

Intersection 12

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	51	49	95.9%	7.3	38	60	0.3	64.7	5.9	63.5	92.4	E
	Through	2,292	2,314	101.0%	53.0	2,199	2,381	0.5	13.4	3.5	12.9	21.0	B
	Right Turn	20	20	100.0%	6.3	14	32	0.0	3.7	3.7	4.1	14.8	A
	Second Right Subtotal	2,363	2,383	100.8%	52.4	2,269	2,443	0.4	14.3	3.5	13.5	22.1	B
SB	U Turn Second Left												
	Left Turn	66	57	85.6%	3.7	50	62	1.2	449.8	278.9	131.1	914.9	F
	Through	971	968	99.7%	37.8	914	1,018	0.1	11.8	3.6	11.5	19.4	B
	Right Turn	51	56	109.2%	7.2	47	67	0.6	3.6	2.4	2.7	10.3	A
	Second Right Subtotal	1,088	1,080	99.3%	40.7	1,020	1,143	0.2	35.8	17.1	19.8	58.7	D
EB	U Turn Second Left												
	Left Turn	209	155	73.9%	8.1	142	170	4.0	146.6	47.5	91.0	243.2	F
	Through	42	65	155.7%	8.5	53	77	3.2	95.9	43.3	60.2	192.9	F
	Right Turn	62	72	116.6%	7.2	58	82	1.3	88.3	49.4	41.0	192.0	F
	Second Right Subtotal	313	292	93.4%	7.7	280	302	1.2	122.3	49.1	68.7	227.1	F
WB	U Turn Second Left												
	Left Turn	15	15	96.7%	5.4	8	25	0.1	83.0	30.9	48.7	129.1	F
	Through	20	20	101.0%	4.4	15	27	0.0	47.5	26.0	59.9	98.4	D
	Right Turn	143	141	98.6%	11.9	117	154	0.2	13.9	5.3	16.3	37.9	B
	Second Right Subtotal	178	176	98.7%	10.6	150	186	0.2	23.6	10.2	24.4	47.0	C
Total		3,942	3,931	99.7%	41.9	3,865	3,995	0.2	28.4	6.2	26.8	36.4	C

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

SR 29 VISSIM
Existing Conditions
AM Peak Hour

Intersection 11

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,329	2,350	100.9%	55.0	2,223	2,417	0.4	4.4	2.6	3.3	9.7	A
	Right Turn	178	179	100.3%	9.7	167	197	0.0	3.0	1.4	2.5	6.2	A
	Second Right												
	Subtotal	2,507	2,529	100.9%	59.3	2,398	2,614	0.4	4.3	2.6	3.2	9.4	A
SB	U Turn												
	Second Left												
	Left Turn	30	33	109.0%	5.6	27	47	0.5	87.6	28.0	73.6	177.2	F
	Through	1,018	1,022	100.4%	38.1	948	1,072	0.1	2.4	0.6	2.1	3.5	A
	Right Turn												
	Second Right												
	Subtotal	1,048	1,054	100.6%	37.7	983	1,106	0.2	5.0	1.2	5.1	10.7	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	151	150	99.3%	13.7	131	182	0.1	65.2	10.4	65.7	87.3	E
	Through												
	Right Turn	34	32	94.1%	5.8	20	40	0.3	11.7	4.0	14.7	24.6	B
	Second Right												
	Subtotal	185	182	98.3%	13.7	159	212	0.2	55.9	12.2	52.1	80.7	E
Total		3,740	3,765	100.7%	49.3	3,682	3,847	0.4	6.9	2.4	5.8	11.4	A

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

SR 29 VISSIM
Existing Conditions
AM Peak Hour

Intersection 10

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS	
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum		
NB	U Turn Second Left													
	Left Turn	11	10	92.7%	3.0	4	13	0.2	98.8	36.3	105.9	142.7	F	
	Through	2,120	2,137	100.8%	54.3	2,029	2,222	0.4	12.4	1.8	11.6	17.1	B	
	Right Turn Second Right													
	Subtotal	2,131	2,148	100.8%	53.9	2,042	2,232	0.4	12.8	1.7	11.8	17.1	B	
SB	U Turn Second Left													
	Left Turn													
	Through	1,118	1,128	100.8%	36.1	1,045	1,163	0.3	8.5	1.4	8.3	10.7	A	
	Right Turn Second Right	51	47	91.4%	8.2	32	58	0.6	11.8	5.6	6.3	21.9	B	
	Subtotal	1,169	1,174	100.4%	39.0	1,093	1,217	0.1	8.6	1.5	8.3	10.9	A	
EB	U Turn Second Left													
	Left Turn	387	390	100.9%	18.3	363	418	0.2	77.0	21.2	58.1	122.2	E	
	Through													
	Right Turn Second Right	62	60	96.6%	7.4	48	70	0.3	47.9	21.9	30.6	96.1	D	
	Subtotal	449	450	100.3%	19.7	424	488	0.1	73.2	21.2	56.1	116.1	E	
WB	U Turn Second Left													
	Left Turn													
	Through													
	Right Turn Second Right													
	Subtotal													
Total		3,749	3,772	100.6%	52.6	3,688	3,867	0.4	18.6	3.5	16.3	26.0	B	

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

SR 29 VISSIM
Existing Conditions
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	24	23	94.2%	4.7	15	32	0.3	3.0	2.0	2.6	8.8	A
	Through	1,996	2,008	100.6%	53.3	1,928	2,091	0.3	12.8	2.2	10.5	16.1	B
	Right Turn	6	6	103.3%	2.7	4	13	0.1	9.2	12.4	3.9	35.1	A
	Second Right Subtotal	2,026	2,037	100.5%	50.0	1,959	2,117	0.2	12.6	2.3	10.4	16.0	B
SB	U Turn Second Left												
	Left Turn	8	8	97.5%	3.4	3	13	0.1	8.0	7.6	6.1	28.1	A
	Through	1,168	1,174	100.5%	32.6	1,105	1,211	0.2	0.3	0.1	0.3	0.6	A
	Right Turn	4	4	95.0%	2.1	0	8	0.1	0.2	0.2	0.0	0.9	A
	Second Right Subtotal	1,180	1,186	100.5%	34.0	1,112	1,225	0.2	0.4	0.1	0.4	0.9	A
EB	U Turn Second Left												
	Left Turn	122	123	100.9%	11.7	103	142	0.1	18.6	2.7	17.7	29.5	C
	Through												
	Right Turn	42	45	106.7%	5.4	36	54	0.4	11.9	2.8	11.8	22.7	B
	Second Right Subtotal	164	168	102.4%	13.8	143	188	0.3	16.9	2.5	15.7	26.7	C
WB	U Turn Second Left												
	Left Turn	1	1	110.0%	1.1	0	3	0.1	4.7	9.5	0.0	29.9	A
	Through												
	Right Turn	13	13	102.3%	3.0	9	18	0.1	24.6	16.5	19.4	54.4	C
	Second Right Subtotal	14	14	102.9%	2.8	12	19	0.1	22.8	14.3	18.3	48.4	C
Total		3,384	3,405	100.6%	51.8	3,339	3,503	0.4	8.6	1.6	7.0	10.8	A

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

SR 29 VISSIM
Existing Conditions
AM Peak Hour

Intersection 7

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	9	11	117.8%	3.1	5	15	0.5	38.4	21.3	54.9	101.8	D
	Through	1,583	1,570	99.2%	52.3	1,486	1,641	0.3	14.8	2.2	14.5	26.1	B
	Right Turn	12	13	105.8%	3.8	8	19	0.2	5.0	3.1	6.0	34.2	A
	Second Right Subtotal	1,604	1,593	99.3%	52.2	1,508	1,666	0.3	14.9	2.1	14.5	26.6	B
SB	U Turn Second Left												
	Left Turn	105	100	95.0%	5.0	92	109	0.5	177.3	149.9	109.1	586.9	F
	Through	1,058	1,050	99.2%	36.2	968	1,101	0.2	23.1	1.8	21.6	28.6	C
	Right Turn	48	51	106.7%	8.5	39	67	0.5	9.7	2.2	9.4	16.2	A
	Second Right Subtotal	1,211	1,201	99.2%	33.1	1,127	1,240	0.3	35.8	11.8	28.1	66.2	D
EB	U Turn Second Left												
	Left Turn	167	171	102.4%	12.7	152	194	0.3	72.3	10.4	72.9	119.9	E
	Through	147	147	100.2%	12.3	129	166	0.0	38.9	6.3	40.6	55.8	D
	Right Turn	20	22	109.0%	3.6	17	26	0.4	27.1	5.0	23.9	62.1	C
	Second Right Subtotal	334	340	101.8%	16.2	306	362	0.3	55.1	5.9	53.4	83.9	E
WB	U Turn Second Left												
	Left Turn	30	35	116.0%	8.8	22	49	0.8	13.9	13.3	1.7	33.5	B
	Through	75	76	100.7%	13.1	57	96	0.1	73.9	17.6	72.7	133.5	E
	Right Turn	276	273	98.9%	18.6	246	293	0.2	62.5	17.9	63.3	105.4	E
	Second Right Subtotal	381	383	100.6%	24.0	352	417	0.1	60.8	16.4	63.6	100.6	E
Total		3,530	3,517	99.6%	38.8	3,463	3,587	0.2	31.1	4.7	27.9	39.4	C

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

SR 29 VISSIM
Existing Conditions
AM Peak Hour

Intersection 1

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	65	63	96.5%	9.9	48	79	0.3	69.1	9.2	71.6	103.1	E
	Through	782	782	100.0%	21.5	756	820	0.0	46.3	2.9	46.1	53.2	D
	Right Turn	29	28	96.2%	8.8	15	39	0.2	22.3	12.0	24.6	45.6	C
	Second Right Subtotal	876	873	99.6%	24.4	830	914	0.1	47.5	2.8	47.4	54.7	D
SB	U Turn Second Left												
	Left Turn	239	244	102.0%	14.9	221	271	0.3	25.2	9.1	25.6	59.3	C
	Through	817	823	100.8%	27.8	781	862	0.2	10.5	2.0	8.7	21.7	B
	Right Turn	52	53	102.3%	5.3	45	62	0.2	3.4	0.8	3.2	6.9	A
	Second Right Subtotal	1,108	1,120	101.1%	35.6	1,048	1,171	0.4	13.5	2.2	13.9	30.1	B
EB	U Turn Second Left												
	Left Turn	140	144	102.5%	12.1	127	162	0.3	56.6	10.3	59.7	76.6	E
	Through	384	383	99.7%	18.9	340	415	0.1	41.7	4.5	42.7	49.1	D
	Right Turn	95	92	96.9%	13.9	77	114	0.3	38.0	9.9	33.3	56.0	D
	Second Right Subtotal	619	618	99.9%	26.7	592	669	0.0	44.7	4.4	45.9	53.8	D
WB	U Turn Second Left												
	Left Turn	74	78	105.1%	9.1	65	90	0.4	92.8	21.0	70.7	175.3	F
	Through	436	435	99.9%	24.9	399	468	0.0	54.1	3.4	54.6	68.8	D
	Right Turn	682	678	99.4%	29.1	617	706	0.2	16.5	3.0	14.7	28.6	B
	Second Right Subtotal	1,192	1,191	99.9%	39.4	1,141	1,250	0.0	34.5	2.0	33.5	44.9	C
Total		3,795	3,802	100.2%	53.9	3,727	3,888	0.1	33.4	1.4	31.5	38.9	C

Intersection 10 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	6	2	2	8	50	17	25	82	NO
	Through	680	154	24	101	180	1,067	58	907	1,114	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	22	2	18	25	247	35	201	287	NO
EB	Right Turn	210	2	1	1	4	51	14	24	77	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	211	57	136	298	503	13	482	520	MAX
WB	Through										
	Right Turn	90	1	0	0	2	61	19	33	105	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	1	1	0	2	107	93	0	302	NO
	Through	480	1	1	0	2	107	93	0	302	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	1	0	2	72	18	62	121	NO
	Through	670	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	12	2	9	16	155	32	113	215	NO
WB	Through										
	Right Turn	570	8	2	5	12	162	32	120	222	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	1	0	1	1	79	14	68	108	NO
	Through										
	Right Turn	790	2	0	1	3	68	14	58	98	NO
	Second Right										
	U Turn										

Intersection 7 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	3	1	1	4	58	13	43	80	NO
	Through	450	58	9	46	77	561	139	371	782	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	90	48	52	215	294	138	197	660	NO
	Through	1,130	71	8	64	90	597	82	516	751	NO
EB	Right Turn	310	76	8	69	95	623	82	542	777	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	78	15	59	108	393	137	200	700	MAX
WB	Through	800	36	4	31	45	242	32	183	290	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	5	5	0	17	148	18	103	179	NO
	Through	580	150	31	105	205	562	18	516	593	NO
	Right Turn										
	Second Right										

Intersection 1 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	25	4	20	34	132	25	92	158	NO
	Through	500	225	15	208	261	726	47	658	796	MAX
	Right Turn	300	1	0	0	1	59	20	45	104	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	24	4	18	32	156	31	112	193	NO
	Through	1,050	24	4	19	29	183	84	126	397	NO
EB	Right Turn	440	1	0	0	1	70	22	47	106	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	56	7	46	68	262	24	222	301	MAX
WB	Through	130	68	5	60	77	270	26	223	307	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	46	14	25	63	197	46	127	259	NO
	Through	1,610	74	6	63	80	302	42	236	384	NO
	Right Turn	470	1	1	0	2	108	56	0	204	NO
	Second Right										

Intersection 0

0

0

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
0	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
0	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
0	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
0	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
0	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										
0	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										

Vissim Post-Processor
Average Results from 15 Runs
Volume and Delay by Movement

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 12

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	114	116	101.6%	9.6	98	130	0.2	101.6	15.9	90.9	144.4	F
	Through	1,284	1,301	101.3%	52.1	1,214	1,368	0.5	18.3	2.8	18.6	23.3	B
	Right Turn	28	26	93.9%	6.5	19	35	0.3	10.8	3.4	11.1	15.6	B
	Second Right Subtotal	1,426	1,443	101.2%	59.5	1,351	1,526	0.4	25.0	3.2	24.1	31.2	C
SB	U Turn Second Left												
	Left Turn	113	109	96.4%	8.9	95	122	0.4	290.9	75.9	255.0	465.5	F
	Through	1,842	1,781	96.7%	23.4	1,732	1,812	1.4	217.2	10.8	219.6	238.9	F
	Right Turn	358	338	94.3%	17.1	313	366	1.1	195.2	11.4	195.6	209.5	F
	Second Right Subtotal	2,313	2,228	96.3%	31.7	2,180	2,271	1.8	217.5	13.3	217.4	238.7	F
EB	U Turn Second Left												
	Left Turn	39	37	93.6%	4.1	32	45	0.4	80.5	14.6	67.3	100.6	F
	Through	16	14	88.8%	4.2	9	19	0.5	39.7	22.1	33.8	67.6	D
	Right Turn	18	18	101.7%	4.9	11	24	0.1	12.5	14.0	4.0	50.8	B
	Second Right Subtotal	73	69	94.5%	6.1	59	75	0.5	54.3	14.5	50.1	74.0	D
WB	U Turn Second Left												
	Left Turn	39	33	84.9%	5.5	20	39	1.0	89.0	14.5	84.6	152.0	F
	Through	35	37	105.4%	8.8	25	49	0.3	40.4	11.8	43.6	67.3	D
	Right Turn	50	47	93.4%	7.1	36	56	0.5	14.6	7.1	9.5	39.4	B
	Second Right Subtotal	124	117	94.1%	11.8	97	136	0.7	44.3	10.3	41.7	66.6	D
Total		3,936	3,856	98.0%	66.8	3,733	3,950	1.3	138.8	5.2	136.8	147.6	F

Vissim Post-Processor
Average Results from 15 Runs
Volume and Delay by Movement

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 11

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	1,395	1,413	101.3%	56.8	1,322	1,494	0.5	11.2	2.4	12.0	17.6	B
	Right Turn	295	302	102.3%	18.8	269	328	0.4	6.2	1.2	5.7	8.7	A
	Second Right												
	Subtotal	1,690	1,715	101.5%	52.4	1,650	1,795	0.6	10.3	2.0	10.8	15.7	B
SB	U Turn												
	Second Left												
	Left Turn	41	40	98.5%	5.2	32	47	0.1	56.3	16.1	50.8	94.9	E
	Through	1,858	1,797	96.7%	24.8	1,752	1,824	1.4	13.5	2.7	12.4	19.2	B
	Right Turn												
	Second Right												
	Subtotal	1,899	1,838	96.8%	23.2	1,798	1,863	1.4	14.5	2.4	13.4	19.8	B
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	361	346	95.9%	12.4	323	361	0.8	86.7	27.4	75.3	156.2	F
	Through												
	Right Turn	31	30	96.5%	5.7	19	37	0.2	10.2	12.8	9.6	45.4	B
	Second Right												
	Subtotal	392	376	95.9%	16.5	342	398	0.8	80.9	26.3	70.1	147.2	F
Total		3,981	3,929	98.7%	52.1	3,822	3,991	0.8	19.4	4.0	18.0	29.4	B

Vissim Post-Processor
Average Results from 15 Runs
Volume and Delay by Movement

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 10

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	67	61	91.6%	5.9	50	72	0.7	108.3	28.2	101.2	182.5	F
	Through	1,599	1,610	100.7%	52.9	1,556	1,697	0.3	8.2	2.7	6.8	12.8	A
	Right Turn												
	Second Right												
	Subtotal	1,666	1,671	100.3%	54.5	1,613	1,758	0.1	12.3	2.6	11.6	15.9	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	2,115	2,045	96.7%	22.7	2,011	2,083	1.5	20.6	3.0	18.2	26.4	C
	Right Turn	104	104	100.0%	8.6	89	116	0.0	20.5	4.2	20.6	32.1	C
	Second Right												
	Subtotal	2,219	2,149	96.8%	24.2	2,122	2,189	1.5	20.6	3.0	18.2	26.4	C
EB	U Turn												
	Second Left												
	Left Turn	91	93	102.0%	15.1	72	120	0.2	55.9	9.3	54.4	77.1	E
	Through												
	Right Turn	54	53	97.8%	7.5	42	67	0.2	14.6	4.0	16.5	37.6	B
	Second Right												
	Subtotal	145	146	100.4%	15.4	115	162	0.0	41.2	8.4	40.2	66.7	D
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,030	3,965	98.4%	58.4	3,895	4,060	1.0	17.8	2.3	16.5	22.4	B

Vissim Post-Processor
Average Results from 15 Runs
Volume and Delay by Movement

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	46	44	96.1%	6.6	31	56	0.3	1.8	0.6	1.8	3.5	A
	Through	1,654	1,649	99.7%	47.2	1,601	1,729	0.1	4.0	1.1	3.9	6.4	A
	Right Turn	6	6	106.7%	2.8	3	12	0.2	1.4	1.5	0.9	32.3	A
	Second Right Subtotal	1,706	1,700	99.6%	47.8	1,655	1,776	0.1	3.9	1.0	3.8	6.3	A
SB	U Turn Second Left												
	Left Turn	6	6	103.3%	2.4	3	11	0.1	9.3	13.7	6.0	46.6	A
	Through	2,139	2,076	97.0%	18.5	2,040	2,106	1.4	1.7	0.8	1.4	3.5	A
	Right Turn	24	23	94.6%	4.9	14	31	0.3	0.7	0.7	0.7	5.8	A
	Second Right Subtotal	2,169	2,104	97.0%	20.7	2,064	2,136	1.4	1.7	0.8	1.4	3.5	A
EB	U Turn Second Left												
	Left Turn	4	4	90.0%	1.2	1	5	0.2	14.9	24.0	7.6	96.4	B
	Through												
	Right Turn Second Right Subtotal	29	29	99.0%	5.5	19	35	0.1	10.6	3.4	10.3	36.2	B
WB	U Turn Second Left												
	Left Turn	10	10	101.0%	3.1	5	16	0.0	17.2	9.3	13.3	40.8	B
	Through												
	Right Turn	8	9	111.3%	1.9	6	12	0.3	12.8	17.1	9.3	57.9	B
	Second Right Subtotal	18	19	105.6%	2.4	16	24	0.2	13.4	5.4	12.2	26.0	B
Total		3,926	3,856	98.2%	43.2	3,797	3,930	1.1	2.8	0.7	2.9	4.0	A

Vissim Post-Processor
Average Results from 15 Runs
Volume and Delay by Movement

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 7

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	31	31	101.0%	5.0	23	41	0.1	54.8	7.1	60.5	81.4	D
	Through	1,504	1,501	99.8%	45.4	1,457	1,578	0.1	47.8	3.1	48.1	56.8	D
	Right Turn	81	84	104.0%	6.6	76	97	0.4	46.7	9.4	44.5	58.4	D
	Second Right Subtotal	1,616	1,616	100.0%	44.7	1,572	1,698	0.0	47.8	3.1	47.4	57.0	D
SB	U Turn Second Left												
	Left Turn	175	167	95.7%	10.1	146	181	0.6	116.1	43.6	92.8	236.6	F
	Through	1,959	1,880	96.0%	29.5	1,827	1,923	1.8	39.4	12.1	33.2	68.2	D
	Right Turn	44	44	100.5%	6.9	33	57	0.0	25.8	10.8	20.0	51.9	C
	Second Right Subtotal	2,178	2,092	96.0%	23.0	2,043	2,122	1.9	46.0	11.0	37.3	69.8	D
EB	U Turn Second Left												
	Left Turn	55	57	104.0%	7.1	47	66	0.3	68.9	14.3	68.1	97.7	E
	Through	98	98	99.9%	12.1	78	114	0.0	39.5	5.8	40.1	60.1	D
	Right Turn	26	27	103.1%	4.5	18	32	0.2	21.8	7.9	22.8	48.0	C
	Second Right Subtotal	179	182	101.6%	11.5	154	197	0.2	46.1	4.8	46.1	59.7	D
WB	U Turn Second Left												
	Left Turn	57	58	101.8%	9.1	46	73	0.1	90.8	44.2	78.5	410.1	F
	Through	63	63	99.8%	10.9	44	78	0.0	48.2	9.3	43.6	70.4	D
	Right Turn	147	149	101.5%	8.8	132	160	0.2	12.1	3.0	12.4	19.4	B
	Second Right Subtotal	267	270	101.2%	15.1	245	286	0.2	38.3	14.9	32.7	116.5	D
Total		4,240	4,160	98.1%	32.1	4,111	4,235	1.2	46.3	5.7	41.4	59.0	D

Vissim Post-Processor
Average Results from 15 Runs
Volume and Delay by Movement

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 1 SR 29/American Canyon Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	158	142	89.9%	12.2	122	157	1.3	108.5	26.7	92.7	151.5	F
	Through	1,004	992	98.8%	25.2	948	1,027	0.4	53.5	9.5	47.3	91.4	D
	Right Turn	93	79	85.4%	11.2	61	94	1.5	18.8	6.4	16.2	58.1	B
	Second Right												
	Subtotal	1,255	1,213	96.7%	22.7	1,191	1,258	1.2	58.2	9.7	50.3	94.6	E
SB	U Turn												
	Second Left												
	Left Turn	663	637	96.1%	23.8	597	666	1.0	117.6	39.5	105.4	217.5	F
	Through	1,241	1,207	97.3%	38.0	1,141	1,251	1.0	27.9	2.8	25.4	36.6	C
	Right Turn	138	124	89.9%	10.7	106	135	1.2	6.1	1.6	7.9	18.3	A
	Second Right												
	Subtotal	2,042	1,968	96.4%	40.0	1,895	2,017	1.6	56.3	14.3	49.1	85.6	E
EB	U Turn												
	Second Left												
	Left Turn	121	124	102.2%	12.9	106	141	0.2	74.3	9.8	74.2	88.3	E
	Through	383	388	101.2%	20.0	352	422	0.2	44.7	2.4	44.7	48.3	D
	Right Turn	70	70	100.3%	11.6	47	85	0.0	35.8	9.3	41.3	56.9	D
	Second Right												
	Subtotal	574	582	101.3%	23.1	554	621	0.3	49.9	3.2	50.3	55.1	D
WB	U Turn												
	Second Left												
	Left Turn	114	115	100.4%	9.0	99	131	0.0	146.2	107.1	94.0	431.3	F
	Through	380	378	99.4%	15.4	352	398	0.1	42.7	5.1	40.6	49.0	D
	Right Turn	491	485	98.7%	22.3	451	513	0.3	8.6	2.1	8.3	12.6	A
	Second Right												
	Subtotal	985	977	99.2%	35.6	922	1,024	0.3	38.7	14.4	31.6	76.3	D
Total		4,856	4,740	97.6%	43.0	4,659	4,813	1.7	52.7	7.8	48.3	64.2	D

Vissim Post-Processor
Average Results from 15 Runs
Queue Length

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 12

SR 29/Napa Junction Rd

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left										
	Left Turn	400	62	12	45	85	222	32	175	284	NO
	Through	400	47	9	37	64	758	59	649	847	MAX
	Right Turn	400	1	0	0	2	74	17	53	108	NO
	Second Right										
SB	U Turn Second Left										
	Left Turn	380	251	415	32	1,054	942	1,495	147	3,786	MAX
	Through	3,700	3,280	54	3,141	3,336	3,787	9	3,776	3,805	MAX
	Right Turn	380	15	3	12	20	191	51	126	304	NO
	Second Right										
EB	U Turn Second Left										
	Left Turn	130	15	2	14	22	98	27	68	161	NO
	Through	460	3	1	2	4	61	13	43	88	NO
	Right Turn	440	0	0	0	0	89	13	80	117	NO
	Second Right										
WB	U Turn Second Left										
	Left Turn	180	16	3	9	19	106	23	86	155	NO
	Through	500	12	3	8	16	155	68	85	284	NO
	Right Turn	500	0	0	0	1	7	22	0	69	NO
	Second Right										

Vissim Post-Processor
Average Results from 15 Runs
Queue Length

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 11

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	46	8	34	65	661	61	558	722	MAX
	Right Turn	470	1	1	0	2	111	44	44	158	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	10	2	7	15	108	27	68	150	NO
	Through	800	42	4	38	48	363	24	304	391	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left	270	126	16	97	151	502	74	389	627	MAX
WB	Left Turn										
	Through										
	Right Turn	270	2	0	1	2	74	17	51	107	NO
WB	Second Right										
	Second Left										

Vissim Post-Processor
Average Results from 15 Runs
Queue Length

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 10

SR 29/Rio Del Mar

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	37	9	24	53	154	17	128	175	NO
	Through	680	37	8	26	53	861	133	680	1,098	MAX
	Right Turn Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	640	144	14	120	163	759	13	749	778	MAX
	Right Turn Second Right	210	8	2	5	11	106	18	73	135	NO
EB	U Turn										
	Second Left										
	Left Turn	490	32	7	22	42	190	56	109	275	NO
	Through										
	Right Turn Second Right	90	1	1	1	3	61	19	28	103	NO
WB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn Second Right										

Vissim Post-Processor
Average Results from 15 Runs
Queue Length

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	8	27	0	85	NO
	Through	480	0	0	0	0	8	27	0	85	NO
	Right Turn	480	0	0	0	0	8	27	0	85	NO
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn	140	1	1	0	2	64	2	61	67	NO
	Through	670	0	0	0	0	22	70	0	223	NO
	Right Turn	670	0	0	0	0	16	22	0	69	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	570	0	0	0	1	47	12	33	64	NO
	Through										
	Right Turn	570	2	1	1	3	57	15	39	78	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn	790	2	0	1	2	80	14	68	99	NO
	Through										
	Right Turn	790	1	0	1	2	71	14	59	90	NO
	Second Right										

Vissim Post-Processor
Average Results from 15 Runs
Queue Length

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 7

SR 29/Donaldson Way

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	10	2	7	16	87	16	69	121	NO
	Through	450	258	19	229	300	726	45	652	790	MAX
	Right Turn	450	28	9	17	48	286	45	211	349	NO
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn	500	92	31	60	165	418	186	242	765	NO
	Through	1,130	266	63	189	379	1,159	231	904	1,525	MAX
	Right Turn	310	265	58	192	359	1,169	213	929	1,550	MAX
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	180	21	2	18	26	129	32	91	192	NO
	Through	800	26	5	19	33	216	60	132	296	NO
	Right Turn	800	28	5	20	35	223	60	139	304	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn	310	35	24	16	97	168	112	95	469	NO
	Through	580	14	3	10	17	117	30	88	175	NO
	Right Turn	580	5	1	3	7	99	15	78	131	NO
	Second Right										

Vissim Post-Processor
Average Results from 15 Runs
Queue Length

SR 29 American Canyon
Boulevard (4 Lanes)
Existing PM Peak Hour

Intersection 1

SR 29/American Canyon

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	83	23	54	124	455	204	239	810	MAX
	Through	500	189	35	153	280	737	128	603	1,033	MAX
	Right Turn	300	4	1	3	5	85	26	50	133	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	244	59	177	340	527	99	413	706	NO
	Through	1,050	92	10	73	110	334	84	226	483	NO
EB	Right Turn	440	4	1	3	5	106	30	70	166	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	45	7	35	55	249	32	191	285	MAX
WB	Through	670	63	4	55	69	264	22	227	297	NO
	Right Turn	670	61	4	53	68	264	22	227	297	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	89	59	46	250	285	123	167	608	NO
	Through	1,610	51	4	46	58	242	28	202	285	NO
	Right Turn	470	0	0	0	1	17	38	0	107	NO
	Second Right										
	U Turn										

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

SR 29 VISSIM
Existing Plus Alternative 1
AM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	51	49	96.3%	9.1	40	66	0.3	65.9	7.5	61.4	79.2	E
	Through	2,372	2,388	100.7%	68.6	2,256	2,457	0.3	14.3	2.4	12.9	35.8	B
	Right Turn	20	19	95.5%	4.2	14	27	0.2	6.0	8.0	2.4	28.0	A
	Second Right Subtotal	2,443	2,456	100.5%	64.4	2,331	2,525	0.3	15.3	2.4	13.4	36.2	B
SB	U Turn Second Left												
	Left Turn	66	55	83.0%	3.3	50	60	1.4	537.2	293.6	417.3	976.6	F
	Through	992	995	100.3%	33.7	933	1,043	0.1	14.4	10.3	11.0	42.7	B
	Right Turn	51	57	111.8%	7.1	45	68	0.8	6.7	12.3	2.7	41.7	A
	Second Right Subtotal	1,109	1,107	99.8%	36.2	1,041	1,168	0.1	42.8	22.3	29.5	88.4	D
EB	U Turn Second Left												
	Left Turn	209	172	82.2%	4.4	164	178	2.7	231.2	26.5	227.5	278.3	F
	Through	42	36	85.5%	7.2	26	48	1.0	173.9	17.8	159.1	260.3	F
	Right Turn	62	55	89.4%	7.9	39	64	0.9	165.5	21.0	139.5	194.1	F
	Second Right Subtotal	313	263	84.1%	14.8	241	289	2.9	210.2	25.5	207.2	267.3	F
WB	U Turn Second Left												
	Left Turn	15	13	86.7%	3.8	8	18	0.5	65.5	29.2	75.7	135.4	E
	Through	20	19	93.5%	3.9	14	26	0.3	60.7	36.3	59.9	115.4	E
	Right Turn	143	146	102.0%	12.2	117	162	0.2	14.5	5.5	16.6	37.9	B
	Second Right Subtotal	178	178	99.7%	12.1	150	193	0.0	22.2	7.4	24.7	47.0	C
Total		4,043	4,003	99.0%	45.1	3,931	4,049	0.6	36.2	5.9	30.1	49.0	D

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

SR 29 VISSIM
Existing Plus Alternative 1
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,409	2,421	100.5%	74.3	2,291	2,519	0.2	5.2	3.7	3.0	13.8	A
	Right Turn	178	182	102.1%	13.8	157	193	0.3	2.9	1.4	2.0	5.4	A
	Second Right												
	Subtotal	2,587	2,602	100.6%	71.7	2,481	2,711	0.3	5.1	3.5	2.9	13.1	A
SB	U Turn												
	Second Left												
	Left Turn	30	32	106.0%	5.4	26	44	0.3	95.0	26.2	71.8	336.6	F
	Through	1,039	1,031	99.2%	35.1	954	1,077	0.2	2.5	1.2	2.1	4.9	A
	Right Turn												
	Second Right												
	Subtotal	1,069	1,063	99.4%	34.7	986	1,113	0.2	5.0	1.7	4.4	15.2	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	151	154	101.9%	18.1	128	182	0.2	64.1	9.9	57.8	87.3	E
	Through												
	Right Turn	34	34	99.1%	7.2	20	46	0.1	16.9	8.6	14.7	32.1	B
	Second Right												
	Subtotal	185	188	101.4%	19.7	157	216	0.2	56.3	11.5	48.5	82.3	E
Total		3,841	3,853	100.3%	54.3	3,779	3,939	0.2	7.5	3.2	5.8	14.5	A

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

SR 29 VISSIM
Existing Plus Alternative 1
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	11	10	86.4%	4.5	4	19	0.5	89.6	36.5	102.0	148.6	F
	Through	2,196	2,211	100.7%	58.1	2,120	2,314	0.3	10.5	1.4	10.6	15.8	B
	Right Turn												
	Second Right												
	Subtotal	2,207	2,220	100.6%	58.1	2,132	2,323	0.3	10.8	1.5	10.5	15.9	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	1,138	1,139	100.0%	40.0	1,045	1,181	0.0	7.9	1.3	7.7	10.4	A
	Right Turn	52	50	96.7%	7.1	38	58	0.2	7.8	7.0	6.1	22.3	A
	Second Right												
	Subtotal	1,190	1,189	99.9%	41.9	1,097	1,232	0.0	8.0	1.5	7.7	10.9	A
EB	U Turn												
	Second Left												
	Left Turn	391	390	99.8%	24.2	343	420	0.0	80.4	24.6	64.0	124.5	F
	Through												
	Right Turn	62	65	104.0%	6.3	55	79	0.3	48.8	19.6	34.7	80.9	D
	Second Right												
	Subtotal	453	455	100.4%	27.0	405	493	0.1	76.2	23.9	60.0	117.8	E
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		3,850	3,864	100.4%	59.5	3,783	3,964	0.2	18.5	3.3	16.0	25.1	B

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

SR 29 VISSIM
Existing Plus Alternative 1
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	24	22	92.9%	5.1	15	33	0.4	1.9	0.5	2.2	6.8	A
	Through	2,072	2,076	100.2%	55.5	2,005	2,182	0.1	11.5	2.2	9.9	15.2	B
	Right Turn	6	6	101.7%	3.0	2	10	0.0	3.0	5.6	2.2	21.8	A
	Second Right Subtotal	2,102	2,104	100.1%	52.4	2,036	2,207	0.1	11.4	2.2	9.8	15.1	B
SB	U Turn Second Left												
	Left Turn	8	8	100.0%	2.1	4	12	0.0	9.4	8.4	16.4	42.6	A
	Through	1,188	1,189	100.1%	39.0	1,104	1,237	0.0	0.3	0.1	0.3	0.7	A
	Right Turn	4	4	90.0%	1.3	2	6	0.2	0.1	0.2	0.1	0.9	A
	Second Right Subtotal	1,200	1,201	100.1%	40.0	1,113	1,248	0.0	0.4	0.1	0.4	0.9	A
EB	U Turn Second Left												
	Left Turn	122	119	97.3%	11.8	100	141	0.3	19.8	2.6	15.9	35.5	C
	Through												
	Right Turn	42	43	103.1%	6.0	34	54	0.2	15.5	8.4	11.8	37.9	C
	Second Right Subtotal	164	162	98.8%	13.5	143	187	0.2	18.5	3.4	14.2	34.6	C
WB	U Turn Second Left												
	Left Turn	1	1	100.0%	0.9	0	2	0.0	1.3	2.8	0.0	15.0	A
	Through												
	Right Turn	13	15	116.9%	3.6	11	21	0.6	22.3	9.5	19.1	42.8	C
	Second Right Subtotal	14	16	115.7%	3.9	12	23	0.6	20.4	8.3	18.6	39.7	C
Total		3,480	3,484	100.1%	50.9	3,426	3,592	0.1	8.0	1.6	6.9	10.6	A

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

SR 29 VISSIM
Existing Plus Alternative 1
AM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	9	10	115.6%	3.5	6	17	0.4	47.1	19.4	49.9	96.2	D
	Through	1,653	1,636	98.9%	50.3	1,573	1,712	0.4	11.5	3.1	10.1	17.2	B
	Right Turn	12	11	93.3%	3.0	7	16	0.2	3.7	3.4	2.5	11.3	A
	Second Right Subtotal	1,674	1,657	99.0%	51.5	1,595	1,736	0.4	11.7	3.2	10.5	17.3	B
SB	U Turn Second Left												
	Left Turn	105	103	97.7%	6.3	95	116	0.2	228.8	158.6	130.2	566.6	F
	Through	1,077	1,062	98.6%	42.0	964	1,115	0.5	18.4	4.7	17.3	27.4	B
	Right Turn	49	52	106.9%	7.2	40	65	0.5	8.2	3.2	7.3	17.2	A
	Second Right Subtotal	1,231	1,217	98.9%	42.4	1,120	1,272	0.4	36.6	16.2	30.2	65.7	D
EB	U Turn Second Left												
	Left Turn	172	180	104.5%	11.5	164	197	0.6	71.8	13.3	76.1	119.1	E
	Through	147	150	101.8%	11.9	134	166	0.2	51.0	11.1	52.8	70.6	D
	Right Turn	20	22	107.5%	3.5	16	26	0.3	31.5	12.9	31.3	77.3	C
	Second Right Subtotal	339	351	103.5%	11.1	335	364	0.6	60.2	10.3	61.0	89.6	E
WB	U Turn Second Left												
	Left Turn	30	34	113.0%	9.1	22	48	0.7	88.7	20.7	79.1	134.4	F
	Through	75	77	102.1%	12.7	57	94	0.2	57.5	7.6	54.0	79.2	E
	Right Turn	276	274	99.1%	17.8	245	293	0.2	29.2	7.7	29.3	67.1	C
	Second Right Subtotal	381	384	100.8%	22.5	352	415	0.2	40.0	5.9	38.4	69.7	D
Total		3,625	3,609	99.6%	46.7	3,558	3,713	0.3	27.9	6.7	25.3	40.1	C

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

SR 29 VISSIM
Existing Plus Alternative 1
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	65	66	101.1%	9.8	50	81	0.1	77.5	12.8	70.3	104.0	E
	Through	837	829	99.0%	28.3	795	875	0.3	47.8	4.3	49.9	62.6	D
	Right Turn	29	26	90.7%	7.4	16	42	0.5	23.7	12.1	24.9	42.7	C
	Second Right Subtotal	931	921	98.9%	30.4	888	971	0.3	49.1	4.0	49.4	61.5	D
SB	U Turn Second Left												
	Left Turn	242	243	100.2%	13.0	223	265	0.0	31.3	4.7	29.3	39.4	C
	Through	832	822	98.8%	39.8	765	880	0.3	9.0	2.1	9.5	14.5	A
	Right Turn	53	51	96.2%	7.9	35	64	0.3	3.5	1.1	3.9	8.7	A
	Second Right Subtotal	1,127	1,116	99.0%	39.0	1,043	1,167	0.3	13.7	1.9	13.7	18.6	B
EB	U Turn Second Left												
	Left Turn	145	151	104.1%	9.0	137	164	0.5	61.1	8.5	57.9	127.1	E
	Through	384	384	100.0%	22.1	343	417	0.0	42.7	3.6	42.7	51.8	D
	Right Turn	95	93	97.5%	12.6	78	112	0.2	33.3	6.9	34.1	49.6	C
	Second Right Subtotal	624	628	100.6%	26.8	602	670	0.1	45.8	3.5	45.0	67.0	D
WB	U Turn Second Left												
	Left Turn	74	76	102.7%	10.1	59	90	0.2	99.8	39.5	77.2	190.0	F
	Through	436	439	100.6%	20.4	398	458	0.1	54.8	2.4	54.5	63.8	D
	Right Turn	692	683	98.7%	30.5	624	717	0.3	18.6	5.1	17.4	30.9	B
	Second Right Subtotal	1,202	1,198	99.7%	37.2	1,149	1,257	0.1	37.1	4.6	35.1	47.4	D
Total		3,884	3,862	99.4%	54.2	3,777	3,930	0.4	34.2	1.7	34.5	38.6	C

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	17	4	13	25	122	24	92	167	NO
	Through	400	111	37	74	203	946	378	484	1,430	MAX
	Right Turn	400	12	17	0	55	507	345	45	958	MAX
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	195	81	80	327	506	257	267	971	MAX
	Through	3,700	28	4	20	32	338	115	246	643	NO
EB	Right Turn	380	1	0	1	1	91	8	68	96	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	333	36	263	369	461	23	436	493	AVG
WB	Through	460	47	23	15	84	442	19	427	492	NO
	Right Turn	440	4	11	0	34	160	117	107	491	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	5	2	2	7	47	11	23	66	NO
	Through	500	19	6	12	29	227	69	133	362	NO
	Right Turn										
	Second Right										
	Second Right										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	16	9	7	30	427	307	128	760	NO
	Right Turn	470	2	1	1	5	205	11	196	229	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	18	13	10	54	100	43	68	211	NO
	Through	800	2	1	1	4	117	82	46	292	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	39	6	29	47	203	60	111	271	MAX
	Through										
	Right Turn	150	3	1	2	5	72	22	48	105	NO
	Second Right										
	Second Right										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	5	2	3	10	51	19	22	82	NO
	Through	680	151	23	116	188	1,060	49	966	1,144	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	22	2	19	24	256	60	201	379	NO
EB	Right Turn	210	2	1	1	3	48	18	22	84	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	222	58	149	299	492	12	482	511	MAX
WB	Through										
	Right Turn	90	1	0	1	1	63	14	50	86	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	1	0	1	87	86	0	265	NO
	Through	480	0	1	0	1	87	86	0	265	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	1	0	2	70	9	63	93	NO
	Through	670	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	11	4	7	22	146	46	63	237	NO
WB	Through										
	Right Turn	570	8	5	3	20	153	46	70	244	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	1	0	1	2	77	10	68	96	NO
	Through										
	Right Turn	790	2	1	1	4	67	10	58	85	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	2	1	1	4	57	15	41	84	NO
	Through	450	44	7	36	60	568	173	280	860	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	127	61	66	277	358	134	197	630	NO
	Through	1,130	51	9	35	62	556	108	394	780	NO
EB	Right Turn	310	54	9	38	67	582	108	420	806	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	89	15	72	123	451	127	332	713	MAX
WB	Through	800	48	5	40	55	311	63	248	475	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	16	6	7	27	82	19	63	110	NO
	Through	580	25	5	18	34	160	30	91	195	NO
	Right Turn										
	Second Right										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	27	5	20	37	138	29	92	194	NO
	Through	500	251	18	224	276	757	52	716	882	MAX
	Right Turn	300	1	0	0	1	62	17	44	100	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	23	2	20	26	164	40	107	224	NO
	Through	1,050	23	2	19	27	183	54	105	286	NO
EB	Right Turn	440	1	0	0	1	76	26	45	124	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	59	11	51	86	286	45	225	344	MAX
WB	Through	130	70	10	62	93	289	42	246	344	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	44	17	22	73	186	42	132	251	NO
	Through	1,610	76	3	71	83	303	38	236	378	NO
	Right Turn	470	0	1	0	2	90	63	0	176	NO
	Second Right										

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

SR 29 VISSIM
Existing Plus Project Alternative 1
PM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	114	115	101.0%	10.4	93	128	0.1	122.0	19.7	111.3	218.8	F
	Through	1,306	1,309	100.2%	46.3	1,236	1,387	0.1	14.1	2.1	14.6	20.1	B
	Right Turn	28	29	104.3%	4.5	18	34	0.2	8.1	1.9	6.7	14.1	A
	Second Right Subtotal	1,448	1,453	100.3%	50.8	1,380	1,546	0.1	22.3	2.9	21.8	33.5	C
SB	U Turn Second Left												
	Left Turn	113	110	97.5%	10.2	93	123	0.3	211.3	29.8	174.1	318.0	F
	Through	1,906	1,851	97.1%	27.4	1,807	1,884	1.3	156.0	29.9	124.7	217.6	F
	Right Turn	358	338	94.4%	17.9	307	364	1.1	135.4	30.5	103.3	195.5	F
	Second Right Subtotal	2,377	2,299	96.7%	31.7	2,235	2,347	1.6	155.5	29.6	124.6	215.9	F
EB	U Turn Second Left												
	Left Turn	39	37	95.1%	4.1	32	45	0.3	81.7	14.6	65.3	98.6	F
	Through	16	15	91.9%	4.2	9	19	0.3	29.5	22.1	40.7	74.1	C
	Right Turn	18	18	101.7%	4.7	12	24	0.1	6.8	3.4	7.0	29.5	A
	Second Right Subtotal	73	70	96.0%	5.1	61	75	0.3	51.1	13.4	48.7	69.4	D
WB	U Turn Second Left												
	Left Turn	39	36	91.3%	7.3	20	45	0.6	78.1	10.6	79.4	93.5	E
	Through	35	35	100.0%	8.5	25	49	0.0	42.4	11.6	41.9	65.7	D
	Right Turn	50	49	97.6%	7.4	36	62	0.2	13.2	6.9	9.3	29.9	B
	Second Right Subtotal	124	119	96.3%	15.2	97	147	0.4	40.5	3.9	42.2	49.7	D
Total		4,022	3,941	98.0%	56.2	3,848	4,026	1.3	102.7	17.2	83.9	133.7	F

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

SR 29 VISSIM
Existing Plus Project Alternative 1
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	1,417	1,424	100.5%	50.4	1,351	1,517	0.2	11.6	2.8	13.2	16.4	B
	Right Turn	295	299	101.3%	17.7	273	329	0.2	5.7	1.3	6.2	8.7	A
	Second Right												
	Subtotal	1,712	1,723	100.6%	43.1	1,679	1,809	0.3	10.6	2.5	11.9	14.8	B
SB	U Turn												
	Second Left												
	Left Turn	41	40	98.0%	4.8	32	49	0.1	56.6	14.3	51.9	88.5	E
	Through	1,922	1,866	97.1%	27.9	1,824	1,910	1.3	12.5	1.9	11.7	16.5	B
	Right Turn												
	Second Right												
	Subtotal	1,963	1,906	97.1%	27.3	1,865	1,947	1.3	13.4	2.0	12.5	17.3	B
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	361	348	96.3%	14.1	324	371	0.7	86.6	28.7	82.6	162.5	F
	Through												
	Right Turn	31	29	93.9%	5.5	19	37	0.3	13.1	13.8	6.6	49.3	B
	Second Right												
	Subtotal	392	377	96.1%	17.3	343	405	0.8	81.3	27.3	77.5	153.1	F
Total		4,067	4,006	98.5%	48.7	3,928	4,070	1.0	18.9	3.5	17.6	27.8	B

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

SR 29 VISSIM
Existing Plus Project Alternative 1
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	67	62	91.8%	7.9	49	73	0.7	113.8	35.0	96.1	185.2	F
	Through	1,620	1,612	99.5%	45.7	1,555	1,694	0.2	8.0	2.7	7.7	12.9	A
	Right Turn												
	Second Right												
	Subtotal	1,687	1,673	99.2%	48.4	1,628	1,767	0.3	12.2	2.6	11.7	16.8	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	2,176	2,112	97.0%	29.5	2,076	2,174	1.4	19.1	3.1	17.4	23.3	B
	Right Turn	107	104	97.2%	11.0	82	121	0.3	18.3	4.4	15.7	30.8	B
	Second Right												
	Subtotal	2,283	2,216	97.0%	32.1	2,183	2,285	1.4	19.0	3.0	17.7	23.4	B
EB	U Turn												
	Second Left												
	Left Turn	92	96	103.9%	15.1	74	125	0.4	56.2	14.1	58.1	84.5	E
	Through												
	Right Turn	54	56	103.7%	7.8	44	69	0.3	14.1	3.7	12.9	23.2	B
	Second Right												
	Subtotal	146	152	103.8%	15.1	120	169	0.5	40.7	12.0	41.5	61.6	D
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,116	4,040	98.2%	52.6	3,985	4,137	1.2	17.0	2.2	16.5	20.6	B

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

SR 29 VISSIM
Existing Plus Project Alternative 1
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	46	42	92.2%	4.4	35	47	0.5	2.2	0.9	2.2	4.0	A
	Through	1,675	1,653	98.7%	42.3	1,611	1,746	0.5	4.1	1.3	3.9	6.7	A
	Right Turn	6	6	100.0%	2.3	3	10	0.0	1.4	1.8	0.9	9.1	A
	Second Right												
	Subtotal	1,727	1,701	98.5%	44.0	1,652	1,796	0.6	4.0	1.2	3.8	6.6	A
SB	U Turn												
	Second Left												
	Left Turn	6	6	106.7%	3.2	2	11	0.2	9.6	11.5	5.0	43.4	A
	Through	2,200	2,145	97.5%	28.7	2,111	2,205	1.2	1.8	0.6	1.3	2.7	A
	Right Turn	24	24	100.8%	4.0	17	29	0.0	1.2	1.0	0.9	3.3	A
	Second Right												
	Subtotal	2,230	2,176	97.6%	30.2	2,143	2,242	1.2	1.8	0.6	1.3	2.7	A
EB	U Turn												
	Second Left												
	Left Turn	4	4	90.0%	1.5	1	6	0.2	7.0	12.4	6.8	94.4	A
	Through												
	Right Turn	29	28	97.9%	5.6	19	35	0.1	12.1	4.2	12.9	22.2	B
	Second Right												
	Subtotal	33	32	97.0%	5.8	24	40	0.2	11.4	5.3	11.7	28.4	B
WB	U Turn												
	Second Left												
	Left Turn	10	11	114.0%	3.2	7	17	0.4	19.1	10.5	13.3	44.6	C
	Through												
	Right Turn	8	9	108.8%	1.7	6	12	0.2	10.7	11.9	9.7	40.8	B
	Second Right												
	Subtotal	18	20	111.7%	3.0	16	26	0.5	14.3	6.4	11.7	28.2	B
Total		4,008	3,929	98.0%	45.8	3,873	4,005	1.3	3.0	0.6	2.4	4.1	A

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

SR 29 VISSIM
Existing Plus Project Alternative 1
PM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	31	30	97.7%	6.3	20	42	0.1	59.7	7.1	59.6	100.9	E
	Through	1,523	1,505	98.8%	37.7	1,472	1,589	0.5	44.6	4.0	46.4	52.8	D
	Right Turn	81	82	101.7%	6.9	73	94	0.2	40.6	8.8	42.4	59.2	D
	Second Right Subtotal	1,635	1,617	98.9%	39.5	1,565	1,708	0.4	44.8	3.9	45.8	53.1	D
SB	U Turn Second Left												
	Left Turn	175	166	94.6%	13.4	138	190	0.7	97.9	25.9	82.9	146.4	F
	Through	2,015	1,946	96.6%	23.2	1,916	1,989	1.6	45.5	13.7	35.9	74.2	D
	Right Turn	48	50	104.0%	6.5	38	63	0.3	24.1	10.7	21.5	46.1	C
	Second Right Subtotal	2,238	2,161	96.6%	21.0	2,128	2,195	1.6	49.6	12.2	39.6	75.7	D
EB	U Turn Second Left												
	Left Turn	56	57	101.4%	7.4	47	67	0.1	67.8	13.6	68.1	97.7	E
	Through	98	96	98.4%	11.9	78	115	0.2	38.2	6.0	42.9	59.9	D
	Right Turn	26	27	103.8%	3.4	21	31	0.2	24.4	13.5	21.7	48.0	C
	Second Right Subtotal	180	180	100.1%	11.7	154	197	0.0	44.3	6.3	45.6	56.8	D
WB	U Turn Second Left												
	Left Turn	57	60	104.4%	7.7	46	73	0.3	97.7	36.8	78.7	196.3	F
	Through	63	66	104.0%	10.3	44	78	0.3	36.8	10.4	45.6	70.9	D
	Right Turn	147	150	101.9%	7.6	132	157	0.2	12.8	3.4	11.2	18.6	B
	Second Right Subtotal	267	275	102.9%	13.5	251	292	0.5	35.8	12.8	32.3	69.8	D
Total		4,320	4,234	98.0%	37.8	4,193	4,325	1.3	46.7	6.5	42.1	60.7	D

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

SR 29 VISSIM
Existing Plus Project Alternative 1
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	158	142	89.9%	12.0	124	161	1.3	116.1	25.3	94.1	158.4	F
	Through	1,019	1,002	98.4%	25.7	967	1,047	0.5	57.1	10.4	48.7	82.9	E
	Right Turn	93	80	86.1%	11.3	65	97	1.4	19.9	7.9	15.5	34.9	B
	Second Right Subtotal	1,270	1,225	96.4%	21.4	1,196	1,257	1.3	61.6	10.6	53.9	87.8	E
SB	U Turn Second Left												
	Left Turn	671	643	95.8%	21.3	605	673	1.1	122.2	36.0	102.0	223.3	F
	Through	1,285	1,256	97.7%	40.3	1,184	1,306	0.8	29.6	3.9	26.9	36.9	C
	Right Turn	142	125	88.2%	9.6	112	138	1.4	7.2	0.9	7.5	15.0	A
	Second Right Subtotal	2,098	2,024	96.5%	26.7	1,985	2,065	1.6	58.3	13.0	46.1	97.1	E
EB	U Turn Second Left												
	Left Turn	122	121	99.5%	10.7	107	134	0.1	71.5	9.0	70.7	86.8	E
	Through	383	387	101.0%	20.2	351	422	0.2	43.9	4.2	44.1	51.1	D
	Right Turn	70	70	100.6%	10.5	48	85	0.0	33.8	12.0	37.1	56.8	C
	Second Right Subtotal	575	579	100.6%	21.2	554	621	0.1	48.7	4.8	48.6	56.6	D
WB	U Turn Second Left												
	Left Turn	114	113	99.4%	10.9	100	138	0.1	115.4	76.2	87.4	329.7	F
	Through	380	377	99.2%	18.7	339	401	0.2	43.1	5.1	40.4	57.2	D
	Right Turn	494	481	97.4%	22.0	454	514	0.6	8.7	1.8	8.4	11.3	A
	Second Right Subtotal	988	972	98.4%	40.3	914	1,024	0.5	35.4	12.0	30.7	68.1	D
Total		4,931	4,799	97.3%	37.2	4,745	4,840	1.9	53.7	7.0	45.3	66.5	D

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	76	13	60	101	236	52	151	311	NO
	Through	400	28	7	19	43	624	110	444	847	MAX
	Right Turn	400	0	0	0	1	67	37	0	140	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	60	21	33	96	238	58	152	332	NO
	Through	3,700	1,724	597	886	2,684	3,328	435	2,592	3,785	NO
EB	Right Turn	380	14	2	9	18	164	54	99	300	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	15	2	13	21	90	15	68	111	NO
WB	Through	460	3	1	2	5	58	14	43	88	NO
	Right Turn	440	0	0	0	0	89	11	81	112	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	14	3	9	19	105	25	86	155	NO
	Through	500	12	4	7	16	142	49	85	215	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	44	4	38	50	682	47	603	720	MAX
	Right Turn	470	1	0	0	2	124	24	78	145	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	11	2	7	14	109	20	83	149	NO
	Through	800	40	2	36	44	356	31	307	401	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	131	18	100	158	508	69	412	627	MAX
	Through										
	Right Turn	150	2	1	1	3	68	16	49	107	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	38	10	28	52	164	23	135	195	NO
	Through	680	38	9	22	49	842	141	617	1,000	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	140	12	125	158	755	6	750	765	MAX
EB	Right Turn	210	7	2	4	9	111	21	83	151	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	32	6	24	43	195	53	146	307	NO
WB	Through										
	Right Turn	90	1	0	1	2	63	16	30	84	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	21	42	0	120	NO
	Through	480	0	0	0	0	21	42	0	120	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	1	0	4	67	12	60	102	NO
	Through	670	0	0	0	0	11	26	0	80	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	0	0	0	1	46	9	33	56	NO
WB	Through										
	Right Turn	570	2	0	2	3	60	14	39	78	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	2	0	1	2	83	14	69	99	NO
	Through										
	Right Turn	790	1	0	1	2	74	14	60	90	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	10	2	6	13	89	17	67	111	NO
	Through	450	246	17	224	281	704	71	628	887	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	80	20	47	112	304	51	216	367	NO
	Through	1,130	300	81	194	424	1,279	177	996	1,554	MAX
EB	Right Turn	310	313	83	203	441	1,305	177	1,021	1,580	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	21	2	18	24	121	22	91	156	NO
WB	Through	800	26	5	19	33	217	58	132	296	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	33	13	16	54	149	45	95	223	NO
	Through	580	15	3	10	18	128	30	88	175	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	83	21	51	115	479	208	204	774	MAX
	Through	500	191	24	158	230	716	100	523	874	MAX
	Right Turn	300	4	1	3	5	80	10	68	100	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	255	59	180	359	565	89	419	682	NO
	Through	1,050	98	7	89	108	376	98	265	558	NO
EB	Right Turn	440	4	1	3	5	98	23	70	134	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	42	5	35	49	235	44	151	290	MAX
WB	Through	130	61	5	53	69	260	30	216	303	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	79	57	48	238	263	106	172	538	NO
	Through	1,610	51	5	46	59	238	29	204	283	NO
	Right Turn	470	0	0	0	1	21	65	0	205	NO
	Second Right										
	U Turn										

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

SR 29 VISSIM
Existing Plus Project Alternative 2
AM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	51	51	100.4%	8.5	41	63	0.0	87.1	5.2	93.1	102.8	F
	Through	2,421	2,325	96.0%	75.8	2,182	2,426	2.0	17.8	8.3	14.3	38.5	B
	Right Turn	20	17	86.5%	3.6	13	22	0.6	3.8	3.2	5.7	30.8	A
	Second Right Subtotal	2,492	2,393	96.0%	70.7	2,258	2,489	2.0	19.0	8.2	16.7	39.6	B
SB	U Turn Second Left												
	Left Turn	66	55	82.9%	4.0	47	59	1.5	679.4	281.8	482.5	1169.5	F
	Through	1,040	1,033	99.3%	29.5	1,002	1,085	0.2	24.6	30.7	14.2	111.0	C
	Right Turn	51	55	107.8%	6.3	46	65	0.5	9.2	15.2	3.2	51.3	A
	Second Right Subtotal	1,157	1,143	98.8%	34.1	1,109	1,209	0.4	55.6	35.1	36.0	148.3	E
EB	U Turn Second Left												
	Left Turn	209	202	96.4%	10.3	184	217	0.5	86.3	18.2	76.2	113.8	F
	Through	42	41	96.4%	4.0	32	45	0.2	63.9	13.9	56.6	98.2	E
	Right Turn	62	63	101.5%	6.3	54	73	0.1	41.2	17.6	26.8	69.0	D
	Second Right Subtotal	313	305	97.4%	9.9	288	320	0.5	74.4	16.0	67.4	94.2	E
WB	U Turn Second Left												
	Left Turn	15	15	101.3%	6.0	8	27	0.1	59.9	25.6	67.0	163.9	E
	Through	20	18	91.5%	3.3	15	26	0.4	58.0	32.0	90.2	114.7	E
	Right Turn	143	141	98.7%	12.4	117	157	0.2	17.2	7.0	16.4	45.9	B
	Second Right Subtotal	178	175	98.1%	11.3	150	188	0.3	23.9	7.3	33.1	58.0	C
Total		4,140	4,016	97.0%	59.9	3,950	4,134	1.9	34.0	10.5	27.2	57.7	C

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

SR 29 VISSIM
Existing Plus Project Alternative 2
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,458	2,385	97.0%	73.3	2,249	2,490	1.5	2.4	1.7	2.1	8.1	A
	Right Turn	178	182	102.2%	11.4	160	192	0.3	2.6	0.4	2.4	3.5	A
	Second Right												
	Subtotal	2,636	2,567	97.4%	70.1	2,441	2,679	1.4	2.4	1.6	2.1	7.6	A
SB	U Turn												
	Second Left												
	Left Turn	30	31	102.7%	5.6	24	38	0.1	82.5	43.5	68.7	205.2	F
	Through	1,087	1,081	99.4%	26.6	1,052	1,126	0.2	1.1	0.2	1.0	2.1	A
	Right Turn												
	Second Right												
	Subtotal	1,117	1,112	99.5%	26.2	1,084	1,164	0.2	3.7	2.7	3.2	11.3	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	151	0	0.0%	0.0	0	0	17.4	0.0	0.0	0.0	0.0	A
	Through												
	Right Turn	34	0	1.2%	0.8	0	2	8.1	6.8	17.9	0.0	56.7	A
	Second Right												
	Subtotal	185	0	0.2%	0.8	0	2	19.2	0.3	0.9	0.0	2.9	A
Total		3,938	3,679	93.4%	61.9	3,607	3,776	4.2	2.7	1.6	2.6	6.1	A

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

SR 29 VISSIM
Existing Plus Project Alternative 2
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	11	11	95.5%	3.9	6	17	0.2	38.0	23.1	81.7	132.1	D
	Through	2,239	2,175	97.1%	57.7	2,074	2,276	1.4	15.2	0.8	14.2	16.9	B
	Right Turn												
	Second Right												
	Subtotal	2,250	2,186	97.1%	56.5	2,084	2,283	1.4	15.3	0.9	14.8	17.3	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	1,179	1,025	86.9%	21.5	1,003	1,065	4.6	8.2	1.3	7.6	10.5	A
	Right Turn	59	56	95.6%	7.5	45	70	0.3	7.2	3.5	8.1	19.6	A
	Second Right												
	Subtotal	1,238	1,081	87.3%	27.0	1,053	1,130	4.6	8.2	1.4	7.9	10.5	A
EB	U Turn												
	Second Left												
	Left Turn	398	391	98.3%	21.7	352	423	0.3	88.9	15.7	80.8	123.7	F
	Through												
	Right Turn	62	61	97.9%	4.4	51	66	0.2	55.3	22.5	39.5	101.3	E
	Second Right												
	Subtotal	460	452	98.2%	22.8	414	487	0.4	84.1	16.1	76.6	118.0	F
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		3,948	3,719	94.2%	58.4	3,653	3,812	3.7	22.1	2.5	19.8	27.0	C

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

SR 29 VISSIM
Existing Plus Project Alternative 2
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	24	21	88.8%	5.0	13	29	0.6	1.8	1.1	1.9	11.2	A
	Through	2,115	2,053	97.0%	52.6	1,970	2,145	1.4	14.1	2.5	9.9	17.9	B
	Right Turn	6	7	113.3%	2.3	2	10	0.3	8.4	15.0	1.5	49.2	A
	Second Right Subtotal	2,145	2,081	97.0%	50.1	2,004	2,172	1.4	13.9	2.4	9.8	17.7	B
SB	U Turn Second Left												
	Left Turn	8	8	98.8%	1.6	6	11	0.0	19.1	20.6	15.7	63.3	C
	Through	1,229	1,074	87.4%	23.3	1,043	1,114	4.6	0.3	0.1	0.2	0.7	A
	Right Turn	4	3	82.5%	1.3	2	6	0.4	0.1	0.2	0.0	0.5	A
	Second Right Subtotal	1,241	1,085	87.4%	23.4	1,053	1,127	4.6	0.4	0.2	0.3	0.9	A
EB	U Turn Second Left												
	Left Turn	122	119	97.2%	13.2	101	142	0.3	19.5	3.3	17.5	28.6	C
	Through												
	Right Turn	42	44	105.2%	5.0	36	54	0.3	9.4	2.1	8.7	18.0	A
Second Right Subtotal	164	163	99.3%	14.4	143	189	0.1	16.8	2.6	15.7	25.4	C	
WB	U Turn Second Left												
	Left Turn	1	1	80.0%	0.9	0	2	0.2	2.6	6.3	0.0	19.3	A
	Through												
	Right Turn	13	14	110.8%	3.5	11	21	0.4	24.7	12.8	13.1	49.6	C
Second Right Subtotal	14	15	108.6%	4.0	11	23	0.3	22.4	11.7	12.1	46.7	C	
Total		3,564	3,344	93.8%	50.7	3,285	3,430	3.7	9.8	1.7	7.1	12.5	A

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

SR 29 VISSIM
Existing Plus Project Alternative 2
AM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	9	9	100.0%	3.4	6	15	0.0	103.0	22.0	103.3	152.6	F
	Through	1,689	1,669	98.8%	47.6	1,594	1,747	0.5	25.2	6.1	21.7	37.6	C
	Right Turn	12	12	97.5%	2.2	8	15	0.1	32.5	9.7	20.1	65.6	C
	Second Right Subtotal	1,710	1,690	98.8%	47.3	1,613	1,765	0.5	25.7	6.3	22.3	37.8	C
SB	U Turn Second Left												
	Left Turn	105	73	69.7%	2.9	68	77	3.4	1078.5	242.6	730.7	1481.2	F
	Through	1,111	940	84.6%	26.6	898	983	5.3	28.2	5.6	22.4	39.1	C
	Right Turn	56	60	107.3%	8.3	52	77	0.5	15.3	4.7	10.6	30.4	B
	Second Right Subtotal	1,272	1,074	84.4%	33.2	1,027	1,134	5.8	103.0	26.3	75.3	162.9	F
EB	U Turn Second Left												
	Left Turn	179	130	72.5%	7.6	120	143	4.0	533.3	76.7	556.7	649.2	F
	Through	147	105	71.6%	9.0	88	125	3.7	333.8	68.3	360.4	467.3	F
	Right Turn	20	14	71.0%	3.2	8	19	1.4	289.6	131.7	320.3	506.3	F
	Second Right Subtotal	346	249	72.1%	12.2	223	262	5.6	421.4	77.9	423.3	568.9	F
WB	U Turn Second Left												
	Left Turn	30	34	111.7%	8.0	22	49	0.6	63.0	14.2	69.0	98.7	E
	Through	75	76	100.8%	11.9	56	94	0.1	52.8	5.0	55.4	81.4	D
	Right Turn	276	269	97.6%	15.0	242	290	0.4	32.7	9.6	28.9	55.8	C
	Second Right Subtotal	381	378	99.3%	20.0	348	412	0.1	39.9	5.8	36.2	56.8	D
Total		3,709	3,391	91.4%	44.6	3,344	3,459	5.3	80.7	8.9	73.8	97.0	F

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

SR 29 VISSIM
Existing Plus Project Alternative 2
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	65	61	94.3%	11.6	48	81	0.5	70.5	14.0	75.2	99.0	E
	Through	859	858	99.8%	24.5	817	896	0.0	50.1	6.2	51.1	63.3	D
	Right Turn	29	26	89.0%	6.6	16	38	0.6	25.5	10.2	27.6	44.1	C
	Second Right Subtotal	953	945	99.1%	24.7	903	983	0.3	50.6	6.0	51.8	64.1	D
SB	U Turn Second Left												
	Left Turn	248	244	98.5%	13.6	225	271	0.2	84.6	7.3	73.3	95.1	F
	Through	852	692	81.2%	24.5	661	735	5.8	42.1	3.9	35.5	47.0	D
	Right Turn	60	59	98.2%	7.1	48	71	0.1	6.0	1.7	5.5	9.0	A
	Second Right Subtotal	1,160	995	85.8%	22.1	974	1,043	5.0	50.9	3.3	44.2	55.5	D
EB	U Turn Second Left												
	Left Turn	152	152	99.8%	12.7	136	177	0.0	59.6	8.7	59.4	73.2	E
	Through	384	380	98.9%	23.3	338	417	0.2	42.3	6.3	40.4	51.8	D
	Right Turn	95	96	101.3%	11.7	80	111	0.1	35.1	10.4	35.4	59.6	D
	Second Right Subtotal	631	628	99.5%	26.6	602	672	0.1	45.4	4.8	46.7	52.5	D
WB	U Turn Second Left												
	Left Turn	74	73	98.9%	11.0	56	90	0.1	74.3	13.9	77.6	92.8	E
	Through	436	435	99.7%	23.3	390	461	0.1	54.5	4.6	53.2	67.3	D
	Right Turn	699	686	98.2%	30.8	624	724	0.5	17.0	2.7	16.9	26.4	B
	Second Right Subtotal	1,209	1,194	98.8%	41.5	1,142	1,252	0.4	33.9	2.1	33.3	40.7	C
Total		3,953	3,762	95.2%	52.6	3,650	3,837	3.1	44.5	1.3	42.2	46.3	D

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	25	4	20	32	143	27	106	181	NO
	Through	400	141	44	81	225	1,281	240	663	1,426	MAX
	Right Turn	400	23	19	1	62	809	240	190	954	MAX
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	241	89	128	379	600	400	248	1,520	MAX
	Through	3,700	45	20	32	102	454	283	279	1,234	NO
EB	Right Turn	380	1	0	1	1	92	14	69	108	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	110	12	92	128	436	1	434	438	MAX
WB	Through	460	21	6	13	34	312	64	240	435	NO
	Right Turn	440	0	1	0	3	110	12	83	130	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	5	2	2	9	60	34	23	149	NO
	Through	500	23	4	15	30	232	55	164	331	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	3	2	1	7	228	96	124	404	NO
	Right Turn	470	1	1	1	3	200	23	166	257	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	16	6	8	28	92	16	66	112	NO
	Through	800	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	612	12	594	634	629	9	625	655	AVG
	Through										
	Right Turn	150	0	0	0	0	13	29	0	85	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	4	2	1	7	51	17	23	71	NO
	Through	680	144	11	122	162	1,061	39	978	1,095	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	22	2	19	24	181	36	141	255	NO
EB	Right Turn	210	2	1	1	4	47	12	23	67	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	237	45	190	321	494	13	483	522	MAX
WB	Through										
	Right Turn	90	3	5	0	14	141	184	29	489	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	1	0	3	78	104	0	284	NO
	Through	480	0	1	0	3	78	104	0	284	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	1	0	3	68	5	63	80	NO
	Through	670	0	0	0	0	5	17	0	54	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	9	2	6	12	136	48	71	238	NO
WB	Through										
	Right Turn	570	6	2	3	8	142	46	78	236	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	1	0	1	1	75	10	68	99	NO
	Through										
	Right Turn	790	2	1	1	3	65	10	58	89	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	4	2	2	6	42	12	23	64	NO
	Through	450	105	18	74	125	805	106	629	985	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	502	110	339	679	1,148	253	858	1,697	AVG
	Through	1,130	33	8	20	45	373	58	266	473	NO
EB	Right Turn	310	36	7	23	45	399	58	292	499	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	690	60	557	742	817	16	801	842	AVG
WB	Through	800	250	130	21	425	692	245	111	839	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	12	3	7	18	82	17	65	110	NO
	Through	580	23	5	15	32	153	30	91	195	NO
	Right Turn										
	Second Right										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	24	6	14	34	129	31	87	182	NO
	Through	500	261	12	244	282	772	52	671	863	MAX
	Right Turn	300	1	0	0	1	62	21	44	103	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	53	5	47	62	199	47	136	309	NO
	Through	1,050	57	5	50	66	364	47	291	446	NO
EB	Right Turn	440	1	0	1	2	92	25	70	147	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	59	5	52	70	283	24	219	308	MAX
WB	Through	130	72	7	58	79	284	24	220	308	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	30	5	24	36	162	32	125	220	NO
	Through	1,610	77	6	65	85	275	31	213	333	NO
	Right Turn	470	1	1	0	4	108	69	0	224	NO
	Second Right										

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

SR 29 VISSIM
Existing Plus Project Alternative 2
PM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	114	111	97.6%	12.1	89	129	0.3	108.5	9.7	109.2	245.3	F
	Through	1,353	1,361	100.6%	44.8	1,289	1,438	0.2	13.4	1.9	14.4	18.3	B
	Right Turn	28	29	102.5%	3.1	24	35	0.1	9.1	1.9	6.9	18.0	A
	Second Right Subtotal	1,495	1,501	100.4%	50.4	1,427	1,595	0.2	20.0	1.9	21.7	35.4	C
SB	U Turn Second Left												
	Left Turn	113	107	95.0%	8.5	96	119	0.5	233.9	35.9	161.9	283.5	F
	Through	1,951	1,868	95.8%	26.5	1,819	1,901	1.9	180.0	28.8	119.2	215.2	F
	Right Turn	358	335	93.5%	18.4	299	362	1.2	159.1	30.8	94.3	197.5	F
	Second Right Subtotal	2,422	2,311	95.4%	29.2	2,260	2,350	2.3	179.5	29.4	117.1	213.9	F
EB	U Turn Second Left												
	Left Turn	39	37	94.1%	4.2	32	45	0.4	78.8	17.2	65.3	98.6	E
	Through	16	15	95.6%	3.9	9	19	0.2	32.2	22.4	40.7	74.1	C
	Right Turn	18	20	112.2%	4.6	12	27	0.5	7.0	3.2	7.0	29.5	A
	Second Right Subtotal	73	72	98.9%	4.4	63	77	0.1	49.1	14.2	45.7	69.4	D
WB	U Turn Second Left												
	Left Turn	39	34	86.2%	6.8	20	44	0.9	76.6	11.0	80.3	93.5	E
	Through	35	33	94.6%	6.6	25	43	0.3	43.2	11.7	42.3	65.3	D
	Right Turn	50	47	94.4%	5.8	36	56	0.4	11.8	7.4	9.3	29.9	B
	Second Right Subtotal	124	114	91.9%	9.4	97	131	0.9	38.8	5.1	38.7	49.6	D
Total		4,114	3,998	97.2%	58.8	3,893	4,093	1.8	114.5	16.6	78.3	131.8	F

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

SR 29 VISSIM
Existing Plus Project Alternative 2
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	1,464	1,474	100.6%	52.7	1,398	1,570	0.2	11.8	2.9	12.9	17.2	B
	Right Turn	295	302	102.3%	15.3	279	328	0.4	5.9	1.2	5.9	7.6	A
	Second Right												
	Subtotal	1,759	1,775	100.9%	45.4	1,726	1,859	0.4	10.8	2.6	11.8	15.6	B
SB	U Turn												
	Second Left												
	Left Turn	41	41	99.8%	4.0	35	45	0.0	54.7	9.5	52.2	82.4	D
	Through	1,967	1,884	95.8%	20.7	1,851	1,916	1.9	12.6	1.5	11.5	16.6	B
	Right Turn												
	Second Right												
	Subtotal	2,008	1,925	95.8%	23.1	1,886	1,961	1.9	13.6	1.6	12.0	17.7	B
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	361	350	96.9%	16.0	324	373	0.6	86.8	30.1	82.2	166.5	F
	Through												
	Right Turn	31	30	97.4%	6.4	19	42	0.1	10.5	8.2	7.5	28.9	B
	Second Right												
	Subtotal	392	380	96.9%	19.7	343	406	0.6	81.1	28.2	77.5	155.2	F
Total		4,159	4,080	98.1%	47.6	3,985	4,143	1.2	19.0	3.5	18.0	27.9	B

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

SR 29 VISSIM
Existing Plus Project Alternative 2
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	67	61	90.9%	8.6	46	71	0.8	118.1	57.6	118.8	250.2	F
	Through	1,660	1,666	100.3%	40.9	1,617	1,739	0.1	8.0	2.6	7.7	13.2	A
	Right Turn												
	Second Right												
	Subtotal	1,727	1,727	100.0%	43.6	1,670	1,800	0.0	12.6	2.8	11.4	17.9	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	2,214	2,131	96.3%	38.1	2,079	2,187	1.8	18.8	3.7	19.0	24.3	B
	Right Turn	113	109	96.3%	10.3	86	123	0.4	18.2	4.0	18.1	27.2	B
	Second Right												
	Subtotal	2,327	2,240	96.3%	36.5	2,190	2,300	1.8	18.8	3.7	18.9	24.2	B
EB	U Turn												
	Second Left												
	Left Turn	99	98	99.3%	12.1	79	114	0.1	56.1	12.2	61.6	87.3	E
	Through												
	Right Turn	54	56	103.0%	6.5	46	65	0.2	15.5	5.9	13.2	32.5	B
	Second Right												
	Subtotal	153	154	100.6%	14.4	127	170	0.1	42.1	11.3	43.7	61.5	D
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,207	4,120	97.9%	54.5	4,061	4,214	1.3	17.0	2.3	17.1	21.4	B

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

SR 29 VISSIM
Existing Plus Project Alternative 2
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	46	47	101.3%	6.9	34	58	0.1	2.1	0.4	1.9	6.3	A
	Through	1,715	1,701	99.2%	40.2	1,650	1,783	0.3	4.3	1.4	4.0	8.0	A
	Right Turn	6	7	111.7%	3.8	2	13	0.3	0.8	1.2	0.6	21.5	A
	Second Right												
	Subtotal	1,767	1,755	99.3%	40.5	1,698	1,837	0.3	4.2	1.4	4.0	7.8	A
SB	U Turn												
	Second Left												
	Left Turn	6	8	131.7%	2.0	5	11	0.7	10.4	8.4	6.3	37.0	B
	Through	2,238	2,163	96.6%	36.8	2,119	2,226	1.6	1.8	0.6	1.1	5.7	A
	Right Turn	24	21	87.9%	4.1	15	29	0.6	1.9	1.0	1.2	5.3	A
	Second Right												
	Subtotal	2,268	2,192	96.6%	37.9	2,146	2,253	1.6	1.9	0.6	1.2	5.6	A
EB	U Turn												
	Second Left												
	Left Turn	4	4	100.0%	2.2	1	8	0.0	8.6	12.4	6.2	58.8	A
	Through												
	Right Turn	29	28	96.9%	5.0	19	35	0.2	13.1	5.4	14.2	36.5	B
	Second Right												
	Subtotal	33	32	97.3%	5.1	24	40	0.2	12.3	5.7	12.6	33.3	B
WB	U Turn												
	Second Left												
	Left Turn	10	12	120.0%	2.8	8	17	0.6	17.3	9.0	10.2	33.8	C
	Through												
	Right Turn	8	9	115.0%	2.3	6	13	0.4	13.2	11.0	5.9	45.1	B
	Second Right												
	Subtotal	18	21	117.8%	4.0	16	29	0.7	15.1	5.3	11.8	35.9	C
Total		4,086	4,000	97.9%	39.2	3,951	4,076	1.4	3.1	0.5	2.9	5.4	A

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

SR 29 VISSIM
Existing Plus Project Alternative 2
PM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	31	30	95.2%	6.0	19	36	0.3	60.5	7.2	57.4	82.9	E
	Through	1,557	1,542	99.0%	38.8	1,491	1,624	0.4	46.3	3.6	46.8	55.1	D
	Right Turn	81	84	104.1%	7.8	73	101	0.4	42.7	9.0	42.6	58.8	D
	Second Right Subtotal	1,669	1,655	99.2%	40.0	1,586	1,737	0.3	46.4	3.5	46.3	55.6	D
SB	U Turn Second Left												
	Left Turn	175	157	89.9%	10.7	136	173	1.4	92.3	22.1	88.0	199.7	F
	Through	2,048	1,963	95.8%	36.2	1,914	2,021	1.9	46.4	19.5	37.9	98.1	D
	Right Turn	55	57	102.9%	8.4	41	73	0.2	30.9	17.3	22.2	77.9	C
	Second Right Subtotal	2,278	2,177	95.6%	33.0	2,134	2,232	2.1	49.3	18.6	40.8	97.6	D
EB	U Turn Second Left												
	Left Turn	63	66	104.9%	7.6	55	77	0.4	69.3	13.9	74.2	94.2	E
	Through	98	98	100.1%	11.6	83	115	0.0	39.3	10.5	38.5	51.5	D
	Right Turn	26	26	100.0%	4.1	18	31	0.0	23.9	9.7	20.0	38.0	C
	Second Right Subtotal	187	190	101.7%	12.8	163	208	0.2	48.3	3.4	49.8	58.3	D
WB	U Turn Second Left												
	Left Turn	57	58	101.6%	5.7	46	66	0.1	89.3	37.7	78.5	196.3	F
	Through	63	66	104.4%	10.3	44	78	0.3	41.7	9.5	48.4	69.7	D
	Right Turn	147	153	104.4%	8.8	143	174	0.5	11.9	2.6	13.0	20.9	B
	Second Right Subtotal	267	277	103.8%	18.2	250	313	0.6	37.3	12.7	32.1	70.4	D
Total		4,401	4,299	97.7%	41.6	4,242	4,383	1.5	47.4	9.8	43.1	71.6	D

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

SR 29 VISSIM
Existing Plus Project Alternative 2
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	158	145	91.5%	12.5	130	162	1.1	99.9	24.5	88.5	144.9	F
	Through	1,039	1,022	98.3%	22.6	981	1,053	0.5	50.2	6.4	44.6	66.4	D
	Right Turn	93	82	87.6%	10.0	62	96	1.2	16.0	3.9	16.3	26.0	B
	Second Right												
	Subtotal	1,290	1,248	96.7%	18.7	1,218	1,281	1.2	53.8	7.8	48.0	69.4	D
SB	U Turn												
	Second Left												
	Left Turn	677	640	94.5%	22.1	605	679	1.4	111.7	31.0	91.0	206.5	F
	Through	1,304	1,270	97.4%	43.4	1,190	1,328	0.9	30.4	6.0	27.6	41.7	C
	Right Turn	149	134	89.7%	12.2	116	153	1.3	7.3	2.5	7.2	15.9	A
	Second Right												
	Subtotal	2,130	2,044	96.0%	40.1	1,985	2,110	1.9	55.0	11.9	45.5	86.9	D
EB	U Turn												
	Second Left												
	Left Turn	129	126	97.5%	8.9	113	139	0.3	70.2	11.4	68.8	85.3	E
	Through	383	388	101.2%	19.3	350	417	0.2	43.0	3.8	44.0	52.3	D
	Right Turn	70	73	103.9%	6.8	64	83	0.3	36.5	9.1	38.0	56.8	D
	Second Right												
	Subtotal	582	586	100.7%	18.7	568	630	0.2	48.3	3.0	48.3	56.1	D
WB	U Turn												
	Second Left												
	Left Turn	114	113	99.3%	11.0	100	138	0.1	106.7	67.8	76.0	289.1	F
	Through	380	384	101.1%	14.0	362	400	0.2	42.5	5.9	42.1	53.3	D
	Right Turn	500	494	98.7%	20.0	469	522	0.3	8.9	1.8	8.1	12.3	A
	Second Right												
	Subtotal	994	991	99.7%	30.4	938	1,028	0.1	33.6	12.3	30.6	65.1	C
Total		4,996	4,869	97.5%	42.4	4,805	4,942	1.8	49.8	6.4	43.3	65.8	D

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	77	16	56	100	250	62	161	352	NO
	Through	400	30	7	23	41	698	146	483	885	MAX
	Right Turn	400	0	0	0	1	58	8	54	79	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	53	14	36	82	214	33	177	288	NO
	Through	3,700	2,217	700	1,230	2,947	3,665	211	3,166	3,787	NO
EB	Right Turn	380	15	3	11	19	185	48	137	307	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	15	3	12	21	93	20	68	131	NO
WB	Through	460	4	1	2	5	61	17	43	88	NO
	Right Turn	440	0	0	0	0	86	8	81	107	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	13	2	9	16	100	29	49	155	NO
	Through	500	11	3	7	16	130	47	85	215	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	49	6	40	61	681	58	584	777	MAX
	Right Turn	470	1	1	0	2	138	34	58	200	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	11	2	9	13	107	17	86	139	NO
	Through	800	40	3	36	46	346	48	284	444	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	130	21	102	170	511	70	412	626	MAX
	Through										
	Right Turn	150	2	1	1	3	74	13	64	107	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	39	11	24	59	173	38	92	219	NO
	Through	680	40	9	25	53	864	151	581	1,045	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	139	13	121	157	751	2	749	755	MAX
EB	Right Turn	210	8	2	4	10	113	20	89	152	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	34	6	23	43	203	50	131	289	NO
WB	Through										
	Right Turn	90	1	0	1	2	64	20	30	94	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	16	34	0	93	NO
	Through	480	0	0	0	0	16	34	0	93	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	0	0	1	67	6	62	81	NO
	Through	670	0	0	0	0	26	43	0	118	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	0	0	0	1	48	15	33	84	NO
WB	Through										
	Right Turn	570	2	1	2	4	61	18	39	93	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	2	0	1	3	84	15	69	109	NO
	Through										
	Right Turn	790	1	0	1	2	75	15	60	100	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	9	2	5	12	89	17	66	124	NO
	Through	450	254	16	220	276	740	73	659	880	MAX
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn	500	77	26	50	144	317	62	231	415	NO
	Through	1,130	336	106	213	598	1,308	291	1,032	2,053	MAX
	Right Turn	310	344	107	225	616	1,331	291	1,058	2,079	AVG
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	180	27	4	22	35	150	39	111	243	NO
	Through	800	25	5	14	32	187	27	146	241	NO
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn	310	29	12	16	54	132	37	95	215	NO
	Through	580	16	3	10	19	135	31	88	180	NO
	Right Turn										
	Second Right										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	80	17	56	115	471	190	220	727	MAX
	Through	500	187	23	150	212	689	90	531	805	MAX
	Right Turn	300	4	1	2	5	87	16	71	126	NO
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn	760	234	64	163	344	515	103	346	662	NO
	Through	1,050	102	8	94	119	345	39	283	409	NO
	Right Turn	440	4	1	3	5	103	27	70	146	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	130	46	7	39	60	251	32	213	304	MAX
	Through	130	62	4	54	68	266	33	231	340	MAX
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn	370	74	49	41	201	257	98	153	498	NO
	Through	1,610	52	3	48	58	241	27	197	293	NO
	Right Turn	470	0	0	0	0	10	31	0	98	NO
	Second Right										

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

SR 29 VISSIM
Existing Plus Background
AM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	102	104	101.6%	10.0	87	120	0.2	89.0	19.2	80.5	121.8	F
	Through	2,509	2,332	92.9%	52.1	2,220	2,395	3.6	51.9	10.1	45.0	68.3	D
	Right Turn	85	84	98.5%	9.4	69	96	0.1	23.9	6.4	17.1	44.2	C
	Second Right Subtotal	2,696	2,519	93.4%	53.7	2,408	2,572	3.5	52.6	9.8	45.2	69.9	D
SB	U Turn Second Left												
	Left Turn	87	58	66.9%	2.8	52	61	3.4	1080.9	229.7	581.0	1402.0	F
	Through	1,052	980	93.1%	47.3	904	1,063	2.3	138.7	76.8	41.3	288.3	F
	Right Turn	70	70	100.1%	8.5	60	80	0.0	126.4	88.9	23.9	273.5	F
	Second Right Subtotal	1,209	1,108	91.6%	51.2	1,032	1,204	3.0	191.8	81.4	71.3	336.5	F
EB	U Turn Second Left												
	Left Turn	239	226	94.4%	9.7	210	240	0.9	131.6	24.0	136.6	170.4	F
	Through	45	42	94.0%	9.2	31	55	0.4	89.7	26.9	78.8	127.4	F
	Right Turn	113	110	97.2%	14.4	79	135	0.3	76.8	23.7	70.9	113.6	E
	Second Right Subtotal	397	378	95.1%	15.3	358	410	1.0	110.2	22.8	110.9	153.0	F
WB	U Turn Second Left												
	Left Turn	110	109	99.0%	13.5	79	127	0.1	72.5	12.6	80.1	165.7	E
	Through	22	22	101.4%	2.4	19	26	0.1	65.0	12.3	63.8	125.9	E
	Right Turn	175	181	103.4%	14.9	156	201	0.4	24.7	7.9	19.3	73.2	C
	Second Right Subtotal	307	312	101.7%	11.6	290	329	0.3	44.5	8.1	41.7	103.6	D
Total		4,609	4,317	93.7%	68.1	4,238	4,464	4.4	89.0	15.4	62.7	116.4	F

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

SR 29 VISSIM
Existing Plus Background
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,658	2,520	94.8%	56.0	2,405	2,569	2.7	20.9	9.1	12.5	36.9	C
	Right Turn	189	194	102.8%	7.5	179	204	0.4	2.8	0.3	2.5	3.5	A
	Second Right												
	Subtotal	2,847	2,714	95.3%	58.7	2,593	2,769	2.5	19.4	8.4	11.8	34.0	B
SB	U Turn												
	Second Left												
	Left Turn	32	30	92.8%	4.5	22	36	0.4	71.1	37.5	71.7	225.9	E
	Through	1,242	1,170	94.2%	52.4	1,069	1,248	2.1	7.0	18.3	1.2	58.9	A
	Right Turn												
	Second Right												
	Subtotal	1,274	1,199	94.1%	53.8	1,093	1,277	2.1	8.4	18.1	3.0	59.8	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	161	0	0.0%	0.0	0	0	17.9	0.0	0.0	0.0	0.0	A
	Through												
	Right Turn	37	0	0.8%	0.7	0	2	8.5	0.0	0.0	0.0	126.3	A
	Second Right												
	Subtotal	198	0	0.2%	0.7	0	2	19.9	0.0	0.0	0.0	6.0	A
Total		4,319	3,913	90.6%	69.1	3,813	4,033	6.3	15.5	8.0	8.8	31.7	B

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

SR 29 VISSIM
Existing Plus Background
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	16	15	94.4%	4.3	7	20	0.2	77.2	32.3	76.6	140.2	E
	Through	2,435	2,344	96.3%	56.7	2,257	2,430	1.9	16.9	8.6	14.4	31.9	B
	Right Turn												
	Second Right												
	Subtotal	2,451	2,359	96.3%	54.3	2,276	2,444	1.9	17.4	8.4	14.6	32.1	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	1,345	1,115	82.9%	52.2	1,019	1,203	6.5	17.6	27.0	7.2	92.7	B
	Right Turn	59	55	93.1%	6.1	45	63	0.5	7.0	4.2	10.4	22.7	A
	Second Right												
	Subtotal	1,404	1,170	83.4%	52.3	1,073	1,248	6.5	17.2	26.0	7.3	89.5	B
EB	U Turn												
	Second Left												
	Left Turn	413	383	92.8%	23.3	349	420	1.5	115.7	31.0	73.1	156.0	F
	Through												
	Right Turn	74	66	89.6%	7.2	56	80	0.9	91.5	55.6	47.2	228.3	F
	Second Right												
	Subtotal	487	449	92.3%	24.5	415	490	1.7	112.0	32.5	67.9	163.3	F
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,342	3,979	91.6%	60.2	3,896	4,083	5.6	27.7	12.7	16.9	56.8	C

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

SR 29 VISSIM
Existing Plus Background
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	26	26	98.5%	5.2	14	32	0.1	21.2	28.7	2.2	66.7	C
	Through	2,306	2,227	96.6%	51.7	2,158	2,332	1.7	39.1	40.7	17.8	104.6	E
	Right Turn	7	8	108.6%	1.7	5	9	0.2	20.1	27.4	2.4	68.1	C
	Second Right Subtotal	2,339	2,260	96.6%	52.0	2,190	2,364	1.6	38.9	40.5	17.6	103.9	E
SB	U Turn Second Left												
	Left Turn	9	10	106.7%	2.5	6	13	0.2	31.6	26.9	33.0	68.3	D
	Through	1,406	1,168	83.0%	48.6	1,082	1,236	6.6	10.5	20.8	0.3	63.5	B
	Right Turn	5	5	100.0%	2.9	1	10	0.0	19.1	48.0	0.2	151.3	C
	Second Right Subtotal	1,420	1,182	83.3%	49.6	1,095	1,252	6.6	10.7	20.9	0.5	64.0	B
EB	U Turn Second Left												
	Left Turn	130	130	99.7%	15.4	110	154	0.0	32.0	24.3	22.1	87.0	D
	Through												
	Right Turn	45	48	105.6%	4.9	38	54	0.4	39.9	59.8	12.1	193.5	E
Second Right Subtotal	175	177	101.2%	17.7	153	206	0.2	31.3	25.8	19.4	89.1	D	
WB	U Turn Second Left												
	Left Turn	2	2	105.0%	1.5	0	5	0.1	2.4	3.9	0.0	90.7	A
	Through												
	Right Turn	14	13	89.3%	3.0	9	17	0.4	49.7	71.8	32.0	246.3	E
Second Right Subtotal	16	15	91.3%	3.7	11	22	0.4	41.3	63.7	25.9	218.9	E	
Total		3,950	3,634	92.0%	62.2	3,560	3,765	5.1	29.3	28.6	11.9	80.2	D

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

SR 29 VISSIM
Existing Plus Background
AM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	10	11	109.0%	3.7	5	17	0.3	82.9	32.5	107.6	152.6	F
	Through	1,860	1,822	98.0%	46.7	1,762	1,912	0.9	28.4	8.2	20.8	44.2	C
	Right Turn	15	14	96.0%	2.2	11	18	0.2	31.0	10.9	25.4	58.7	C
	Second Right												
	Subtotal	1,885	1,847	98.0%	47.0	1,783	1,935	0.9	28.7	8.2	21.4	44.4	C
SB	U Turn												
	Second Left												
	Left Turn	115	72	63.0%	2.8	66	76	4.4	1263.8	243.8	815.2	1627.0	F
	Through	1,286	1,033	80.3%	52.2	924	1,101	7.4	77.8	69.5	17.9	220.9	E
	Right Turn	51	50	97.8%	5.3	45	59	0.2	56.1	55.7	11.9	190.1	E
	Second Right												
	Subtotal	1,452	1,155	79.6%	53.6	1,042	1,223	8.2	162.3	70.2	87.0	301.0	F
EB	U Turn												
	Second Left												
	Left Turn	178	135	76.1%	11.4	122	158	3.4	466.4	102.4	387.5	630.7	F
	Through	156	123	78.5%	23.0	88	159	2.8	309.8	81.7	265.2	435.0	F
	Right Turn	22	19	84.1%	5.7	11	27	0.8	260.2	121.6	218.5	411.0	F
	Second Right												
	Subtotal	356	276	77.6%	32.0	223	326	4.5	378.3	96.4	329.2	519.5	F
WB	U Turn												
	Second Left												
	Left Turn	37	40	108.6%	7.5	28	57	0.5	80.5	18.6	74.4	114.1	F
	Through	80	78	97.9%	10.7	59	97	0.2	64.4	19.2	55.3	111.6	E
	Right Turn	301	301	100.0%	15.3	273	323	0.0	58.4	22.2	41.2	117.6	E
	Second Right												
	Subtotal	418	420	100.4%	15.7	393	436	0.1	61.8	18.7	46.6	107.5	E
Total		4,111	3,699	90.0%	53.8	3,604	3,769	6.6	96.3	23.7	73.2	147.8	F

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

SR 29 VISSIM
Existing Plus Background
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	69	69	100.4%	14.3	51	95	0.0	78.2	16.5	72.2	111.9	E
	Through	959	954	99.4%	23.5	917	988	0.2	63.3	11.0	59.5	89.1	E
	Right Turn	35	33	94.9%	9.0	21	46	0.3	42.6	9.4	37.9	76.6	D
	Second Right Subtotal	1,063	1,056	99.4%	26.7	1,015	1,098	0.2	63.5	10.3	60.3	89.2	E
SB	U Turn Second Left												
	Left Turn	295	275	93.2%	16.2	242	304	1.2	83.6	7.7	70.2	93.4	F
	Through	980	768	78.3%	41.2	719	824	7.2	41.8	8.2	26.3	54.8	D
	Right Turn	69	61	88.0%	9.6	47	78	1.0	6.2	1.6	6.1	9.8	A
	Second Right Subtotal	1,344	1,103	82.1%	48.7	1,013	1,157	6.9	50.2	8.1	35.2	61.8	D
EB	U Turn Second Left												
	Left Turn	159	157	98.8%	11.4	145	179	0.2	61.2	8.4	54.8	70.4	E
	Through	409	405	99.0%	14.1	381	434	0.2	40.5	4.8	42.6	51.3	D
	Right Turn	101	97	96.1%	15.4	74	117	0.4	32.4	6.9	32.9	52.0	C
	Second Right Subtotal	669	659	98.5%	23.5	633	703	0.4	44.0	4.1	46.4	50.8	D
WB	U Turn Second Left												
	Left Turn	95	95	99.8%	12.4	76	113	0.0	75.1	19.4	76.2	116.4	E
	Through	467	464	99.4%	18.0	437	494	0.1	49.7	4.2	50.2	63.0	D
	Right Turn	767	747	97.4%	28.9	687	776	0.7	18.0	2.9	18.6	36.7	B
	Second Right Subtotal	1,329	1,306	98.3%	38.0	1,250	1,360	0.6	33.4	3.0	35.8	44.0	C
Total		4,405	4,125	93.6%	50.9	4,050	4,209	4.3	47.4	3.9	42.3	52.4	D

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	43	7	33	54	207	33	136	244	NO
	Through	400	545	103	404	704	1,435	21	1,404	1,455	AVG
	Right Turn	400	250	72	159	365	963	21	931	983	MAX
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	535	156	228	788	1,949	633	1,117	3,146	AVG
	Through	3,700	82	48	42	192	1,042	870	356	3,146	NO
EB	Right Turn	380	2	0	1	2	100	9	89	113	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	224	56	161	335	447	13	437	475	AVG
WB	Through	460	26	12	10	40	395	59	278	451	NO
	Right Turn	440	5	6	0	15	246	167	109	486	NO
	Second Right										
	U Turn										
	Second Left	180	58	15	38	88	311	123	163	488	MAX
WB	Left Turn	500	30	8	17	45	348	131	155	487	NO
	Through										
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	640	92	53	29	171	734	70	540	765	MAX
	Through	470	10	7	2	21	205	18	196	256	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	14	7	8	26	98	46	67	211	NO
	Through	800	3	9	0	29	82	259	0	820	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left	150	621	14	603	647	632	11	625	656	AVG
WB	Left Turn	150	0	0	0	0	9	20	0	56	NO
	Through										
	Right Turn										
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	7	2	3	10	68	17	45	101	NO
	Through	680	270	76	168	382	1,101	20	1,070	1,144	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	33	25	18	102	288	165	202	752	NO
EB	Right Turn	210	2	1	2	4	50	20	24	94	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	289	69	168	360	497	15	482	527	MAX
WB	Through										
	Right Turn	90	2	4	0	15	104	130	47	473	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	59	83	0	193	742	712	0	1,868	MAX
	Through	480	59	83	0	193	742	712	0	1,868	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	3	1	2	4	77	15	64	111	NO
	Through	670	7	18	0	55	95	200	0	483	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	18	9	10	36	248	138	116	579	NO
WB	Through										
	Right Turn	570	14	10	6	34	255	138	123	586	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	2	3	1	10	82	17	68	104	NO
	Through										
	Right Turn	790	4	3	1	12	72	17	58	93	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	5	2	2	9	46	16	22	65	NO
	Through	450	136	27	94	169	903	151	729	1,276	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	721	219	333	1,087	1,798	625	615	2,517	AVG
	Through	1,130	125	233	32	777	854	861	331	2,490	NO
EB	Right Turn	310	130	236	35	790	880	861	357	2,517	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	663	100	437	737	825	17	801	858	AVG
WB	Through	800	202	121	48	454	804	10	796	822	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	16	3	10	22	111	21	83	144	NO
	Through	580	23	4	15	30	156	39	101	224	NO
	Right Turn										
	Second Right										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	30	7	20	44	144	37	103	217	NO
	Through	500	346	29	310	406	879	58	798	974	MAX
	Right Turn	300	1	0	1	2	67	23	44	124	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	63	6	55	74	239	34	202	291	NO
	Through	1,050	65	10	50	82	440	81	311	564	NO
EB	Right Turn	440	2	0	1	2	89	27	51	129	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	60	7	50	72	284	37	245	366	MAX
WB	Through	130	75	7	64	85	296	48	248	388	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	43	10	29	60	216	51	155	303	NO
	Through	1,610	78	4	73	83	294	38	252	379	NO
	Right Turn	470	2	3	0	9	190	147	68	520	NO
	Second Right										

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

SR 29 VISSIM
Existing Plus Background
PM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	183	153	83.7%	4.8	145	161	2.3	594.5	132.7	326.2	761.0	F
	Through	1,391	1,356	97.5%	39.8	1,282	1,408	1.0	61.6	21.7	27.4	86.4	E
	Right Turn	153	144	94.0%	14.1	129	176	0.8	27.1	9.4	15.6	41.9	C
	Second Right Subtotal	1,727	1,653	95.7%	40.4	1,583	1,703	1.8	108.0	31.4	55.3	145.4	F
SB	U Turn Second Left												
	Left Turn	151	129	85.2%	6.4	117	139	1.9	342.5	106.9	258.1	581.9	F
	Through	2,022	1,758	86.9%	21.2	1,723	1,788	6.1	213.8	7.1	214.2	233.1	F
	Right Turn	401	350	87.3%	18.5	319	376	2.6	192.1	8.2	188.2	209.0	F
	Second Right Subtotal	2,574	2,237	86.9%	18.3	2,199	2,265	6.9	217.8	12.5	218.5	242.8	F
EB	U Turn Second Left												
	Left Turn	62	61	97.6%	7.5	48	73	0.2	73.5	14.4	72.3	108.0	E
	Through	17	17	100.6%	4.8	7	24	0.0	42.4	12.5	42.5	85.6	D
	Right Turn	83	86	103.6%	10.6	70	103	0.3	10.4	3.6	12.4	39.7	B
	Second Right Subtotal	162	164	101.0%	13.7	146	189	0.1	37.4	8.4	38.2	70.5	D
WB	U Turn Second Left												
	Left Turn	130	122	93.5%	7.3	108	135	0.7	85.6	31.1	77.2	169.5	F
	Through	38	38	100.3%	5.8	25	45	0.0	45.7	18.8	41.7	87.3	D
	Right Turn	76	80	105.5%	6.5	74	97	0.5	21.3	17.0	18.7	66.5	C
	Second Right Subtotal	244	240	98.3%	13.3	211	255	0.3	59.5	26.9	53.3	133.1	E
Total		4,707	4,293	91.2%	39.2	4,232	4,353	6.2	160.6	12.8	145.5	180.6	F

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

SR 29 VISSIM
Existing Plus Background
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	1,693	1,663	98.2%	37.5	1,591	1,712	0.7	26.0	15.1	14.6	52.9	C
	Right Turn	313	307	97.9%	21.1	264	341	0.4	6.5	1.7	6.5	10.3	A
	Second Right												
	Subtotal	2,006	1,970	98.2%	33.9	1,903	2,002	0.8	23.0	12.8	13.3	46.3	C
SB	U Turn												
	Second Left												
	Left Turn	44	39	87.5%	6.0	31	51	0.9	51.3	6.4	52.7	85.9	D
	Through	2,191	1,928	88.0%	19.1	1,895	1,961	5.8	16.3	11.0	14.9	47.0	B
	Right Turn												
	Second Right												
	Subtotal	2,235	1,967	88.0%	21.3	1,928	2,003	5.9	17.0	10.7	15.3	47.0	B
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	383	377	98.4%	14.1	358	401	0.3	103.0	25.8	93.3	219.9	F
	Through												
	Right Turn	33	33	99.1%	5.8	26	42	0.1	33.5	18.8	22.6	90.2	C
	Second Right												
	Subtotal	416	410	98.4%	16.2	389	430	0.3	97.8	23.6	89.0	211.3	F
Total		4,657	4,346	93.3%	35.7	4,272	4,389	4.6	26.9	5.5	22.1	36.5	C

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

SR 29 VISSIM
Existing Plus Background
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	81	78	96.0%	8.5	63	92	0.4	154.8	58.3	115.0	403.9	F
	Through	1,906	1,875	98.4%	42.8	1,822	1,946	0.7	8.7	2.5	8.1	12.8	A
	Right Turn												
	Second Right												
	Subtotal	1,987	1,953	98.3%	43.3	1,893	2,022	0.8	15.1	2.7	13.5	26.1	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	2,459	2,208	89.8%	21.2	2,165	2,239	5.2	27.9	13.4	20.3	52.6	C
	Right Turn	114	102	89.3%	8.3	83	117	1.2	18.5	5.8	19.6	29.7	B
	Second Right												
	Subtotal	2,573	2,310	89.8%	24.2	2,266	2,339	5.3	27.5	13.1	20.2	51.6	C
EB	U Turn												
	Second Left												
	Left Turn	102	102	99.7%	14.7	79	131	0.0	61.2	5.0	60.8	82.1	E
	Through												
	Right Turn	63	63	100.3%	10.7	50	83	0.0	32.3	16.5	22.2	61.2	C
	Second Right												
	Subtotal	165	165	99.9%	16.3	136	186	0.0	50.6	6.1	45.7	67.6	D
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,725	4,428	93.7%	53.5	4,356	4,539	4.4	23.0	7.7	16.8	38.4	C

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

SR 29 VISSIM
Existing Plus Background
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	49	46	93.5%	6.8	38	57	0.5	2.1	0.6	2.0	5.2	A
	Through	1,973	1,922	97.4%	39.9	1,854	1,993	1.1	5.4	1.6	6.3	9.9	A
	Right Turn	7	7	101.4%	2.2	4	11	0.0	1.5	2.3	2.8	19.0	A
	Second Right												
	Subtotal	2,029	1,975	97.4%	37.0	1,907	2,042	1.2	5.3	1.6	6.2	9.7	A
SB	U Turn												
	Second Left												
	Left Turn	7	6	88.6%	2.5	1	10	0.3	14.3	20.5	7.3	64.8	B
	Through	2,491	2,228	89.4%	21.7	2,188	2,262	5.4	20.5	13.5	4.9	35.8	C
	Right Turn	26	24	91.5%	4.2	19	30	0.4	6.5	4.7	1.9	16.7	A
	Second Right												
	Subtotal	2,524	2,258	89.5%	20.6	2,227	2,297	5.4	20.3	13.4	4.9	35.5	C
EB	U Turn												
	Second Left												
	Left Turn	5	5	102.0%	2.8	2	10	0.0	19.8	27.0	11.2	72.5	C
	Through												
	Right Turn	31	30	95.8%	4.2	25	39	0.2	157.9	249.4	19.7	788.9	F
	Second Right												
	Subtotal	36	35	96.7%	4.8	29	43	0.2	137.0	207.3	19.7	652.9	F
WB	U Turn												
	Second Left												
	Left Turn	11	10	93.6%	4.1	5	17	0.2	32.5	18.7	11.0	133.7	D
	Through												
	Right Turn	9	11	120.0%	3.4	6	18	0.6	13.7	7.2	7.9	71.6	B
	Second Right												
	Subtotal	20	21	105.5%	4.6	16	29	0.2	23.3	9.6	13.3	65.5	C
Total		4,609	4,289	93.1%	45.6	4,203	4,373	4.8	14.3	7.8	5.6	23.7	B

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

SR 29 VISSIM
Existing Plus Background
PM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	33	30	91.2%	4.1	25	37	0.5	73.4	31.0	56.1	155.2	E
	Through	1,808	1,748	96.7%	29.0	1,694	1,788	1.4	62.5	19.4	51.2	114.0	E
	Right Turn	91	90	99.0%	7.3	76	101	0.1	59.9	23.2	47.5	116.8	E
	Second Right Subtotal	1,932	1,869	96.7%	23.6	1,824	1,904	1.5	62.5	19.7	51.0	114.8	E
SB	U Turn Second Left												
	Left Turn	196	159	81.2%	6.1	149	166	2.8	134.2	20.3	110.2	226.2	F
	Through	2,290	2,013	87.9%	26.4	1,981	2,055	6.0	101.7	16.1	79.4	118.7	F
	Right Turn	47	41	86.6%	6.8	31	49	1.0	85.2	20.2	45.3	105.7	F
	Second Right Subtotal	2,533	2,213	87.4%	21.2	2,189	2,247	6.6	103.7	16.3	80.9	120.7	F
EB	U Turn Second Left												
	Left Turn	59	64	107.8%	9.3	51	79	0.6	74.3	10.2	73.8	117.2	E
	Through	104	103	98.8%	11.3	84	120	0.1	44.2	8.9	35.6	58.6	D
	Right Turn	28	27	94.6%	5.0	20	34	0.3	23.5	9.1	16.6	50.0	C
	Second Right Subtotal	191	193	101.0%	13.1	165	208	0.1	52.3	7.5	52.4	65.4	D
WB	U Turn Second Left												
	Left Turn	64	67	105.3%	10.9	50	85	0.4	98.2	24.7	79.7	500.4	F
	Through	67	70	104.0%	7.6	58	80	0.3	43.9	9.2	46.4	57.1	D
	Right Turn	162	165	101.7%	11.9	149	187	0.2	13.0	2.6	14.3	53.3	B
	Second Right Subtotal	293	302	103.0%	18.2	268	338	0.5	40.9	9.1	34.9	140.7	D
Total		4,949	4,576	92.5%	38.7	4,531	4,651	5.4	81.0	10.1	71.0	99.2	F

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

SR 29 VISSIM
Existing Plus Background
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	168	138	82.3%	11.8	124	160	2.4	221.0	82.6	123.7	343.6	F
	Through	1,209	1,145	94.7%	34.3	1,081	1,193	1.9	186.1	77.3	98.0	304.9	F
	Right Turn	115	101	88.0%	11.3	79	114	1.3	139.1	74.1	54.1	260.0	F
	Second Right Subtotal	1,492	1,384	92.8%	25.8	1,352	1,420	2.8	186.3	77.2	96.9	305.3	F
SB	U Turn Second Left												
	Left Turn	757	634	83.8%	16.1	606	661	4.6	118.9	39.0	94.1	210.1	F
	Through	1,464	1,345	91.9%	36.0	1,287	1,402	3.2	36.9	5.6	31.8	46.1	D
	Right Turn	161	134	83.0%	12.9	110	149	2.3	7.5	1.8	8.3	11.8	A
	Second Right Subtotal	2,382	2,113	88.7%	29.1	2,063	2,151	5.7	60.7	13.8	51.6	87.8	E
EB	U Turn Second Left												
	Left Turn	146	146	100.3%	13.5	127	166	0.0	81.1	12.1	75.5	106.0	F
	Through	411	421	102.4%	20.8	390	451	0.5	41.5	3.9	44.0	54.7	D
	Right Turn	75	75	100.1%	10.7	58	87	0.0	30.0	9.6	38.1	53.8	C
	Second Right Subtotal	632	642	101.6%	24.8	610	677	0.4	49.1	3.5	47.6	58.3	D
WB	U Turn Second Left												
	Left Turn	130	126	96.6%	8.6	114	141	0.4	137.5	95.3	103.6	384.2	F
	Through	406	413	101.8%	20.0	377	437	0.4	42.8	4.7	43.9	52.3	D
	Right Turn	578	569	98.4%	23.5	536	602	0.4	10.9	2.6	9.3	18.1	B
	Second Right Subtotal	1,114	1,108	99.5%	35.5	1,050	1,161	0.2	37.0	12.1	32.8	66.4	D
Total		5,620	5,248	93.4%	44.5	5,165	5,328	5.1	88.0	24.1	57.1	130.6	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	643	183	304	899	1,368	79	1,194	1,427	AVG
	Through	400	216	186	29	473	928	501	370	1,411	MAX
	Right Turn	400	3	1	1	5	133	44	84	220	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	532	861	47	2,767	1,338	1,682	154	3,807	AVG
	Through	3,700	3,208	134	2,842	3,331	3,784	16	3,756	3,806	MAX
EB	Right Turn	380	16	1	15	19	206	50	161	337	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	29	6	19	38	223	64	134	339	MAX
WB	Through	460	8	3	3	12	125	44	68	211	NO
	Right Turn	440	1	0	0	1	114	10	102	131	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	67	16	53	100	319	98	203	488	MAX
	Through	500	13	3	9	17	169	60	90	301	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	75	28	45	133	734	21	717	777	MAX
	Right Turn	470	3	2	1	7	158	20	141	200	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	11	3	8	19	110	29	75	168	NO
	Through	800	52	15	42	96	430	134	356	796	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	200	61	119	316	581	60	455	627	AVG
	Through										
	Right Turn	150	4	1	2	6	79	14	64	107	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	71	35	44	152	347	328	132	1,015	MAX
	Through	680	57	13	41	74	1,003	129	670	1,087	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	171	29	143	244	769	15	751	801	MAX
EB	Right Turn	210	7	1	6	9	115	22	85	165	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	36	8	26	51	232	68	159	394	NO
WB	Through										
	Right Turn	90	2	1	1	3	76	22	42	107	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	1	38	43	0	130	NO
	Through	480	0	0	0	1	38	43	0	130	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	1	0	3	62	6	47	67	NO
	Through	670	34	37	0	89	371	182	0	524	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	10	15	0	42	96	63	35	192	NO
WB	Through										
	Right Turn	570	15	17	2	49	109	61	39	201	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	2	1	1	4	84	16	68	109	NO
	Through										
	Right Turn	790	2	1	1	3	74	16	59	100	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	9	1	8	12	82	21	47	120	NO
	Through	450	458	197	327	989	1,348	513	797	2,132	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	79	22	62	139	357	60	276	469	NO
	Through	1,130	1,014	370	560	1,595	2,278	285	1,755	2,517	MAX
EB	Right Turn	310	1,031	378	574	1,621	2,304	285	1,781	2,543	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	26	4	19	29	151	17	132	182	NO
WB	Through	800	27	5	16	34	212	42	156	281	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	52	38	19	150	200	138	102	569	NO
	Through	580	16	3	9	19	117	26	89	171	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	338	326	47	1,081	1,516	769	207	2,487	AVG
	Through	500	904	453	367	1,773	1,787	483	1,059	2,488	AVG
	Right Turn	300	4	1	2	6	99	21	75	149	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	221	45	164	319	487	81	405	677	NO
	Through	1,050	131	13	113	148	413	51	333	486	NO
EB	Right Turn	440	4	1	2	5	95	22	68	136	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	60	10	47	76	279	25	247	327	MAX
WB	Through	130	69	6	61	79	293	27	262	337	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	103	37	66	194	295	89	197	502	NO
	Through	1,610	57	3	53	61	256	25	226	315	NO
	Right Turn	470	0	0	0	0	15	34	0	108	NO
	Second Right										
	U Turn										

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
AM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	51	48	93.7%	7.8	35	64	0.5	65.1	15.6	58.0	145.4	E
	Through	2,656	2,620	98.6%	71.7	2,493	2,699	0.7	35.4	7.2	24.9	54.1	D
	Right Turn	83	78	94.5%	7.6	68	96	0.5	16.8	5.6	9.5	45.7	B
	Second Right Subtotal	2,790	2,746	98.4%	69.9	2,628	2,831	0.8	35.4	7.1	25.0	54.4	D
SB	U Turn Second Left												
	Left Turn	82	57	69.4%	1.9	54	61	3.0	1063.2	277.9	389.9	1288.3	F
	Through	1,057	999	94.5%	48.6	946	1,095	1.8	131.6	176.5	18.3	611.0	F
	Right Turn	52	52	99.8%	9.8	39	65	0.0	109.9	135.4	4.7	438.6	F
	Second Right Subtotal	1,191	1,108	93.0%	53.0	1,041	1,195	2.4	186.6	173.0	36.1	640.1	F
EB	U Turn Second Left												
	Left Turn	212	177	83.3%	6.7	163	184	2.5	237.1	25.3	230.8	274.1	F
	Through	42	37	88.3%	4.6	28	44	0.8	170.3	20.6	186.6	298.3	F
	Right Turn	62	57	91.1%	8.3	39	66	0.7	163.2	16.4	161.9	198.1	F
	Second Right Subtotal	316	270	85.5%	11.1	250	281	2.7	214.7	26.6	205.3	253.8	F
WB	U Turn Second Left												
	Left Turn	109	104	95.8%	15.1	79	139	0.4	101.1	28.8	94.1	292.5	F
	Through	20	21	104.5%	2.5	17	24	0.2	78.5	19.8	74.4	220.5	E
	Right Turn	166	168	101.1%	20.3	138	199	0.1	28.9	13.6	24.6	145.7	C
	Second Right Subtotal	295	293	99.4%	20.9	261	320	0.1	60.5	19.6	48.4	217.3	E
Total		4,592	4,417	96.2%	59.8	4,285	4,483	2.6	83.4	43.5	53.9	203.2	F

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,756	2,700	98.0%	65.7	2,585	2,782	1.1	13.5	7.2	6.8	33.3	B
	Right Turn	178	178	99.9%	10.3	162	197	0.0	2.7	0.8	2.2	4.7	A
	Second Right												
	Subtotal	2,934	2,878	98.1%	67.4	2,765	2,957	1.0	12.9	6.9	6.6	31.7	B
SB	U Turn												
	Second Left												
	Left Turn	30	29	97.0%	6.0	22	38	0.2	100.6	29.9	85.6	174.9	F
	Through	1,198	1,135	94.7%	61.1	1,056	1,254	1.8	4.2	0.9	4.0	6.2	A
	Right Turn												
	Second Right												
	Subtotal	1,228	1,164	94.8%	64.3	1,081	1,292	1.9	6.5	1.6	6.1	10.1	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	151	153	101.3%	14.6	130	182	0.2	62.3	10.6	63.7	82.8	E
	Through												
	Right Turn	34	34	99.7%	4.5	29	43	0.0	41.0	17.7	30.7	76.2	D
	Second Right												
	Subtotal	185	187	101.0%	14.6	159	212	0.1	57.6	11.8	55.7	81.7	E
Total		4,347	4,228	97.3%	55.5	4,115	4,279	1.8	13.1	4.9	8.8	25.4	B

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	15	15	100.0%	3.2	10	20	0.0	89.1	18.1	75.9	118.7	F
	Through	2,528	2,483	98.2%	57.3	2,389	2,537	0.9	16.6	8.1	11.1	31.8	B
	Right Turn												
	Second Right												
	Subtotal	2,543	2,498	98.2%	57.1	2,402	2,555	0.9	17.1	8.0	12.1	32.4	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	1,291	1,239	96.0%	61.5	1,154	1,360	1.5	8.8	1.7	7.3	13.2	A
	Right Turn	59	53	89.7%	6.9	44	67	0.8	7.1	3.3	6.3	15.7	A
	Second Right												
	Subtotal	1,350	1,292	95.7%	61.2	1,211	1,405	1.6	8.8	1.6	7.2	12.7	A
EB	U Turn												
	Second Left												
	Left Turn	406	402	99.0%	17.7	376	430	0.2	83.2	22.1	68.7	126.2	F
	Through												
	Right Turn	70	69	99.1%	8.1	57	83	0.1	54.2	22.9	34.5	97.0	D
	Second Right												
	Subtotal	476	472	99.1%	17.5	453	506	0.2	78.4	22.6	63.4	119.2	E
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,369	4,261	97.5%	53.1	4,152	4,337	1.6	21.0	6.5	15.9	33.1	C

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS	
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum		
NB	U Turn Second Left													
	Left Turn	24	26	107.1%	5.7	16	34	0.3	23.2	36.7	5.0	101.9	C	
	Through	2,407	2,359	98.0%	50.0	2,257	2,415	1.0	35.4	41.1	16.5	123.8	E	
	Right Turn	6	6	91.7%	2.5	3	10	0.2	13.6	30.4	6.0	96.6	B	
	Second Right Subtotal	2,437	2,390	98.1%	50.7	2,292	2,453	1.0	35.2	41.0	16.4	123.5	E	
SB	U Turn Second Left													
	Left Turn	8	8	98.8%	2.6	4	12	0.0	23.1	29.6	7.3	101.0	C	
	Through	1,350	1,296	96.0%	56.1	1,213	1,405	1.5	0.4	0.2	0.4	0.7	A	
	Right Turn	4	4	97.5%	1.2	2	6	0.1	0.2	0.2	0.2	0.7	A	
	Second Right Subtotal	1,362	1,308	96.0%	57.4	1,223	1,415	1.5	0.6	0.3	0.5	1.4	A	
EB	U Turn Second Left													
	Left Turn	122	123	100.7%	11.3	103	141	0.1	25.3	11.6	19.5	46.6	D	
	Through													
	Right Turn	42	46	108.3%	5.2	36	54	0.5	13.5	4.3	14.2	25.7	B	
	Second Right Subtotal	164	168	102.6%	13.6	143	187	0.3	22.4	9.8	18.2	40.7	C	
WB	U Turn Second Left													
	Left Turn	1	1	130.0%	0.9	0	3	0.3	1.9	4.1	0.0	57.6	A	
	Through													
	Right Turn	13	13	100.8%	3.3	9	20	0.0	63.5	86.6	38.3	375.0	F	
	Second Right Subtotal	14	14	102.9%	3.2	11	21	0.1	56.2	76.9	42.1	364.3	F	
Total		3,977	3,881	97.6%	43.6	3,796	3,931	1.5	23.2	25.4	11.9	71.6	C	

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
AM Peak Hour

Intersection 10		SR 29/Donaldson Way							Signal				
Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	9	10	105.6%	3.0	5	16	0.2	68.4	30.0	45.3	131.1	E
	Through	1,967	1,911	97.2%	33.7	1,868	1,955	1.3	14.3	6.9	10.8	31.0	B
	Right Turn	14	14	102.1%	3.2	10	21	0.1	7.1	9.3	3.8	31.3	A
	Second Right Subtotal	1,990	1,935	97.2%	32.5	1,886	1,976	1.2	14.5	7.0	10.9	31.4	B
SB	U Turn Second Left												
	Left Turn	108	99	91.8%	7.9	89	112	0.9	166.9	67.9	122.2	332.6	F
	Through	1,232	1,181	95.9%	59.8	1,097	1,290	1.5	17.9	3.6	19.7	26.8	B
	Right Turn	52	51	97.9%	7.4	42	65	0.2	10.4	5.0	11.3	22.7	B
	Second Right Subtotal	1,392	1,331	95.6%	59.3	1,240	1,441	1.7	29.5	7.6	29.3	46.3	C
EB	U Turn Second Left												
	Left Turn	185	187	101.0%	11.8	165	205	0.1	76.1	14.4	72.2	102.1	E
	Through	147	148	100.7%	11.7	130	165	0.1	53.0	4.6	55.2	62.9	D
	Right Turn	20	22	107.5%	4.5	15	28	0.3	39.4	17.6	30.8	78.1	D
	Second Right Subtotal	352	357	101.3%	16.8	318	379	0.2	64.6	9.8	63.6	79.2	E
WB	U Turn Second Left												
	Left Turn	35	43	121.4%	5.6	36	57	1.2	93.4	28.6	87.3	181.7	F
	Through	75	79	105.1%	12.9	57	96	0.4	76.6	21.3	63.3	127.5	E
	Right Turn	284	287	100.9%	20.2	251	314	0.2	49.5	22.5	50.5	126.7	D
	Second Right Subtotal	394	408	103.5%	24.1	363	436	0.7	59.5	21.4	59.3	127.0	E
Total		4,128	4,031	97.6%	49.3	3,950	4,102	1.5	29.1	5.4	25.5	39.9	C

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
AM Peak Hour

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	65	64	98.9%	14.3	48	88	0.1	79.9	12.4	78.5	106.2	E
	Through	1,074	1,040	96.8%	11.7	1,027	1,059	1.1	67.9	10.4	62.4	89.4	E
	Right Turn	34	31	92.4%	9.1	18	43	0.5	44.1	12.2	38.0	75.9	D
	Second Right												
	Subtotal	1,173	1,136	96.8%	14.9	1,101	1,149	1.1	68.3	9.7	66.2	90.0	E
SB	U Turn												
	Second Left												
	Left Turn	277	274	98.8%	17.2	255	310	0.2	35.4	10.1	29.9	75.7	D
	Through	945	915	96.8%	40.3	854	960	1.0	11.5	3.7	11.3	27.4	B
	Right Turn	65	58	88.9%	10.5	40	78	0.9	3.7	1.2	3.3	8.0	A
	Second Right												
	Subtotal	1,287	1,246	96.8%	54.0	1,181	1,348	1.1	16.4	5.0	18.0	37.4	B
EB	U Turn												
	Second Left												
	Left Turn	164	162	98.5%	11.4	149	186	0.2	62.7	9.4	62.8	88.2	E
	Through	385	390	101.3%	13.0	370	409	0.3	40.8	4.7	42.9	49.8	D
	Right Turn	95	89	93.2%	11.9	73	110	0.7	33.2	6.5	36.9	49.9	C
	Second Right												
	Subtotal	644	640	99.4%	14.1	622	660	0.1	45.3	4.1	47.0	59.1	D
WB	U Turn												
	Second Left												
	Left Turn	96	96	99.6%	8.3	83	107	0.0	156.1	76.5	115.8	342.6	F
	Through	440	444	101.0%	18.9	411	465	0.2	51.6	5.5	52.3	59.8	D
	Right Turn	753	732	97.3%	26.7	680	769	0.8	17.9	4.4	18.0	33.9	B
	Second Right												
	Subtotal	1,289	1,272	98.7%	33.9	1,220	1,336	0.5	40.1	7.3	39.4	54.5	D
Total		4,393	4,294	97.8%	37.3	4,227	4,356	1.5	42.7	4.6	40.5	48.9	D

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	15	4	10	21	133	31	83	192	NO
	Through	400	352	156	171	619	1,414	23	1,397	1,455	MAX
	Right Turn	400	132	94	21	300	942	23	925	983	MAX
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	564	345	126	1,427	1,727	988	734	3,769	AVG
	Through	3,700	63	99	25	343	714	1,077	312	3,769	NO
EB	Right Turn	380	1	0	1	1	91	17	70	129	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	351	16	328	371	449	12	436	465	AVG
WB	Through	460	42	21	6	75	401	96	129	436	NO
	Right Turn	440	7	8	0	18	270	189	111	498	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	89	62	44	257	371	95	230	497	MAX
	Through	500	30	9	22	45	334	90	235	475	NO
	Right Turn										
	Second Right										
	Second Right										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	61	51	10	152	626	179	304	760	NO
	Right Turn	470	6	4	1	13	199	2	195	202	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	15	5	9	27	95	21	62	132	NO
	Through	800	5	1	4	8	134	60	89	298	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	37	4	30	45	188	49	110	271	MAX
	Through										
	Right Turn	150	7	3	4	13	81	17	49	105	NO
	Second Right										
	Second Right										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	7	2	4	12	52	20	23	96	NO
	Through	680	307	110	187	546	1,107	18	1,090	1,145	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	25	3	19	29	299	64	242	472	NO
EB	Right Turn	210	2	0	1	3	40	15	22	62	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	254	65	171	352	493	13	483	512	MAX
WB	Through										
	Right Turn	90	2	4	0	14	101	131	45	470	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	117	136	4	359	983	786	204	1,875	MAX
	Through	480	117	136	4	359	983	786	204	1,875	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	3	2	0	7	73	11	60	91	NO
	Through	670	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	14	3	9	18	164	43	99	230	NO
WB	Through										
	Right Turn	570	10	3	6	16	171	43	106	237	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	5	6	1	16	96	28	68	164	NO
	Through										
	Right Turn	790	7	7	2	21	85	29	58	153	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	2	1	1	4	51	17	23	82	NO
	Through	450	68	27	38	117	810	333	312	1,218	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	88	21	57	116	287	89	180	463	NO
	Through	1,130	65	9	49	78	714	152	593	1,114	NO
EB	Right Turn	310	68	9	49	81	740	152	619	1,141	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	90	13	66	115	460	88	308	551	MAX
WB	Through	800	46	8	37	64	341	108	218	527	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	21	7	15	37	103	27	70	154	NO
	Through	580	27	6	20	38	151	27	114	206	NO
	Right Turn										
	Second Right										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	29	8	20	42	163	30	130	223	NO
	Through	500	405	31	354	466	963	61	895	1,072	MAX
	Right Turn	300	1	0	0	2	67	15	48	97	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	32	6	23	46	191	31	131	239	NO
	Through	1,050	29	8	22	52	247	126	132	583	NO
EB	Right Turn	440	1	0	0	1	71	21	46	105	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	63	6	57	77	275	21	255	324	MAX
WB	Through	130	72	5	67	82	287	35	256	366	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	85	26	47	118	266	62	165	341	NO
	Through	1,610	76	4	69	82	290	25	249	327	NO
	Right Turn	470	1	1	0	4	156	133	43	494	NO
	Second Right										

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
PM Peak Hour

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	114	117	103.0%	6.9	101	126	0.3	106.4	18.2	109.0	143.3	F
	Through	1,386	1,387	100.1%	49.1	1,321	1,459	0.0	16.5	2.4	15.0	21.5	B
	Right Turn	151	147	97.2%	10.3	136	174	0.4	13.6	1.5	13.6	17.5	B
	Second Right Subtotal	1,651	1,651	100.0%	50.3	1,576	1,730	0.0	22.2	1.9	21.7	28.1	C
SB	U Turn Second Left												
	Left Turn	144	118	81.8%	8.5	103	134	2.3	321.8	93.3	274.0	571.0	F
	Through	2,158	1,798	83.3%	29.0	1,753	1,848	8.1	222.0	6.4	214.6	230.1	F
	Right Turn	361	291	80.6%	10.9	272	308	3.9	198.6	7.2	187.9	207.5	F
	Second Right Subtotal	2,663	2,207	82.9%	23.2	2,176	2,251	9.3	224.4	8.9	215.4	240.1	F
EB	U Turn Second Left												
	Left Turn	41	41	99.0%	6.4	36	56	0.1	65.8	11.3	71.4	93.7	E
	Through	16	15	94.4%	3.5	10	20	0.2	35.2	18.6	35.5	82.9	D
	Right Turn	18	20	108.3%	4.9	11	25	0.3	8.4	7.5	6.0	30.8	A
	Second Right Subtotal	75	75	100.3%	9.0	63	93	0.0	45.4	8.8	47.4	67.1	D
WB	U Turn Second Left												
	Left Turn	127	120	94.6%	12.5	101	138	0.6	79.4	24.5	75.5	137.2	E
	Through	35	35	100.6%	8.0	23	48	0.0	42.2	20.3	43.4	74.6	D
	Right Turn	72	73	100.8%	9.5	57	87	0.1	19.1	11.2	17.8	45.4	B
	Second Right Subtotal	234	228	97.4%	15.4	200	248	0.4	54.7	19.3	45.4	103.5	D
Total		4,623	4,161	90.0%	61.7	4,063	4,261	7.0	132.6	4.1	126.7	141.5	F

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	1,621	1,622	100.1%	51.2	1,554	1,706	0.0	11.0	3.3	12.3	17.2	B
	Right Turn	295	291	98.8%	14.7	261	310	0.2	5.7	1.1	6.3	8.4	A
	Second Right												
	Subtotal	1,916	1,914	99.9%	48.9	1,860	2,003	0.1	10.2	3.0	11.3	15.9	B
SB	U Turn												
	Second Left												
	Left Turn	41	37	89.8%	8.1	26	49	0.7	57.2	16.7	52.3	121.0	E
	Through	2,262	1,907	84.3%	32.8	1,853	1,944	7.8	14.3	1.6	11.8	17.9	B
	Right Turn												
	Second Right												
	Subtotal	2,303	1,944	84.4%	30.6	1,897	1,983	7.8	15.1	1.7	12.4	18.5	B
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	361	345	95.7%	15.0	324	372	0.8	86.4	28.4	73.8	205.2	F
	Through												
	Right Turn	31	30	96.1%	5.5	19	38	0.2	12.2	9.7	13.3	86.1	B
	Second Right												
	Subtotal	392	375	95.7%	18.0	343	406	0.9	81.0	26.7	68.1	193.4	F
Total		4,611	4,232	91.8%	50.9	4,136	4,315	5.7	19.0	3.6	17.4	27.8	B

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS	
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum		
NB	U Turn Second Left													
	Left Turn	76	71	92.9%	7.4	53	79	0.6	111.7	36.5	97.2	284.3	F	
	Through	1,816	1,797	98.9%	49.1	1,735	1,877	0.5	8.2	2.2	7.2	12.5	A	
	Right Turn Second Right													
	Subtotal	1,892	1,867	98.7%	50.9	1,803	1,953	0.6	12.4	2.8	11.8	19.7	B	
SB	U Turn Second Left													
	Left Turn													
	Through	2,502	2,154	86.1%	40.1	2,092	2,209	7.2	20.1	3.6	18.3	26.2	C	
	Right Turn Second Right	121	102	84.5%	8.8	85	116	1.8	21.3	3.8	20.7	28.9	C	
	Subtotal	2,623	2,256	86.0%	41.9	2,195	2,318	7.4	20.1	3.6	18.2	26.4	C	
EB	U Turn Second Left													
	Left Turn	100	104	103.5%	13.5	80	127	0.3	58.2	7.8	57.0	76.9	E	
	Through													
	Right Turn Second Right	59	61	103.7%	8.0	48	74	0.3	13.8	5.5	17.1	36.9	B	
	Subtotal	159	165	103.6%	11.6	145	178	0.4	42.1	8.2	39.8	63.2	D	
WB	U Turn Second Left													
	Left Turn													
	Through													
	Right Turn Second Right													
	Subtotal													
Total		4,674	4,288	91.7%	54.4	4,222	4,383	5.8	17.5	2.6	17.2	21.8	B	

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	46	46	100.7%	5.1	38	55	0.0	2.9	1.0	2.4	5.6	A
	Through	1,880	1,845	98.1%	46.9	1,784	1,936	0.8	4.7	2.1	4.8	12.1	A
	Right Turn	6	6	95.0%	2.6	2	12	0.1	1.9	2.4	0.7	19.5	A
	Second Right Subtotal	1,932	1,897	98.2%	48.9	1,828	1,988	0.8	4.6	2.1	4.7	11.9	A
SB	U Turn Second Left												
	Left Turn	6	4	61.7%	3.3	0	11	1.0	4.4	9.0	0.0	66.4	A
	Through	2,532	2,195	86.7%	31.9	2,151	2,233	6.9	3.7	5.8	1.6	20.2	A
	Right Turn	24	22	92.5%	4.9	14	31	0.4	1.2	1.1	1.1	5.6	A
	Second Right Subtotal	2,562	2,221	86.7%	35.8	2,170	2,264	7.0	3.7	5.7	1.5	19.9	A
EB	U Turn Second Left												
	Left Turn	4	4	95.0%	1.4	1	6	0.1	21.7	24.2	6.6	67.4	C
	Through												
	Right Turn	29	29	98.6%	5.6	19	35	0.1	22.0	19.0	12.6	74.8	C
	Second Right Subtotal	33	32	98.2%	5.5	24	40	0.1	22.2	18.5	17.2	73.3	C
WB	U Turn Second Left												
	Left Turn	10	11	107.0%	2.1	7	13	0.2	23.8	19.1	12.7	67.7	C
	Through												
	Right Turn	8	8	103.8%	2.5	3	12	0.1	19.2	23.3	7.9	78.2	C
	Second Right Subtotal	18	19	105.6%	2.2	16	23	0.2	21.5	17.5	15.3	63.5	C
Total		4,545	4,169	91.7%	35.4	4,129	4,236	5.7	4.3	3.4	3.7	13.6	A

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
PM Peak Hour

Intersection 10		SR 29/Donaldson Way							Signal				
Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	31	31	99.4%	4.1	25	37	0.0	65.0	15.9	59.8	110.6	E
	Through	1,720	1,686	98.0%	43.4	1,618	1,760	0.8	54.5	8.5	49.4	72.2	D
	Right Turn	86	87	101.0%	7.7	72	96	0.1	51.1	12.5	50.6	71.4	D
	Second Right												
	Subtotal	1,837	1,804	98.2%	47.9	1,726	1,882	0.8	54.5	8.4	50.4	72.4	D
SB	U Turn												
	Second Left												
	Left Turn	185	153	82.9%	11.4	134	168	2.4	89.8	24.4	97.2	146.8	F
	Through	2,326	2,002	86.1%	25.4	1,963	2,027	7.0	65.5	24.8	47.5	105.4	E
	Right Turn	59	51	85.8%	5.7	42	60	1.1	47.3	25.6	26.7	93.6	D
	Second Right												
	Subtotal	2,570	2,206	85.8%	30.6	2,158	2,246	7.5	66.8	24.6	48.6	106.6	E
EB	U Turn												
	Second Left												
	Left Turn	59	61	102.9%	7.8	48	70	0.2	71.8	13.8	72.8	95.8	E
	Through	98	98	100.3%	12.4	81	115	0.0	40.0	5.6	34.5	52.9	D
	Right Turn	26	27	105.0%	3.0	22	31	0.3	22.4	10.2	16.3	46.1	C
	Second Right												
	Subtotal	183	186	101.8%	15.3	158	208	0.2	48.4	5.9	45.9	62.1	D
WB	U Turn												
	Second Left												
	Left Turn	60	60	100.0%	10.1	47	80	0.0	88.6	16.5	90.2	196.3	F
	Through	63	61	97.0%	10.7	45	77	0.2	40.4	8.0	36.8	64.9	D
	Right Turn	153	155	101.6%	11.5	139	175	0.2	13.7	3.6	15.3	21.7	B
	Second Right												
	Subtotal	276	277	100.2%	18.2	242	300	0.0	37.5	6.1	32.8	82.8	D
Total		4,866	4,473	91.9%	43.4	4,433	4,577	5.8	59.4	13.8	49.2	85.4	E

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 1
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	158	139	87.7%	10.3	124	159	1.6	146.1	48.8	129.8	226.3	F
	Through	1,156	1,116	96.5%	24.0	1,078	1,151	1.2	106.8	32.6	85.6	173.3	F
	Right Turn	115	102	88.9%	13.4	79	118	1.2	63.5	29.5	49.8	121.4	E
	Second Right												
	Subtotal	1,429	1,357	94.9%	22.8	1,312	1,382	1.9	107.6	33.2	88.4	173.2	F
SB	U Turn												
	Second Left												
	Left Turn	736	609	82.7%	25.8	567	640	4.9	93.8	6.6	92.1	147.6	F
	Through	1,515	1,360	89.7%	42.6	1,286	1,418	4.1	36.7	4.7	32.1	42.1	D
	Right Turn	161	125	77.8%	8.2	112	136	3.0	7.5	2.1	6.8	11.8	A
	Second Right												
	Subtotal	2,412	2,093	86.8%	34.3	2,044	2,149	6.7	51.5	4.5	45.7	67.5	D
EB	U Turn												
	Second Left												
	Left Turn	137	137	100.1%	10.7	121	155	0.0	67.6	9.8	67.8	88.8	E
	Through	388	395	101.8%	19.4	360	424	0.4	43.8	5.8	41.0	55.7	D
	Right Turn	70	67	96.0%	10.1	51	81	0.3	35.8	8.3	32.9	47.0	D
	Second Right												
	Subtotal	595	600	100.8%	22.4	579	643	0.2	48.5	3.1	46.7	55.9	D
WB	U Turn												
	Second Left												
	Left Turn	126	125	99.5%	9.0	110	141	0.1	171.5	181.4	115.7	633.2	F
	Through	383	380	99.1%	19.9	350	409	0.2	41.9	5.3	42.0	51.2	D
	Right Turn	543	535	98.6%	21.8	508	564	0.3	9.2	1.4	9.7	12.3	A
	Second Right												
	Subtotal	1,052	1,040	98.9%	37.2	997	1,089	0.4	41.2	26.6	34.9	112.1	D
Total		5,488	5,090	92.7%	42.8	5,033	5,150	5.5	64.2	7.4	54.4	79.7	E

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	71	9	60	90	239	52	150	305	NO
	Through	400	32	8	22	46	639	202	363	926	MAX
	Right Turn	400	4	1	3	5	138	31	104	207	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	145	235	45	810	599	1,109	192	3,753	MAX
	Through	3,700	3,287	37	3,202	3,334	3,796	12	3,777	3,806	MAX
EB	Right Turn	380	12	1	11	14	160	43	127	267	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	17	2	13	21	100	27	73	147	NO
WB	Through	460	4	1	2	6	68	26	45	131	NO
	Right Turn	440	0	0	0	0	88	10	81	111	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	66	19	44	100	318	104	184	484	MAX
	Through	500	12	5	6	23	150	48	105	237	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	47	6	34	56	707	43	588	745	MAX
	Right Turn	470	3	1	1	4	150	17	141	189	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	11	3	7	17	111	23	68	150	NO
	Through	800	44	4	34	50	384	34	328	437	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	137	34	96	212	522	81	412	644	MAX
	Through										
	Right Turn	150	2	1	1	3	68	10	51	88	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	53	17	33	84	232	159	109	660	NO
	Through	680	49	14	36	85	986	120	685	1,088	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	152	14	126	173	764	19	749	806	MAX
EB	Right Turn	210	8	2	5	11	124	26	87	157	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	36	6	23	42	219	54	123	296	NO
WB	Through										
	Right Turn	90	2	1	1	3	66	25	28	94	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	1	36	42	0	101	NO
	Through	480	0	0	0	1	36	42	0	101	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	0	1	0	2	42	30	0	65	NO
	Through	670	2	6	0	18	74	162	0	466	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	1	1	0	2	56	18	34	85	NO
WB	Through										
	Right Turn	570	3	1	2	5	65	20	39	94	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	2	0	1	2	77	12	68	99	NO
	Through										
	Right Turn	790	1	0	1	2	68	12	59	90	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	10	1	8	12	92	20	65	133	NO
	Through	450	329	24	284	362	950	239	751	1,455	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	65	13	47	81	315	56	221	425	NO
	Through	1,130	608	273	295	1,125	1,686	390	1,294	2,492	MAX
EB	Right Turn	310	620	267	310	1,102	1,712	390	1,319	2,518	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	25	4	18	31	142	23	109	170	NO
WB	Through	800	26	6	14	33	177	50	98	290	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	32	14	18	63	137	46	106	245	NO
	Through	580	14	4	9	21	107	38	69	197	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	122	57	53	266	1,066	426	205	1,923	MAX
	Through	500	459	121	351	737	1,320	235	1,084	1,921	MAX
	Right Turn	300	5	1	3	7	93	23	70	131	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	187	24	152	234	417	53	337	514	NO
	Through	1,050	132	16	107	159	459	82	362	608	NO
EB	Right Turn	440	3	1	2	5	97	15	70	119	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	50	6	43	59	268	27	217	311	MAX
WB	Through	130	61	4	56	68	268	27	228	311	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	143	110	63	438	386	170	199	781	MAX
	Through	1,610	51	5	45	60	241	26	215	294	NO
	Right Turn	470	3	10	0	32	46	96	0	238	NO
	Second Right										
	U Turn										

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
AM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	51	47	91.4%	7.4	36	59	0.6	76.4	20.7	83.5	112.3	E
	Through	2,705	2,631	97.3%	60.2	2,540	2,738	1.4	41.2	7.1	30.2	55.2	D
	Right Turn	83	77	92.5%	9.9	62	94	0.7	24.9	10.7	17.5	49.1	C
	Second Right Subtotal	2,839	2,755	97.0%	62.6	2,659	2,867	1.6	41.3	7.2	31.5	54.7	D
SB	U Turn Second Left												
	Left Turn	82	59	71.7%	2.9	53	62	2.8	1210.6	260.0	845.6	1733.5	F
	Through	1,105	1,034	93.6%	48.7	970	1,106	2.2	229.3	181.3	48.0	489.9	F
	Right Turn	52	49	95.0%	8.8	40	67	0.4	207.7	158.5	43.8	525.3	F
	Second Right Subtotal	1,239	1,142	92.2%	56.2	1,074	1,229	2.8	285.4	176.7	93.6	547.7	F
EB	U Turn Second Left												
	Left Turn	212	179	84.6%	7.6	171	197	2.3	226.2	30.4	230.8	274.1	F
	Through	42	39	92.6%	5.8	29	46	0.5	179.2	35.3	184.2	298.3	F
	Right Turn	62	57	91.1%	7.3	47	66	0.7	158.0	23.3	138.9	198.1	F
	Second Right Subtotal	316	275	86.9%	12.7	258	298	2.4	206.7	31.8	214.2	255.1	F
WB	U Turn Second Left												
	Left Turn	109	101	92.4%	10.0	79	116	0.8	116.0	57.4	94.1	223.6	F
	Through	20	21	107.0%	2.5	17	24	0.3	68.3	18.6	74.5	162.0	E
	Right Turn	166	171	103.1%	21.1	138	199	0.4	27.5	21.5	24.6	122.9	C
	Second Right Subtotal	295	293	99.4%	21.7	261	325	0.1	64.6	37.9	48.4	158.0	E
Total		4,689	4,465	95.2%	72.1	4,350	4,559	3.3	115.4	49.2	66.0	185.7	F

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,805	2,714	96.7%	51.7	2,641	2,800	1.7	21.1	7.6	8.8	34.3	C
	Right Turn	178	170	95.3%	8.6	155	183	0.6	3.0	0.8	2.3	5.7	A
	Second Right												
	Subtotal	2,983	2,883	96.7%	48.1	2,807	2,955	1.8	20.0	7.2	8.4	32.9	C
SB	U Turn												
	Second Left												
	Left Turn	30	28	94.3%	6.0	22	41	0.3	97.8	32.9	77.8	238.1	F
	Through	1,246	1,165	93.5%	47.0	1,088	1,226	2.3	4.6	1.0	4.3	7.8	A
	Right Turn												
	Second Right												
	Subtotal	1,276	1,194	93.5%	51.2	1,111	1,267	2.3	6.5	2.1	5.8	12.5	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	151	159	105.4%	16.9	129	182	0.7	59.6	8.8	63.8	81.4	E
	Through												
	Right Turn	34	33	98.2%	4.7	27	43	0.1	47.1	13.3	34.5	65.7	D
	Second Right												
	Subtotal	185	193	104.1%	17.4	156	212	0.6	57.1	9.0	56.9	77.6	E
Total		4,444	4,270	96.1%	67.0	4,162	4,367	2.6	18.1	5.2	9.9	26.7	B

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS	
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum		
NB	U Turn													
	Second Left													
	Left Turn	15	15	98.0%	3.4	9	18	0.1	79.3	20.1	77.9	125.0	E	
	Through	2,571	2,493	96.9%	52.4	2,414	2,589	1.6	21.9	5.9	14.5	37.7	C	
	Right Turn													
	Second Right													
	Subtotal	2,586	2,507	97.0%	53.4	2,430	2,607	1.6	22.3	5.7	15.2	37.8	C	
SB	U Turn													
	Second Left													
	Left Turn													
	Through	1,332	1,268	95.2%	43.4	1,186	1,332	1.8	8.3	2.0	7.2	12.6	A	
	Right Turn	66	60	91.5%	5.6	51	66	0.7	7.5	3.9	8.9	19.5	A	
	Second Right													
	Subtotal	1,398	1,329	95.0%	43.7	1,246	1,393	1.9	8.2	2.0	7.1	12.8	A	
EB	U Turn													
	Second Left													
	Left Turn	413	405	98.0%	17.2	379	425	0.4	91.0	13.3	77.8	119.1	F	
	Through													
	Right Turn	70	70	100.3%	7.6	59	83	0.0	56.0	21.0	47.3	99.8	E	
	Second Right													
	Subtotal	483	475	98.3%	17.4	442	499	0.4	86.4	13.3	71.6	117.4	F	
WB	U Turn													
	Second Left													
	Left Turn													
	Through													
	Right Turn													
	Second Right													
	Subtotal													
Total		4,467	4,311	96.5%	68.1	4,203	4,416	2.4	25.4	4.5	19.0	36.2	C	

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	24	23	93.8%	5.9	15	33	0.3	60.3	25.9	20.0	95.7	F
	Through	2,450	2,374	96.9%	45.2	2,297	2,448	1.5	86.8	32.3	19.9	121.8	F
	Right Turn	6	6	96.7%	2.6	1	9	0.1	41.4	55.1	21.2	166.2	E
	Second Right Subtotal	2,480	2,402	96.9%	45.2	2,327	2,470	1.6	86.4	32.2	19.9	121.6	F
SB	U Turn Second Left												
	Left Turn	8	6	80.0%	2.4	4	10	0.6	64.6	38.3	33.9	117.8	F
	Through	1,391	1,327	95.4%	44.8	1,247	1,387	1.7	0.4	0.1	0.4	0.8	A
	Right Turn	4	4	107.5%	1.3	3	6	0.1	0.2	0.2	0.1	0.5	A
	Second Right Subtotal	1,403	1,338	95.3%	46.3	1,255	1,400	1.8	0.7	0.3	0.6	1.3	A
EB	U Turn Second Left												
	Left Turn	122	121	99.3%	9.2	110	142	0.1	33.0	8.1	26.6	49.8	D
	Through												
	Right Turn	42	44	103.8%	5.8	34	54	0.2	12.5	6.2	13.8	28.0	B
	Second Right Subtotal	164	165	100.5%	10.9	148	188	0.1	27.5	8.2	23.3	42.8	D
WB	U Turn Second Left												
	Left Turn	1	1	120.0%	1.0	0	3	0.2	0.6	1.9	0.0	16.3	A
	Through												
	Right Turn	13	15	111.5%	3.9	9	21	0.4	329.7	309.2	53.1	1114.9	F
	Second Right Subtotal	14	16	112.1%	4.4	9	23	0.4	299.0	277.8	51.0	991.0	F
Total		4,061	3,920	96.5%	71.7	3,795	4,027	2.2	56.9	21.4	14.5	78.3	F

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
AM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	9	9	104.4%	4.3	4	17	0.1	62.5	52.7	52.6	159.9	E
	Through	2,003	1,959	97.8%	36.2	1,906	2,036	1.0	31.6	21.1	12.5	81.7	C
	Right Turn	14	13	89.3%	3.0	8	17	0.4	30.2	31.4	10.0	113.8	C
	Second Right												
	Subtotal	2,026	1,980	97.7%	36.5	1,924	2,057	1.0	31.8	21.4	12.7	82.7	C
SB	U Turn Second Left												
	Left Turn	108	100	92.1%	9.1	86	117	0.8	198.0	107.3	123.3	442.5	F
	Through	1,266	1,200	94.8%	42.8	1,114	1,251	1.9	18.7	5.0	19.7	28.5	B
	Right Turn	59	55	92.9%	6.3	46	64	0.6	10.7	3.3	10.9	16.3	B
	Second Right												
	Subtotal	1,433	1,354	94.5%	43.9	1,264	1,401	2.1	32.8	10.4	26.0	60.1	C
EB	U Turn Second Left												
	Left Turn	192	197	102.6%	9.4	181	211	0.4	75.0	11.4	76.7	138.8	E
	Through	147	151	102.5%	9.3	140	168	0.3	50.4	10.5	53.3	86.6	D
	Right Turn	20	19	96.5%	3.7	15	25	0.2	28.7	18.2	31.6	86.1	C
	Second Right												
	Subtotal	359	367	102.2%	14.8	352	394	0.4	62.0	9.0	67.7	112.7	E
WB	U Turn Second Left												
	Left Turn	35	37	106.0%	5.7	25	43	0.3	90.7	25.6	88.5	148.6	F
	Through	75	79	105.7%	13.0	52	95	0.5	74.9	28.9	67.6	146.8	E
	Right Turn	284	283	99.7%	22.7	252	314	0.0	72.4	39.6	43.0	160.1	E
	Second Right												
	Subtotal	394	400	101.4%	30.5	338	432	0.3	75.2	35.1	48.1	157.0	E
Total		4,212	4,101	97.4%	61.3	3,965	4,169	1.7	39.1	14.8	27.4	70.1	D

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	65	64	99.1%	9.6	49	83	0.1	79.8	14.9	75.6	112.0	E
	Through	1,096	1,072	97.8%	24.7	1,052	1,133	0.7	74.4	24.5	66.3	135.8	E
	Right Turn	34	30	88.8%	7.8	19	43	0.7	54.5	30.5	45.7	130.2	D
	Second Right Subtotal	1,195	1,166	97.6%	27.6	1,130	1,229	0.8	74.4	24.0	66.0	134.9	E
SB	U Turn Second Left												
	Left Turn	283	270	95.3%	15.4	239	290	0.8	39.9	11.7	37.6	65.6	D
	Through	965	927	96.1%	42.1	869	976	1.2	13.5	5.7	11.6	25.4	B
	Right Turn	72	62	86.4%	9.4	48	74	1.2	4.9	2.1	2.5	9.7	A
	Second Right Subtotal	1,320	1,259	95.4%	37.8	1,198	1,298	1.7	18.6	6.4	16.3	32.1	B
EB	U Turn Second Left												
	Left Turn	171	176	102.8%	13.7	156	195	0.4	61.3	12.5	58.7	96.1	E
	Through	385	399	103.6%	15.2	376	429	0.7	41.5	6.1	44.0	51.1	D
	Right Turn	95	93	97.6%	8.4	82	109	0.2	33.1	8.2	29.1	55.6	C
	Second Right Subtotal	651	668	102.5%	20.0	634	692	0.6	45.8	5.7	45.8	57.9	D
WB	U Turn Second Left												
	Left Turn	96	95	99.2%	6.9	82	102	0.1	157.8	86.8	106.1	332.9	F
	Through	440	438	99.5%	24.2	398	470	0.1	53.7	6.1	50.4	66.0	D
	Right Turn	760	740	97.4%	31.1	686	776	0.7	16.8	3.0	16.5	25.1	B
	Second Right Subtotal	1,296	1,273	98.2%	41.7	1,193	1,335	0.6	40.4	9.5	35.0	61.6	D
Total		4,462	4,365	97.8%	65.9	4,234	4,440	1.5	45.2	6.7	39.8	58.9	D

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	15	3	11	22	127	21	82	153	NO
	Through	400	450	99	222	543	1,418	30	1,345	1,455	AVG
	Right Turn	400	189	65	39	252	945	30	873	983	MAX
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	978	641	377	2,303	2,503	1,061	1,115	3,782	AVG
	Through	3,700	161	270	28	767	1,138	1,391	318	3,764	NO
EB	Right Turn	380	1	0	1	1	87	16	68	108	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	343	23	303	371	457	18	437	493	AVG
WB	Through	460	45	26	6	79	402	96	129	437	NO
	Right Turn	440	10	14	0	43	273	191	108	501	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	73	29	44	119	372	112	230	521	MAX
	Through	500	31	9	22	52	364	94	238	487	NO
	Right Turn										
	Second Right										
	Second Right										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	103	43	12	158	715	94	453	766	MAX
	Right Turn	470	11	4	3	16	209	18	196	257	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	17	8	8	31	105	40	65	189	NO
	Through	800	5	1	4	8	136	68	89	319	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	39	6	32	49	181	61	111	296	MAX
	Through										
	Right Turn	150	8	2	5	10	85	17	65	110	NO
	Second Right										
	Second Right										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	6	2	4	10	57	22	25	104	NO
	Through	680	454	112	265	617	1,122	15	1,093	1,145	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	25	5	17	33	371	170	231	720	NO
EB	Right Turn	210	2	0	1	3	40	14	22	65	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	261	50	182	354	493	18	482	539	MAX
WB	Through										
	Right Turn	90	4	8	0	24	149	177	43	488	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	393	256	14	743	1,626	551	292	1,916	AVG
	Through	480	393	256	14	743	1,626	551	292	1,916	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	4	2	2	8	72	10	63	86	NO
	Through	670	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	14	4	8	20	169	42	96	241	NO
WB	Through										
	Right Turn	570	10	4	5	18	176	42	104	248	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	15	28	1	93	108	44	72	212	NO
	Through										
	Right Turn	790	20	25	3	88	98	44	62	202	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	2	1	1	6	42	13	25	68	NO
	Through	450	129	111	47	427	1,083	375	402	1,717	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	114	53	62	240	367	113	197	571	NO
	Through	1,130	66	9	48	78	786	207	623	1,263	NO
EB	Right Turn	310	70	9	52	83	813	207	649	1,289	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	103	15	81	130	532	135	343	766	MAX
WB	Through	800	50	6	42	59	364	62	277	443	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	16	3	10	23	99	20	70	125	NO
	Through	580	29	7	16	40	181	59	127	289	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	27	5	20	37	155	26	120	209	NO
	Through	500	444	75	369	634	984	99	873	1,247	MAX
	Right Turn	300	1	0	1	2	68	14	46	96	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	33	3	27	37	199	43	123	272	NO
	Through	1,050	30	6	22	39	273	135	156	537	NO
EB	Right Turn	440	1	0	0	1	77	25	47	125	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	74	12	59	95	293	25	262	334	MAX
WB	Through	130	80	8	67	92	295	27	261	335	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	88	33	42	155	270	61	171	373	NO
	Through	1,610	73	5	63	77	280	35	217	352	NO
	Right Turn	470	1	1	0	2	106	69	17	224	NO
	Second Right										
	U Turn										

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
PM Peak Hour

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	114	114	100.1%	10.2	95	129	0.0	109.1	19.7	116.9	175.9	F
	Through	1,433	1,438	100.4%	46.4	1,362	1,498	0.1	16.9	2.8	14.7	21.8	B
	Right Turn	151	141	93.4%	5.3	133	149	0.8	12.4	2.3	11.1	19.2	B
	Second Right												
	Subtotal	1,698	1,693	99.7%	48.2	1,626	1,769	0.1	22.3	2.6	22.1	27.8	C
SB	U Turn												
	Second Left												
	Left Turn	144	118	81.9%	8.6	104	137	2.3	340.5	80.9	277.9	508.2	F
	Through	2,203	1,805	81.9%	25.6	1,770	1,851	8.9	219.2	8.7	218.1	236.4	F
	Right Turn	361	288	79.7%	10.5	268	304	4.1	194.5	9.5	193.3	207.4	F
	Second Right												
	Subtotal	2,708	2,211	81.6%	23.5	2,176	2,243	10.0	222.6	10.6	217.7	245.7	F
EB	U Turn												
	Second Left												
	Left Turn	41	41	100.0%	6.7	35	56	0.0	67.7	11.0	71.4	96.6	E
	Through	16	16	98.8%	3.3	10	20	0.1	35.2	18.6	35.5	82.9	D
	Right Turn	18	20	109.4%	6.1	11	30	0.4	7.8	7.5	6.0	30.8	A
	Second Right												
	Subtotal	75	77	102.0%	8.7	63	93	0.2	47.0	10.8	47.4	67.1	D
WB	U Turn												
	Second Left												
	Left Turn	127	119	93.4%	10.8	101	135	0.8	79.9	23.9	73.8	137.2	E
	Through	35	36	104.0%	7.3	23	48	0.2	41.8	20.7	43.4	75.2	D
	Right Turn	72	76	105.6%	11.3	57	93	0.5	18.2	11.2	13.5	45.4	B
	Second Right												
	Subtotal	234	231	98.7%	16.4	200	250	0.2	53.1	19.8	45.4	103.6	D
Total		4,715	4,211	89.3%	61.2	4,138	4,309	7.5	130.5	4.3	125.5	140.1	F

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	1,668	1,662	99.7%	47.8	1,604	1,742	0.1	11.3	3.5	11.8	16.3	B
	Right Turn	295	294	99.6%	14.7	264	313	0.1	5.8	1.3	6.5	8.4	A
	Second Right												
	Subtotal	1,963	1,956	99.6%	41.2	1,915	2,040	0.2	10.5	3.1	10.9	15.1	B
SB	U Turn												
	Second Left												
	Left Turn	41	33	80.5%	5.8	27	45	1.3	49.7	5.5	48.8	65.9	D
	Through	2,307	1,914	82.9%	25.5	1,870	1,941	8.6	14.0	1.5	13.4	16.8	B
	Right Turn												
	Second Right												
	Subtotal	2,348	1,947	82.9%	24.5	1,909	1,973	8.7	14.7	1.6	14.3	17.7	B
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	361	353	97.8%	12.8	332	372	0.4	87.4	29.5	85.7	167.6	F
	Through												
	Right Turn	31	30	97.1%	4.2	25	37	0.2	13.5	12.2	14.3	63.7	B
	Second Right												
	Subtotal	392	383	97.7%	13.9	362	403	0.5	82.2	27.5	77.8	158.0	F
Total		4,703	4,286	91.1%	46.1	4,220	4,365	6.2	19.1	3.1	16.9	27.0	B

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	76	73	95.5%	8.8	56	89	0.4	119.6	24.7	107.2	231.1	F
	Through	1,856	1,832	98.7%	39.4	1,786	1,894	0.6	8.3	2.2	8.2	12.7	A
	Right Turn												
	Second Right												
	Subtotal	1,932	1,904	98.6%	39.2	1,857	1,966	0.6	12.9	2.7	11.3	19.8	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	2,540	2,169	85.4%	28.1	2,134	2,206	7.6	19.9	3.8	18.4	26.6	B
	Right Turn	127	104	81.8%	9.6	90	118	2.1	21.0	4.0	18.6	29.6	C
	Second Right												
	Subtotal	2,667	2,273	85.2%	30.8	2,225	2,312	7.9	19.9	3.7	18.6	26.4	B
EB	U Turn												
	Second Left												
	Left Turn	107	112	104.9%	14.0	87	134	0.5	57.8	7.9	55.8	71.0	E
	Through												
	Right Turn	59	61	103.4%	7.5	49	73	0.3	12.9	3.8	11.6	34.5	B
	Second Right												
	Subtotal	166	173	104.3%	11.8	155	186	0.6	42.1	7.6	31.9	54.0	D
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		4,765	4,351	91.3%	45.8	4,265	4,420	6.1	17.6	2.7	16.7	21.9	B

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	46	45	96.7%	6.8	34	55	0.2	2.7	1.2	1.9	5.9	A
	Through	1,920	1,879	97.9%	39.2	1,835	1,957	0.9	5.9	2.3	5.8	11.0	A
	Right Turn	6	6	91.7%	1.8	3	8	0.2	3.3	3.2	1.8	11.5	A
	Second Right												
	Subtotal	1,972	1,929	97.8%	41.7	1,877	2,004	1.0	5.8	2.2	5.7	10.8	A
SB	U Turn												
	Second Left												
	Left Turn	6	6	101.7%	1.7	4	9	0.0	15.1	17.1	6.7	47.2	C
	Through	2,570	2,209	85.9%	20.2	2,170	2,238	7.4	1.7	0.8	1.6	5.7	A
	Right Turn	24	21	86.7%	4.5	12	29	0.7	0.7	1.0	0.7	4.8	A
	Second Right												
	Subtotal	2,600	2,236	86.0%	22.3	2,197	2,264	7.4	1.8	0.8	1.7	5.8	A
EB	U Turn												
	Second Left												
	Left Turn	4	3	82.5%	1.5	1	6	0.4	6.7	9.2	8.9	76.3	A
	Through												
	Right Turn	29	27	93.8%	5.2	19	35	0.3	12.2	3.5	10.1	25.7	B
	Second Right												
	Subtotal	33	31	92.4%	5.1	24	38	0.4	11.4	3.4	10.2	30.0	B
WB	U Turn												
	Second Left												
	Left Turn	10	12	118.0%	3.4	7	17	0.5	17.3	4.8	16.8	32.3	C
	Through												
	Right Turn	8	9	116.3%	1.9	6	12	0.4	18.1	15.1	9.8	61.3	C
	Second Right												
	Subtotal	18	21	117.2%	3.9	16	29	0.7	17.0	6.9	13.8	37.7	C
Total		4,623	4,216	91.2%	35.1	4,152	4,266	6.1	3.8	1.0	3.7	7.3	A

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
PM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	31	32	101.6%	5.7	24	41	0.1	65.3	14.9	61.5	93.8	E
	Through	1,754	1,710	97.5%	32.6	1,663	1,767	1.1	56.7	13.7	54.5	93.9	E
	Right Turn	86	86	100.2%	9.6	72	102	0.0	54.8	17.0	48.6	95.2	D
	Second Right Subtotal	1,871	1,828	97.7%	40.1	1,764	1,887	1.0	56.8	13.7	54.9	93.9	E
SB	U Turn Second Left												
	Left Turn	185	151	81.7%	11.8	133	169	2.6	96.3	16.5	92.3	166.9	F
	Through	2,359	2,008	85.1%	21.3	1,980	2,046	7.5	61.8	24.0	54.0	99.0	E
	Right Turn	66	56	85.3%	7.4	43	69	1.2	47.0	23.6	32.4	89.2	D
	Second Right Subtotal	2,610	2,215	84.9%	16.7	2,197	2,241	8.0	63.7	22.9	55.5	101.1	E
EB	U Turn Second Left												
	Left Turn	66	70	106.7%	9.6	57	85	0.5	67.6	9.0	63.8	112.6	E
	Through	98	96	98.4%	10.4	81	113	0.2	41.4	8.2	35.5	52.7	D
	Right Turn	26	27	103.1%	2.9	22	31	0.2	23.4	9.6	16.9	41.7	C
	Second Right Subtotal	190	194	101.9%	14.2	165	216	0.3	48.1	6.5	51.6	67.0	D
WB	U Turn Second Left												
	Left Turn	60	63	105.0%	10.2	47	80	0.4	93.3	21.7	90.2	211.5	F
	Through	63	64	102.2%	9.6	47	77	0.2	40.5	6.7	38.9	65.2	D
	Right Turn	153	157	102.5%	12.8	138	181	0.3	13.6	2.6	16.3	22.8	B
	Second Right Subtotal	276	284	103.0%	23.2	241	324	0.5	37.7	5.5	32.4	82.5	D
Total		4,947	4,521	91.4%	35.3	4,475	4,573	6.2	58.8	11.1	53.7	77.5	E

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

SR 29 VISSIM
Existing Plus Background Plus Project Alternative 2
PM Peak Hour

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	158	137	86.7%	14.1	119	162	1.7	172.8	45.9	147.8	260.3	F
	Through	1,176	1,127	95.8%	32.2	1,074	1,169	1.4	117.0	35.2	80.4	166.8	F
	Right Turn	115	103	89.6%	14.0	78	118	1.1	70.0	31.8	37.8	122.8	E
	Second Right												
	Subtotal	1,449	1,367	94.3%	25.6	1,335	1,402	2.2	119.4	35.1	85.4	168.9	F
SB	U Turn												
	Second Left												
	Left Turn	742	599	80.7%	23.1	560	636	5.5	91.7	5.8	94.0	125.9	F
	Through	1,534	1,375	89.6%	30.4	1,329	1,421	4.2	35.8	4.5	33.4	43.7	D
	Right Turn	168	127	75.6%	8.8	111	140	3.4	6.9	2.0	6.8	13.0	A
	Second Right												
	Subtotal	2,444	2,100	85.9%	25.6	2,061	2,136	7.2	50.2	3.8	50.6	60.7	D
EB	U Turn												
	Second Left												
	Left Turn	144	144	99.7%	10.8	129	164	0.0	75.3	6.2	75.0	84.8	E
	Through	388	400	103.1%	20.1	361	429	0.6	42.9	4.6	43.3	53.0	D
	Right Turn	70	70	99.7%	7.9	54	82	0.0	37.8	10.3	42.5	52.1	D
	Second Right												
	Subtotal	602	613	101.9%	21.8	589	650	0.5	50.4	4.1	48.9	57.7	D
WB	U Turn												
	Second Left												
	Left Turn	126	123	97.8%	8.9	112	140	0.3	124.1	115.6	111.6	447.8	F
	Through	383	383	100.0%	22.6	340	414	0.0	44.2	5.8	44.1	53.3	D
	Right Turn	549	545	99.2%	22.6	514	572	0.2	9.6	2.5	9.6	13.6	A
	Second Right												
	Subtotal	1,058	1,051	99.3%	42.1	988	1,098	0.2	35.1	15.6	32.8	78.2	D
Total		5,553	5,132	92.4%	43.2	5,053	5,179	5.8	66.3	8.3	55.3	81.7	E

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	73	9	61	88	250	65	183	373	NO
	Through	400	38	13	20	59	697	204	368	925	MAX
	Right Turn	400	4	1	2	5	124	24	84	163	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	91	41	50	161	294	78	193	397	NO
	Through	3,700	3,303	10	3,283	3,319	3,786	13	3,766	3,806	MAX
EB	Right Turn	380	12	1	10	14	173	50	109	261	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	17	3	13	21	106	35	73	168	NO
WB	Through	460	4	1	3	6	60	14	44	90	NO
	Right Turn	440	0	0	0	0	87	10	81	111	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	63	18	44	100	322	96	195	484	MAX
	Through	500	13	5	6	23	149	39	105	237	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	54	6	42	62	720	2	718	725	MAX
	Right Turn	470	3	1	2	4	146	6	141	163	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	8	2	7	12	98	20	67	127	NO
	Through	800	45	3	40	53	375	48	326	467	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	139	25	103	190	527	72	413	627	MAX
	Through										
	Right Turn	150	2	0	2	3	71	8	61	88	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	56	17	31	90	213	57	133	300	NO
	Through	680	57	13	38	81	1,027	90	816	1,101	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	152	13	124	171	768	21	749	807	MAX
EB	Right Turn	210	8	2	6	11	126	27	89	172	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	37	6	23	44	230	66	134	318	NO
WB	Through										
	Right Turn	90	2	1	1	3	65	21	33	100	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	23	38	0	85	NO
	Through	480	0	0	0	0	23	38	0	85	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	1	1	0	2	67	9	61	91	NO
	Through	670	0	0	0	1	27	85	0	268	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	0	0	0	1	51	13	35	76	NO
WB	Through										
	Right Turn	570	2	1	1	3	63	14	39	85	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	2	1	1	3	82	16	69	109	NO
	Through										
	Right Turn	790	2	1	1	3	73	16	60	100	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	10	2	7	14	103	24	69	142	NO
	Through	450	352	82	302	579	1,062	414	723	1,891	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	69	18	50	101	305	73	229	434	NO
	Through	1,130	503	180	346	944	1,580	169	1,417	2,036	MAX
EB	Right Turn	310	506	177	354	932	1,588	188	1,342	2,061	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	29	5	17	36	176	48	108	263	NO
WB	Through	800	25	4	15	29	184	30	145	246	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	37	18	18	71	148	48	106	245	NO
	Through	580	15	4	9	21	109	36	68	198	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	129	82	48	332	921	433	215	1,467	MAX
	Through	500	517	168	332	819	1,358	238	1,019	1,676	AVG
	Right Turn	300	4	1	2	5	99	18	75	124	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	177	15	155	198	411	36	350	460	NO
	Through	1,050	129	13	116	159	437	74	320	594	NO
EB	Right Turn	440	3	1	2	5	98	29	71	150	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	54	7	40	61	269	19	245	298	MAX
WB	Through	130	63	3	58	69	271	17	245	298	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	110	69	59	276	317	127	199	634	NO
	Through	1,610	53	4	46	58	241	35	200	303	NO
	Right Turn	470	0	0	0	0	30	39	0	91	NO
	Second Right										
	U Turn										

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

SR 29 VISSIM
Cumulative No Project
AM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	360	136	37.8%	17.0	109	154	14.2	123.9	18.7	106.2	166.0	F
	Through	3,680	2,114	57.4%	39.4	2,054	2,179	29.1	68.8	7.1	66.2	77.7	E
	Right Turn	140	54	38.8%	11.5	39	77	8.7	41.2	9.7	41.0	57.4	D
	Second Right												
	Subtotal	4,180	2,305	55.1%	54.8	2,216	2,371	32.9	71.3	7.2	68.8	82.3	E
SB	U Turn												
	Second Left												
	Left Turn	120	57	47.7%	3.6	52	63	6.7	1725.6	179.0	1576.8	2125.2	F
	Through	2,070	1,206	58.3%	70.0	1,088	1,311	21.3	529.0	75.3	478.7	702.8	F
	Right Turn	150	86	57.6%	16.6	62	109	5.8	497.5	102.4	467.0	758.9	F
	Second Right												
	Subtotal	2,340	1,350	57.7%	82.4	1,221	1,473	23.1	579.5	76.1	518.6	762.9	F
EB	U Turn												
	Second Left												
	Left Turn	250	184	73.5%	10.7	166	204	4.5	156.0	14.9	151.5	188.2	F
	Through	70	52	74.9%	8.7	38	67	2.2	82.5	20.7	77.2	117.2	F
	Right Turn	330	247	74.8%	30.0	213	286	4.9	76.7	11.0	67.6	107.1	E
	Second Right												
	Subtotal	650	483	74.3%	39.9	431	540	7.0	107.7	11.8	100.5	138.0	F
WB	U Turn												
	Second Left												
	Left Turn	190	166	87.4%	8.4	150	176	1.8	244.8	23.0	222.6	351.7	F
	Through	80	69	86.1%	7.7	57	80	1.3	122.6	16.0	103.1	150.2	F
	Right Turn	160	137	85.4%	22.3	97	167	1.9	119.9	29.6	98.6	185.8	F
	Second Right												
	Subtotal	430	372	86.4%	32.0	304	415	2.9	179.1	24.1	155.7	218.6	F
Total		7,600	4,509	59.3%	123.2	4,298	4,690	39.7	229.3	28.7	208.6	281.4	F

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

SR 29 VISSIM
Cumulative No Project
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	4,130	2,305	55.8%	55.3	2,215	2,370	32.2	40.6	2.8	39.3	48.1	D
	Right Turn	220	83	37.7%	9.6	74	102	11.1	2.5	0.8	2.3	4.1	A
	Second Right												
	Subtotal	4,350	2,388	54.9%	62.1	2,290	2,461	33.8	39.1	2.7	38.3	47.4	D
SB	U Turn												
	Second Left												
	Left Turn	60	38	63.5%	6.0	28	47	3.1	174.0	147.0	72.4	529.4	F
	Through	2,530	1,596	63.1%	64.4	1,492	1,675	20.6	2.1	1.3	1.9	5.7	A
	Right Turn												
	Second Right												
	Subtotal	2,590	1,634	63.1%	67.1	1,524	1,708	20.8	6.8	4.8	4.1	18.8	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	200	0	0.0%	0.0	0	0	20.0	0.0	0.0	0.0	0.0	A
	Through												
	Right Turn	50	0	0.0%	0.0	0	0	10.0	0.0	0.0	0.0	0.0	A
	Second Right												
	Subtotal	250	0	0.0%	0.0	0	0	22.4	0.0	0.0	0.0	0.0	A
Total		7,190	4,022	55.9%	100.4	3,841	4,166	42.3	24.5	1.8	22.9	29.6	C

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

SR 29 VISSIM
Cumulative No Project
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	30	12	39.3%	2.6	6	14	4.0	65.7	19.0	60.9	138.7	E
	Through	3,880	2,101	54.1%	54.5	2,026	2,191	32.5	35.1	1.9	34.3	41.9	D
	Right Turn Second Right												
	Subtotal	3,910	2,113	54.0%	54.9	2,036	2,204	32.8	35.3	1.9	34.5	41.9	D
SB	U Turn Second Left												
	Left Turn												
	Through	2,660	1,560	58.6%	60.3	1,452	1,634	23.9	9.8	2.2	10.6	14.9	A
	Right Turn Second Right	70	41	58.3%	7.7	27	54	3.9	11.3	6.8	9.4	30.5	B
	Subtotal	2,730	1,601	58.6%	62.6	1,493	1,675	24.3	9.9	2.2	10.8	14.8	A
EB	U Turn Second Left												
	Left Turn	470	280	59.5%	18.7	238	304	9.8	192.8	26.5	171.1	270.3	F
	Through												
	Right Turn Second Right	100	60	60.3%	11.1	44	76	4.4	136.3	26.7	131.7	189.6	F
	Subtotal	570	340	59.6%	26.2	282	380	10.8	182.0	25.5	158.8	261.3	F
WB	U Turn Second Left												
	Left Turn												
	Through												
	Right Turn Second Right												
	Subtotal												
Total		7,210	4,053	56.2%	104.5	3,887	4,217	42.1	37.5	1.0	37.3	41.9	D

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

SR 29 VISSIM
Cumulative No Project
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	50	17	34.6%	4.3	13	27	5.6	154.8	23.9	144.7	198.4	F
	Through	3,740	1,942	51.9%	66.3	1,854	2,049	33.7	180.5	14.7	171.6	217.5	F
	Right Turn	20	6	31.5%	1.8	3	9	3.8	143.3	54.8	137.6	203.1	F
	Second Right												
	Subtotal	3,810	1,966	51.6%	67.5	1,874	2,076	34.3	180.0	14.8	171.4	217.2	F
SB	U Turn												
	Second Left												
	Left Turn	20	10	51.0%	3.1	7	17	2.5	38.0	18.0	30.7	107.7	E
	Through	2,730	1,605	58.8%	59.8	1,502	1,675	24.2	0.5	0.1	0.4	1.0	A
	Right Turn	10	6	64.0%	2.7	2	10	1.3	0.1	0.1	0.0	1.4	A
	Second Right												
	Subtotal	2,760	1,622	58.8%	58.7	1,517	1,695	24.3	0.7	0.2	0.7	1.6	A
EB	U Turn												
	Second Left												
	Left Turn	150	155	103.3%	12.2	138	171	0.4	51.9	8.7	52.4	83.2	F
	Through												
	Right Turn	60	59	99.0%	6.8	52	72	0.1	19.6	7.3	20.4	44.7	C
	Second Right												
	Subtotal	210	214	102.0%	15.0	195	243	0.3	43.2	7.8	39.6	70.5	E
WB	U Turn												
	Second Left												
	Left Turn	10	9	88.0%	3.7	3	16	0.4	473.6	514.7	196.9	1261.4	F
	Through												
	Right Turn	20	17	83.0%	3.7	11	22	0.8	773.1	501.4	483.2	1552.3	F
	Second Right												
	Subtotal	30	25	84.7%	6.1	14	34	0.9	629.6	511.3	352.4	1346.4	F
Total		6,810	3,827	56.2%	110.3	3,634	4,007	40.9	103.2	11.3	94.2	125.2	F

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

SR 29 VISSIM
Cumulative No Project
AM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	150	57	37.8%	4.7	49	64	9.2	505.2	303.2	304.0	1080.7	F
	Through	3,270	1,753	53.6%	68.3	1,621	1,839	30.3	158.7	15.1	136.1	180.1	F
	Right Turn	230	89	38.9%	10.3	68	101	11.1	153.1	21.6	127.0	186.6	F
	Second Right Subtotal	3,650	1,899	52.0%	73.1	1,758	1,973	33.2	169.9	13.3	149.0	196.9	F
SB	U Turn Second Left												
	Left Turn	90	52	58.0%	6.6	43	67	4.5	120.2	22.6	139.5	467.1	F
	Through	2,580	1,541	59.7%	58.0	1,447	1,620	22.9	28.8	6.1	24.6	50.6	C
	Right Turn	130	76	58.2%	10.4	61	94	5.4	16.2	5.8	12.1	37.3	B
	Second Right Subtotal	2,800	1,669	59.6%	68.2	1,556	1,772	23.9	30.8	6.1	26.8	54.2	C
EB	U Turn Second Left												
	Left Turn	190	133	69.8%	13.5	112	149	4.5	455.7	116.9	488.5	676.6	F
	Through	170	118	69.3%	15.8	98	145	4.4	287.3	64.6	313.6	470.4	F
	Right Turn	100	67	66.6%	15.4	43	97	3.7	260.5	61.3	300.0	438.7	F
	Second Right Subtotal	460	317	68.9%	34.7	268	388	7.3	356.5	92.9	400.0	557.2	F
WB	U Turn Second Left												
	Left Turn	200	95	47.3%	18.0	70	115	8.7	342.8	110.7	243.6	1162.6	F
	Through	120	49	41.0%	8.0	35	62	7.7	297.8	103.5	226.1	984.8	F
	Right Turn	350	144	41.2%	32.0	96	219	13.1	543.1	197.9	300.8	1468.2	F
	Second Right Subtotal	670	288	43.0%	51.0	202	375	17.5	454.5	146.9	281.1	928.6	F
Total		7,580	4,173	55.0%	145.1	3,946	4,428	44.4	151.6	8.2	140.5	167.6	F

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

SR 29 VISSIM
Cumulative No Project
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	240	94	39.3%	12.5	78	109	11.3	475.3	57.9	450.5	604.5	F
	Through	2,120	763	36.0%	66.4	645	851	35.8	585.7	91.9	541.0	786.0	F
	Right Turn	60	24	39.7%	4.5	16	31	5.6	663.5	109.5	622.4	919.0	F
	Second Right Subtotal	2,420	881	36.4%	78.9	745	983	37.9	575.4	87.4	534.4	769.3	F
SB	U Turn Second Left												
	Left Turn	760	467	61.5%	25.2	430	498	11.8	74.3	8.5	106.2	216.5	E
	Through	1,970	1,176	59.7%	56.0	1,124	1,309	20.0	35.4	3.8	48.6	61.6	D
	Right Turn	150	92	61.3%	14.8	70	117	5.3	7.9	1.6	9.6	22.9	A
	Second Right Subtotal	2,880	1,735	60.3%	79.6	1,631	1,895	23.8	44.1	4.3	63.6	104.2	D
EB	U Turn Second Left												
	Left Turn	270	259	95.8%	18.3	224	284	0.7	104.1	30.8	83.7	359.1	F
	Through	490	483	98.6%	28.9	428	537	0.3	45.7	6.7	44.3	93.5	D
	Right Turn	160	154	96.4%	16.8	132	185	0.5	39.2	5.9	38.4	81.7	D
	Second Right Subtotal	920	896	97.4%	47.9	813	976	0.8	61.6	12.0	53.4	171.4	E
WB	U Turn Second Left												
	Left Turn	160	110	68.6%	17.6	90	136	4.3	175.2	23.9	177.2	281.1	F
	Through	610	420	68.8%	32.1	349	464	8.4	131.9	7.4	132.3	153.2	F
	Right Turn	1,260	858	68.1%	25.9	808	882	12.4	160.8	11.0	170.2	223.0	F
	Second Right Subtotal	2,030	1,387	68.3%	60.2	1,251	1,455	15.6	153.4	8.8	160.1	202.8	F
Total		8,250	4,899	59.4%	125.0	4,702	5,127	41.3	178.2	13.1	170.7	205.3	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	73	21	51	108	279	55	180	355	NO
	Through	400	828	27	794	868	1,435	16	1,404	1,455	AVG
	Right Turn	400	455	19	431	482	963	16	932	983	AVG
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	3,311	223	2,842	3,617	3,783	6	3,769	3,789	AVG
	Through	3,700	3,228	332	2,496	3,616	3,782	6	3,769	3,788	MAX
EB	Right Turn	380	3	1	2	4	109	14	91	127	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	322	7	313	334	455	18	437	482	AVG
WB	Through	460	59	31	25	123	439	16	425	481	NO
	Right Turn	440	50	24	11	97	502	17	485	545	MAX
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	371	22	317	394	505	16	488	534	AVG
	Through	500	19	13	4	40	388	149	111	502	NO
	Right Turn										
	Second Right										
	Second Right										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	311	18	288	338	787	17	762	818	MAX
	Right Turn	470	49	3	45	56	230	16	202	258	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	34	18	11	69	171	64	82	266	NO
	Through	800	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	614	8	605	634	618	12	605	642	AVG
	Through										
	Right Turn	150	0	0	0	0	0	0	0	0	NO
	Second Right										
	Second Right										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	4	1	2	7	53	15	43	81	NO
	Through	680	727	19	694	756	1,131	15	1,103	1,144	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	46	9	33	61	492	85	375	654	NO
EB	Right Turn	210	2	1	1	3	56	14	43	80	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	396	8	378	409	497	11	483	519	MAX
WB	Through										
	Right Turn	90	3	5	1	16	109	133	52	487	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	1,310	81	1,165	1,450	1,908	17	1,882	1,940	AVG
	Through	480	1,310	81	1,165	1,450	1,908	17	1,882	1,940	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	5	2	3	11	83	22	65	130	NO
	Through	670	0	0	0	0	6	20	0	64	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	28	8	17	38	251	84	140	394	NO
WB	Through										
	Right Turn	570	25	8	12	36	258	84	147	402	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	99	68	34	247	258	115	124	443	NO
	Through										
	Right Turn	790	99	64	37	238	248	115	114	433	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	322	438	44	1,199	735	1,008	137	2,723	MAX
	Through	450	1,575	254	1,233	1,928	2,721	168	2,527	3,052	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	59	35	29	145	213	80	138	345	NO
	Through	1,130	131	48	89	242	1,113	378	601	1,793	NO
EB	Right Turn	310	138	49	96	254	1,140	378	627	1,819	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	638	65	523	728	817	11	802	832	AVG
WB	Through	800	266	130	38	460	807	15	777	827	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	242	108	89	393	575	15	551	603	MAX
	Through	580	18	5	12	27	174	135	107	554	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	1,067	982	39	2,377	1,574	1,166	199	2,496	AVG
	Through	500	2,384	10	2,372	2,401	2,475	9	2,463	2,491	AVG
	Right Turn	300	1	0	1	2	70	15	46	106	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	162	37	114	237	638	175	393	995	NO
	Through	1,050	147	27	114	212	947	472	545	2,065	NO
EB	Right Turn	440	3	1	2	4	105	26	74	155	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	185	70	121	355	495	147	374	718	AVG
WB	Through	130	179	67	119	340	496	147	375	719	AVG
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	69	26	42	116	260	58	195	376	NO
	Through	1,610	66	6	57	76	293	51	209	380	NO
	Right Turn	470	781	35	742	856	1,112	10	1,101	1,129	AVG
	Second Right										
	U Turn										

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

SR 29 VISSIM
Cumulative No Project
PM Peak Hour

Intersection 6

SR 29/Napa Junction Rd

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	300	148	49.4%	6.3	138	156	10.1	317.1	163.3	150.1	617.5	F
	Through	2,360	1,471	62.3%	49.5	1,391	1,563	20.3	32.4	26.4	18.2	90.8	C
	Right Turn	140	75	53.7%	11.6	56	89	6.2	15.4	9.8	12.7	40.2	B
	Second Right												
	Subtotal	2,800	1,694	60.5%	45.7	1,620	1,786	23.3	57.1	36.9	30.3	139.4	E
SB	U Turn												
	Second Left												
	Left Turn	200	109	54.6%	8.5	98	125	7.3	322.1	15.8	312.5	456.5	F
	Through	2,890	1,588	54.9%	52.2	1,520	1,672	27.5	315.3	20.3	284.6	343.8	F
	Right Turn	500	278	55.6%	14.5	256	304	11.3	265.5	19.0	234.0	291.2	F
	Second Right												
	Subtotal	3,590	1,975	55.0%	60.0	1,895	2,088	30.6	309.0	19.8	278.8	336.9	F
EB	U Turn												
	Second Left												
	Left Turn	200	134	67.2%	4.9	126	143	5.1	212.6	22.3	227.1	294.2	F
	Through	20	14	70.0%	3.4	9	20	1.5	131.9	38.2	126.4	239.8	F
	Right Turn	300	207	68.9%	24.7	165	248	5.9	104.4	22.1	107.3	149.3	F
	Second Right												
	Subtotal	520	355	68.3%	25.6	309	391	7.9	147.5	29.1	153.5	214.5	F
WB	U Turn												
	Second Left												
	Left Turn	200	161	80.4%	3.8	157	167	2.9	266.5	27.8	255.7	327.2	F
	Through	70	62	88.7%	11.1	43	78	1.0	113.5	13.6	97.0	158.2	F
	Right Turn	150	132	87.7%	11.7	115	150	1.6	111.8	15.2	96.4	139.7	F
	Second Right												
	Subtotal	420	354	84.4%	20.0	315	374	3.3	187.7	21.3	171.8	230.0	F
Total		7,330	4,378	59.7%	64.3	4,266	4,461	38.6	185.3	16.7	173.3	219.4	F

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

SR 29 VISSIM
Cumulative No Project
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,750	1,671	60.8%	49.8	1,585	1,755	23.0	16.4	10.3	12.5	56.6	B
	Right Turn	420	238	56.7%	14.0	217	261	10.0	5.5	1.2	5.4	7.9	A
	Second Right												
	Subtotal	3,170	1,909	60.2%	51.2	1,831	2,016	25.0	15.0	8.9	11.8	51.2	B
SB	U Turn												
	Second Left												
	Left Turn	60	33	54.5%	3.6	28	39	4.0	112.6	19.5	99.9	150.0	F
	Through	3,330	1,895	56.9%	34.6	1,856	1,955	28.1	100.3	10.8	83.6	116.6	F
	Right Turn												
	Second Right												
	Subtotal	3,390	1,928	56.9%	34.5	1,884	1,985	28.4	100.5	10.8	83.9	116.7	F
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	450	342	75.9%	10.7	326	360	5.4	397.2	23.7	369.7	440.9	F
	Through												
	Right Turn	50	39	78.4%	3.6	33	44	1.6	278.8	47.6	241.2	356.3	F
	Second Right												
	Subtotal	500	381	76.2%	10.6	367	401	5.7	385.0	25.0	359.0	436.8	F
Total		7,060	4,218	59.7%	60.4	4,126	4,303	37.8	87.6	8.9	79.7	107.9	F

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

SR 29 VISSIM
Cumulative No Project
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	100	54	53.9%	9.9	38	68	5.3	88.7	21.8	96.5	140.8	F
	Through	3,040	1,772	58.3%	48.7	1,711	1,874	25.9	11.2	7.1	8.7	26.1	B
	Right Turn												
	Second Right												
	Subtotal	3,140	1,826	58.1%	49.7	1,765	1,920	26.4	13.7	6.9	11.0	28.5	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	3,650	2,165	59.3%	31.2	2,126	2,208	27.5	55.9	2.2	54.7	60.8	E
	Right Turn	130	73	56.2%	9.1	59	86	5.7	32.6	5.2	30.2	50.5	C
	Second Right												
	Subtotal	3,780	2,238	59.2%	36.6	2,192	2,289	28.1	55.2	2.3	53.7	60.2	E
EB	U Turn												
	Second Left												
	Left Turn	130	128	98.2%	13.8	106	150	0.2	61.8	3.3	61.9	71.9	E
	Through												
	Right Turn	80	80	99.6%	9.6	66	95	0.0	52.5	10.1	45.1	72.8	D
	Second Right												
	Subtotal	210	207	98.8%	15.9	178	230	0.2	58.2	5.0	55.4	70.6	E
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		7,130	4,271	59.9%	59.5	4,182	4,354	37.9	37.9	2.8	36.6	43.6	D

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

SR 29 VISSIM
Cumulative No Project
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn Second Left												
	Left Turn	60	31	52.0%	6.4	21	40	4.3	3.0	3.7	1.6	12.9	A
	Through	3,110	1,789	57.5%	51.9	1,720	1,886	26.7	5.7	3.4	5.6	13.2	A
	Right Turn	20	12	59.0%	3.1	6	17	2.1	2.2	2.2	1.5	8.9	A
	Second Right Subtotal	3,190	1,832	57.4%	52.1	1,765	1,938	27.1	5.7	3.3	5.5	13.2	A
SB	U Turn Second Left												
	Left Turn	20	10	49.5%	2.5	5	14	2.6	12.0	13.0	22.7	64.2	B
	Through	3,670	2,194	59.8%	21.1	2,165	2,222	27.3	37.0	2.1	37.6	42.3	E
	Right Turn	40	21	52.5%	5.7	14	32	3.4	19.4	11.6	12.0	39.4	C
	Second Right Subtotal	3,730	2,225	59.7%	24.1	2,196	2,258	27.6	36.7	2.2	37.1	42.2	E
EB	U Turn Second Left												
	Left Turn	10	7	66.0%	2.8	4	12	1.2	678.0	791.7	71.3	1914.5	F
	Through												
	Right Turn	40	25	62.3%	7.6	16	37	2.7	1340.9	548.9	516.1	2082.1	F
	Second Right Subtotal	50	32	63.0%	7.3	22	43	2.9	1017.2	548.6	344.1	2054.1	F
WB	U Turn Second Left												
	Left Turn	20	20	101.5%	6.5	11	30	0.1	60.5	15.0	53.2	85.9	F
	Through												
	Right Turn	20	20	101.5%	3.5	15	28	0.1	18.5	15.0	12.0	46.1	C
	Second Right Subtotal	40	41	101.5%	6.9	31	50	0.1	38.0	13.1	35.8	61.3	E
Total		7,010	4,130	58.9%	57.7	4,036	4,212	38.6	32.2	10.9	24.1	50.9	D

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

SR 29 VISSIM
Cumulative No Project
PM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	100	54	54.0%	8.1	41	69	5.2	71.9	14.3	64.5	131.0	E
	Through	2,850	1,596	56.0%	39.2	1,545	1,651	26.6	53.3	3.8	53.2	84.4	D
	Right Turn	200	111	55.3%	7.9	95	120	7.2	55.2	7.1	50.4	83.3	E
	Second Right Subtotal	3,150	1,761	55.9%	35.5	1,715	1,814	28.0	54.0	4.0	53.4	84.7	D
SB	U Turn Second Left												
	Left Turn	290	152	52.3%	8.8	140	165	9.3	149.3	28.8	140.5	224.7	F
	Through	3,310	1,988	60.1%	18.2	1,971	2,030	25.7	114.2	2.5	112.4	118.3	F
	Right Turn	130	71	54.9%	7.3	59	85	5.8	88.8	4.1	88.4	97.0	F
	Second Right Subtotal	3,730	2,212	59.3%	15.1	2,187	2,238	27.9	115.8	2.9	113.9	123.1	F
EB	U Turn Second Left												
	Left Turn	100	99	98.7%	11.4	77	110	0.1	80.3	12.6	85.3	138.7	F
	Through	120	121	101.1%	10.1	105	134	0.1	43.1	5.5	45.0	58.9	D
	Right Turn	140	148	105.9%	13.0	120	166	0.7	28.7	7.5	26.2	46.4	C
	Second Right Subtotal	360	368	102.3%	15.9	349	401	0.4	46.4	5.8	43.5	69.0	D
WB	U Turn Second Left												
	Left Turn	150	91	60.9%	1.7	89	94	5.3	543.7	36.9	546.5	694.6	F
	Through	160	94	58.8%	18.7	69	117	5.8	117.5	16.7	112.2	184.8	F
	Right Turn	240	143	59.5%	20.7	99	179	7.0	111.5	22.4	107.1	168.7	F
	Second Right Subtotal	550	328	59.7%	36.6	262	389	10.6	234.3	35.0	225.5	352.6	F
Total		7,790	4,669	59.9%	68.2	4,565	4,789	39.5	94.9	2.5	94.4	103.1	F

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

SR 29 VISSIM
Cumulative No Project
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	250	123	49.4%	8.5	111	134	9.3	361.0	21.5	351.8	441.1	F
	Through	2,120	1,118	52.7%	21.4	1,088	1,154	24.9	325.9	9.8	323.3	349.9	F
	Right Turn	150	75	49.9%	10.2	56	94	7.1	272.8	9.9	278.0	294.5	F
	Second Right Subtotal	2,520	1,316	52.2%	13.5	1,290	1,343	27.5	326.3	10.3	327.8	349.8	F
SB	U Turn Second Left												
	Left Turn	1,160	621	53.5%	13.0	597	644	18.1	99.7	19.7	104.3	150.3	F
	Through	2,280	1,534	67.3%	20.6	1,506	1,569	17.1	33.0	4.9	33.6	48.2	C
	Right Turn	160	82	51.1%	8.7	70	101	7.1	6.7	2.1	7.9	16.6	A
	Second Right Subtotal	3,600	2,237	62.1%	20.3	2,212	2,268	25.2	51.1	5.6	52.2	64.6	D
EB	U Turn Second Left												
	Left Turn	300	295	98.3%	20.2	266	335	0.3	146.7	55.4	117.3	328.6	F
	Through	590	581	98.5%	29.4	525	628	0.4	73.7	36.6	49.5	148.2	E
	Right Turn	240	246	102.3%	19.2	215	267	0.4	64.4	34.7	43.3	138.9	E
	Second Right Subtotal	1,130	1,122	99.3%	41.6	1,032	1,187	0.2	91.0	41.2	67.7	206.9	F
WB	U Turn Second Left												
	Left Turn	390	136	34.8%	3.6	129	141	15.7	1037.3	80.8	972.4	1173.2	F
	Through	780	302	38.7%	28.1	260	340	20.6	430.7	74.2	400.5	548.7	F
	Right Turn	730	288	39.5%	20.2	271	333	19.6	236.7	56.7	234.3	335.4	F
	Second Right Subtotal	1,900	725	38.2%	41.3	670	791	32.4	470.5	88.1	419.7	588.7	F
Total		9,150	5,400	59.0%	74.1	5,277	5,510	44.0	179.8	11.6	170.7	200.8	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	357	243	114	754	906	442	253	1,427	MAX
	Through	400	108	118	39	344	996	286	686	1,407	MAX
	Right Turn	400	1	1	0	2	96	15	80	120	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	317	792	41	2,569	857	1,309	183	3,787	MAX
	Through	3,700	3,393	22	3,350	3,425	3,790	8	3,776	3,806	MAX
EB	Right Turn	380	11	1	9	13	137	18	114	176	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	349	6	341	358	446	9	436	462	AVG
WB	Through	460	26	14	1	44	397	116	69	457	NO
	Right Turn	440	24	17	1	41	388	180	122	521	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	381	24	338	409	496	16	488	539	AVG
	Through	500	6	7	0	18	178	184	23	492	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	73	38	37	145	725	29	657	762	MAX
	Right Turn	470	4	3	1	11	152	21	114	186	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	10	2	8	14	91	16	69	118	NO
	Through	800	552	91	399	679	1,405	21	1,369	1,432	MAX
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	546	36	469	591	647	8	633	656	AVG
	Through										
	Right Turn	150	53	100	5	317	319	271	98	651	MAX
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	31	9	15	43	142	37	85	191	NO
	Through	680	57	19	40	102	1,002	67	908	1,085	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	436	29	376	472	786	14	766	806	MAX
EB	Right Turn	210	5	1	3	6	106	25	69	147	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	46	6	38	56	283	56	239	437	NO
WB	Through										
	Right Turn	90	6	3	2	9	126	72	42	276	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	8	17	0	40	NO
	Through	480	0	0	0	0	8	17	0	40	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	2	1	1	3	69	13	56	93	NO
	Through	670	154	18	129	186	504	16	482	524	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	257	113	63	431	513	116	281	612	NO
WB	Through										
	Right Turn	570	267	112	76	440	522	116	290	621	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	5	2	3	7	104	32	70	158	NO
	Through										
	Right Turn	790	3	2	2	7	95	32	61	149	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	20	6	12	35	137	28	97	188	NO
	Through	450	331	40	295	421	1,037	400	720	1,702	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	64	11	51	86	292	43	228	345	NO
	Through	1,130	1,815	45	1,726	1,866	2,504	15	2,480	2,525	AVG
EB	Right Turn	310	1,841	45	1,752	1,891	2,530	15	2,506	2,551	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	50	10	37	71	281	99	135	441	MAX
WB	Through	800	59	10	43	72	420	90	259	540	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	493	8	482	507	581	14	567	607	AVG
	Through	580	9	5	2	15	111	51	42	188	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	609	829	47	2,278	1,336	1,181	203	2,480	AVG
	Through	500	2,272	3	2,268	2,277	2,474	12	2,451	2,494	AVG
	Right Turn	300	3	1	2	4	86	14	71	104	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	196	15	184	233	449	46	413	558	NO
	Through	1,050	143	11	128	166	541	79	435	669	NO
EB	Right Turn	440	2	0	2	3	81	12	65	103	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	327	130	164	566	697	65	524	758	AVG
WB	Through	130	315	137	151	565	697	65	524	758	AVG
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	1,536	13	1,519	1,553	1,650	11	1,631	1,671	AVG
	Through	1,610	210	471	42	1,548	568	563	254	1,642	NO
	Right Turn	470	994	13	977	1,011	1,107	11	1,088	1,129	AVG
	Second Right										
	U Turn										

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
AM Peak Hour

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	360	118	32.7%	13.2	98	135	15.7	136.8	55.0	118.5	285.0	F
	Through	3,880	2,121	54.7%	41.2	2,051	2,183	32.1	73.2	4.1	71.3	78.9	E
	Right Turn	140	46	32.6%	5.0	38	56	9.8	43.5	10.8	39.5	64.5	D
	Second Right												
	Subtotal	4,380	2,284	52.2%	52.5	2,200	2,362	36.3	76.4	5.8	72.3	86.5	E
SB	U Turn												
	Second Left												
	Left Turn	120	56	46.6%	2.1	54	61	6.8	1636.1	156.9	1545.0	2223.8	F
	Through	2,111	1,170	55.4%	114.6	1,006	1,344	23.2	544.5	156.8	506.4	874.5	F
	Right Turn	150	89	59.2%	13.9	60	104	5.6	546.3	188.0	438.6	953.5	F
	Second Right												
	Subtotal	2,381	1,315	55.2%	125.8	1,137	1,505	24.8	593.6	155.2	529.3	918.5	F
EB	U Turn												
	Second Left												
	Left Turn	250	185	73.9%	7.9	173	200	4.4	147.6	11.6	151.8	179.7	F
	Through	70	54	77.3%	8.1	39	66	2.0	83.3	11.3	82.9	117.1	F
	Right Turn	330	245	74.3%	26.5	202	287	5.0	70.3	7.0	68.8	99.9	E
	Second Right												
	Subtotal	650	484	74.4%	31.5	420	537	7.0	101.6	8.3	108.1	134.7	F
WB	U Turn												
	Second Left												
	Left Turn	190	166	87.4%	6.5	159	181	1.8	240.1	50.0	231.6	352.5	F
	Through	80	65	81.4%	12.3	48	85	1.7	114.5	27.5	113.5	218.5	F
	Right Turn	160	139	86.6%	16.2	116	158	1.8	111.1	18.0	105.0	195.9	F
	Second Right												
	Subtotal	430	370	86.0%	26.4	330	408	3.0	170.1	32.5	153.8	284.1	F
Total		7,841	4,453	56.8%	134.4	4,246	4,644	43.2	230.6	38.3	221.3	311.3	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	4,330	2,282	52.7%	54.2	2,194	2,357	35.6	41.8	3.1	39.9	47.4	D
	Right Turn	220	72	32.6%	7.3	60	86	12.3	2.3	0.5	2.2	4.2	A
	Second Right												
	Subtotal	4,550	2,354	51.7%	51.6	2,269	2,422	37.4	40.5	3.1	39.0	46.5	D
SB	U Turn												
	Second Left												
	Left Turn	60	31	52.2%	3.3	27	36	4.2	82.9	43.1	63.7	283.5	F
	Through	2,571	1,565	60.9%	109.7	1,421	1,733	22.1	1.9	0.8	2.1	4.7	A
	Right Turn												
	Second Right												
	Subtotal	2,631	1,596	60.7%	111.9	1,450	1,769	22.5	3.9	1.9	3.7	12.4	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	200	0	0.0%	0.0	0	0	20.0	0.0	0.0	0.0	0.0	A
	Through												
	Right Turn	50	0	0.0%	0.0	0	0	10.0	0.0	0.0	0.0	0.0	A
	Second Right												
	Subtotal	250	0	0.0%	0.0	0	0	22.4	0.0	0.0	0.0	0.0	A
Total		7,431	3,950	53.2%	114.6	3,788	4,090	46.1	24.5	1.7	23.5	27.7	C

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	30	8	27.0%	2.7	4	12	5.0	75.2	32.8	74.8	119.9	E
	Through	4,066	2,056	50.6%	33.8	1,996	2,101	36.3	37.9	2.2	37.0	41.0	D
	Right Turn Second Right												
	Subtotal	4,096	2,064	50.4%	34.7	2,003	2,113	36.6	38.0	2.2	37.1	41.1	D
SB	U Turn Second Left												
	Left Turn												
	Through	2,700	1,532	56.7%	106.3	1,386	1,687	25.4	8.2	1.7	10.5	14.7	A
	Right Turn Second Right	71	39	54.6%	6.5	29	50	4.3	11.0	7.5	9.4	24.6	B
	Subtotal	2,771	1,571	56.7%	110.1	1,424	1,737	25.8	8.3	1.8	10.5	14.9	A
EB	U Turn Second Left												
	Left Turn	484	294	60.8%	19.0	252	315	9.6	178.9	29.6	178.0	259.5	F
	Through												
	Right Turn Second Right	100	61	61.2%	10.0	44	77	4.3	127.6	23.3	122.7	191.0	F
	Subtotal	584	356	60.9%	26.1	296	381	10.5	170.9	29.3	167.3	244.2	F
WB	U Turn Second Left												
	Left Turn												
	Through												
	Right Turn Second Right												
	Subtotal												
Total		7,451	3,990	53.6%	115.8	3,832	4,140	45.8	38.5	2.1	37.4	42.8	D

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	50	16	31.2%	3.2	12	22	6.0	128.7	70.1	142.5	189.8	F
	Through	3,926	1,893	48.2%	39.5	1,825	1,957	37.7	197.3	8.8	182.1	215.5	F
	Right Turn	20	6	31.5%	1.8	4	9	3.8	126.3	87.3	145.9	190.0	F
	Second Right												
	Subtotal	3,996	1,915	47.9%	39.3	1,849	1,979	38.3	195.4	7.6	180.0	215.0	F
SB	U Turn												
	Second Left												
	Left Turn	20	12	60.5%	2.4	9	15	2.0	37.6	19.7	28.3	71.4	E
	Through	2,770	1,576	56.9%	99.0	1,457	1,719	25.6	0.5	0.1	0.5	0.9	A
	Right Turn	10	6	56.0%	2.2	2	9	1.6	0.2	0.2	0.2	0.9	A
	Second Right												
	Subtotal	2,800	1,594	56.9%	100.9	1,469	1,740	25.7	0.7	0.1	0.8	1.3	A
EB	U Turn												
	Second Left												
	Left Turn	150	155	103.2%	9.5	137	168	0.4	51.0	9.6	55.6	98.7	F
	Through												
	Right Turn	60	62	102.8%	6.2	54	73	0.2	16.8	5.9	18.9	68.6	C
	Second Right												
	Subtotal	210	217	103.1%	13.2	191	237	0.4	41.5	9.1	44.7	91.3	E
WB	U Turn												
	Second Left												
	Left Turn	10	7	65.0%	3.4	2	12	1.2	595.3	895.9	235.6	2310.5	F
	Through												
	Right Turn	20	15	77.0%	4.5	10	24	1.1	1184.8	870.3	352.7	2437.3	F
	Second Right												
	Subtotal	30	22	73.0%	6.2	15	33	1.6	963.4	853.5	308.8	2395.0	F
Total		7,036	3,747	53.3%	110.6	3,617	3,892	44.8	108.8	7.0	97.1	119.2	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
AM Peak Hour

Intersection 10		SR 29/Donaldson Way							Signal					
Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS	
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum		
NB	U Turn Second Left													
	Left Turn	150	50	33.5%	7.2	38	58	10.0	360.3	205.0	218.5	881.8	F	
	Through	3,440	1,707	49.6%	55.3	1,624	1,767	34.2	172.3	14.2	140.6	191.5	F	
	Right Turn	230	74	32.0%	13.2	54	95	12.7	164.5	24.7	122.9	196.2	F	
	Second Right Subtotal	3,820	1,831	47.9%	57.4	1,754	1,920	37.4	177.3	11.1	157.8	193.9	F	
SB	U Turn Second Left													
	Left Turn	90	53	59.1%	6.1	42	62	4.3	152.3	43.4	95.3	423.5	F	
	Through	2,619	1,516	57.9%	92.4	1,390	1,632	24.3	27.1	8.1	19.6	41.2	C	
	Right Turn	131	74	56.5%	13.9	55	93	5.6	14.3	5.0	13.1	29.4	B	
	Second Right Subtotal	2,840	1,643	57.9%	105.4	1,504	1,775	25.3	30.8	8.2	23.9	44.8	C	
EB	U Turn Second Left													
	Left Turn	205	130	63.5%	12.4	105	144	5.8	494.5	78.3	479.0	775.8	F	
	Through	170	101	59.3%	18.1	77	135	5.9	304.7	43.1	294.6	553.9	F	
	Right Turn	100	65	65.1%	13.8	51	86	3.8	278.9	48.3	283.6	501.2	F	
	Second Right Subtotal	475	296	62.3%	37.4	236	354	9.1	385.4	65.9	367.0	673.8	F	
WB	U Turn Second Left													
	Left Turn	200	80	40.0%	16.3	61	105	10.2	339.1	77.4	363.6	1264.5	F	
	Through	120	37	30.7%	11.2	19	58	9.4	433.7	219.9	442.5	1322.0	F	
	Right Turn	350	121	34.5%	22.1	78	145	14.9	794.9	267.6	582.8	1434.9	F	
	Second Right Subtotal	670	237	35.4%	40.0	167	279	20.3	624.8	195.5	488.9	1362.1	F	
Total		7,805	4,008	51.4%	136.2	3,848	4,221	49.4	160.8	14.2	145.4	185.7	F	

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	240	81	33.8%	18.2	59	123	12.6	613.6	95.2	461.5	758.5	F
	Through	2,265	714	31.5%	41.6	652	799	40.2	781.4	110.3	536.1	945.4	F
	Right Turn	60	17	29.0%	4.9	11	25	6.8	834.2	353.3	582.2	1194.2	F
	Second Right Subtotal	2,565	812	31.7%	56.2	736	942	42.7	761.2	113.7	524.6	919.4	F
SB	U Turn Second Left												
	Left Turn	773	452	58.5%	45.2	399	525	13.0	92.8	4.6	94.0	294.7	F
	Through	2,005	1,157	57.7%	47.0	1,069	1,220	21.3	51.4	5.4	45.4	71.9	D
	Right Turn	151	96	63.5%	14.1	68	116	5.0	10.9	2.6	10.2	30.3	B
	Second Right Subtotal	2,929	1,705	58.2%	91.5	1,585	1,830	25.4	59.5	4.3	53.5	117.6	E
EB	U Turn Second Left												
	Left Turn	285	267	93.6%	7.2	254	275	1.1	214.7	73.2	129.2	321.2	F
	Through	490	483	98.6%	36.8	404	547	0.3	87.8	62.2	46.6	238.0	F
	Right Turn	160	156	97.4%	15.6	132	182	0.3	68.5	43.8	36.1	180.8	E
	Second Right Subtotal	935	906	96.9%	44.9	812	974	1.0	120.4	59.9	69.5	252.8	F
WB	U Turn Second Left												
	Left Turn	160	106	66.5%	12.2	91	127	4.6	172.2	20.9	167.7	214.3	F
	Through	610	401	65.8%	22.1	366	431	9.3	131.8	7.3	130.1	181.6	F
	Right Turn	1,290	848	65.7%	19.5	820	874	13.5	167.2	9.0	168.6	244.3	F
	Second Right Subtotal	2,060	1,355	65.8%	37.8	1,288	1,409	17.1	157.8	7.8	156.8	217.8	F
Total		8,489	4,779	56.3%	123.0	4,620	4,949	45.6	196.8	21.0	188.3	238.7	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	65	37	44	168	355	374	207	1,416	NO
	Through	400	844	19	812	871	1,440	14	1,421	1,455	AVG
	Right Turn	400	467	13	445	484	968	14	949	983	AVG
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	3,309	171	2,978	3,543	3,791	12	3,764	3,806	AVG
	Through	3,700	3,380	123	3,135	3,542	3,790	12	3,764	3,806	MAX
EB	Right Turn	380	3	1	2	4	108	9	95	121	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	322	5	313	330	442	7	436	457	AVG
WB	Through	460	60	19	26	87	435	3	428	439	NO
	Right Turn	440	47	20	15	80	498	5	487	504	MAX
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	371	32	296	392	514	22	488	545	AVG
	Through	500	38	16	12	61	466	76	257	535	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	319	14	296	341	789	18	775	818	MAX
	Right Turn	470	51	4	47	58	229	18	215	258	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	16	5	9	25	110	28	66	171	NO
	Through	800	0	0	0	0	5	16	0	51	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	613	5	606	619	617	8	606	627	AVG
	Through										
	Right Turn	150	0	0	0	0	0	0	0	0	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	3	1	2	6	44	20	22	80	NO
	Through	680	742	10	722	755	1,132	12	1,117	1,145	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	45	8	35	62	496	93	387	693	NO
EB	Right Turn	210	2	1	1	4	53	23	23	104	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	392	8	384	409	499	13	482	521	MAX
WB	Through										
	Right Turn	90	11	15	1	34	199	201	53	488	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	1,389	74	1,230	1,485	1,909	11	1,889	1,925	AVG
	Through	480	1,389	74	1,230	1,485	1,909	11	1,889	1,925	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	5	2	2	8	91	17	66	123	NO
	Through	670	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	30	11	20	55	257	88	140	463	NO
WB	Through										
	Right Turn	570	26	12	16	55	264	88	147	470	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	152	115	28	345	339	149	185	538	NO
	Through										
	Right Turn	790	148	110	34	338	329	149	174	527	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	330	588	20	1,903	909	1,157	113	2,755	MAX
	Through	450	1,734	234	1,313	1,965	2,782	390	2,557	3,830	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	52	21	24	96	200	58	117	308	NO
	Through	1,130	110	37	68	193	1,030	394	672	1,974	NO
EB	Right Turn	310	116	37	76	202	1,056	394	699	2,000	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	653	83	499	736	829	21	801	857	AVG
WB	Through	800	272	172	65	558	806	14	796	836	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	160	103	40	359	569	10	550	586	MAX
	Through	580	15	5	5	24	148	146	47	556	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	1,127	1,159	26	2,398	1,330	1,207	162	2,484	AVG
	Through	500	2,389	8	2,375	2,396	2,472	12	2,452	2,491	AVG
	Right Turn	300	1	0	1	2	61	14	46	84	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	164	65	101	318	700	390	403	1,758	NO
	Through	1,050	143	30	111	216	1,017	452	561	1,864	NO
EB	Right Turn	440	3	1	2	4	102	17	72	130	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	297	120	175	562	600	136	376	744	AVG
WB	Through	130	291	123	165	562	601	136	377	744	AVG
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	60	14	47	84	236	31	180	280	NO
	Through	1,610	64	5	57	75	270	39	230	333	NO
	Right Turn	470	807	39	735	848	1,100	16	1,078	1,120	AVG
	Second Right										
	U Turn										

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
PM Peak Hour

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	300	150	49.9%	6.2	134	156	10.0	374.8	122.1	196.8	572.8	F
	Through	2,412	1,505	62.4%	48.0	1,435	1,588	20.5	29.7	17.6	17.4	71.9	C
	Right Turn	140	75	53.3%	11.3	58	94	6.3	15.2	7.9	10.9	31.8	B
	Second Right												
	Subtotal	2,852	1,729	60.6%	44.8	1,673	1,804	23.5	59.4	24.7	34.7	121.0	E
SB	U Turn												
	Second Left												
	Left Turn	200	103	51.3%	10.5	91	125	7.9	328.6	23.5	311.8	359.9	F
	Through	3,074	1,578	51.3%	56.8	1,498	1,702	31.0	316.1	33.7	279.8	367.4	F
	Right Turn	500	254	50.9%	16.1	231	291	12.7	265.9	24.2	242.1	324.4	F
	Second Right												
	Subtotal	3,774	1,934	51.3%	75.6	1,824	2,103	34.4	310.3	31.6	276.1	361.7	F
EB	U Turn												
	Second Left												
	Left Turn	200	137	68.3%	4.9	126	143	4.9	225.8	33.9	233.0	294.1	F
	Through	20	17	82.5%	4.9	11	25	0.8	117.9	52.3	114.0	240.1	F
	Right Turn	300	213	70.9%	32.4	165	264	5.4	106.3	14.3	104.7	149.4	F
	Second Right												
	Subtotal	520	366	70.3%	36.1	309	431	7.3	154.4	29.5	158.8	214.5	F
WB	U Turn												
	Second Left												
	Left Turn	200	159	79.6%	5.8	149	170	3.0	272.6	33.3	260.4	340.2	F
	Through	70	57	81.7%	9.0	42	72	1.6	125.9	25.7	101.9	175.1	F
	Right Turn	150	130	86.5%	14.3	105	153	1.7	117.6	18.3	118.5	150.7	F
	Second Right												
	Subtotal	420	346	82.4%	19.4	322	369	3.8	196.7	32.3	186.8	242.8	F
Total		7,566	4,375	57.8%	61.8	4,302	4,472	41.3	185.5	15.2	164.1	210.2	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,802	1,709	61.0%	49.4	1,645	1,790	23.0	13.7	3.6	14.1	35.2	B
	Right Turn	420	230	54.8%	5.8	222	237	10.5	5.3	1.1	5.0	7.6	A
	Second Right												
	Subtotal	3,222	1,940	60.2%	49.6	1,877	2,018	25.2	12.7	3.2	13.0	31.8	B
SB	U Turn												
	Second Left												
	Left Turn	60	30	50.2%	5.4	24	42	4.5	98.1	23.1	86.9	179.0	F
	Through	3,514	1,892	53.9%	37.8	1,856	1,996	31.2	100.9	13.4	92.2	119.1	F
	Right Turn												
	Second Right												
	Subtotal	3,574	1,923	53.8%	39.8	1,880	2,029	31.5	100.9	13.3	92.5	119.0	F
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	450	343	76.2%	9.0	331	357	5.4	383.7	28.1	344.4	426.5	F
	Through												
	Right Turn	50	41	81.4%	4.1	33	48	1.4	263.4	44.2	219.6	321.2	F
	Second Right												
	Subtotal	500	384	76.7%	11.3	368	405	5.5	369.7	32.1	325.2	415.8	F
Total		7,296	4,246	58.2%	68.4	4,150	4,360	40.2	85.5	7.0	80.2	94.8	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	100	53	53.1%	10.6	40	73	5.4	98.9	20.8	85.4	144.2	F
	Through	3,091	1,792	58.0%	51.3	1,736	1,879	26.3	9.2	1.9	10.1	17.5	A
	Right Turn												
	Second Right												
	Subtotal	3,191	1,845	57.8%	54.4	1,778	1,937	26.8	11.7	1.9	13.1	18.8	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	3,821	2,162	56.6%	36.4	2,136	2,263	30.3	55.7	2.6	54.0	60.2	E
	Right Turn	143	72	50.6%	5.9	62	85	6.8	35.8	9.7	29.7	48.1	D
	Second Right												
	Subtotal	3,964	2,234	56.4%	36.2	2,207	2,335	31.1	55.1	2.7	53.4	60.0	E
EB	U Turn												
	Second Left												
	Left Turn	131	134	102.4%	11.9	110	150	0.3	61.7	7.5	60.3	77.3	E
	Through												
	Right Turn	80	76	94.9%	8.5	66	95	0.5	52.7	10.1	48.0	72.4	D
	Second Right												
	Subtotal	211	210	99.6%	16.5	182	230	0.1	58.5	7.7	53.7	74.5	E
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		7,366	4,289	58.2%	65.2	4,205	4,378	40.3	36.9	1.3	36.4	40.2	D

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
PM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	60	34	57.2%	6.1	26	43	3.7	2.4	0.9	1.7	13.0	A
	Through	3,161	1,805	57.1%	52.9	1,726	1,892	27.2	4.4	2.0	6.0	9.5	A
	Right Turn	20	10	50.0%	2.6	7	14	2.6	1.8	1.7	1.3	12.1	A
	Second Right												
	Subtotal	3,241	1,849	57.1%	52.8	1,777	1,938	27.6	4.4	2.0	5.9	9.2	A
SB	U Turn												
	Second Left												
	Left Turn	20	10	51.5%	3.8	2	15	2.5	20.4	15.9	21.0	93.9	C
	Through	3,841	2,191	57.1%	35.6	2,160	2,272	30.0	35.8	2.1	35.9	40.8	E
	Right Turn	40	21	52.3%	6.1	11	30	3.5	18.9	12.9	14.5	46.2	C
	Second Right												
	Subtotal	3,901	2,223	57.0%	37.7	2,189	2,311	30.3	35.6	2.1	35.4	40.6	E
EB	U Turn												
	Second Left												
	Left Turn	10	8	80.0%	3.3	3	14	0.7	799.8	868.4	285.8	2520.6	F
	Through												
	Right Turn	40	29	71.8%	8.7	14	39	1.9	1038.1	756.8	461.9	2661.1	F
	Second Right												
	Subtotal	50	37	73.4%	10.9	17	48	2.0	974.0	785.8	386.4	2637.7	F
WB	U Turn												
	Second Left												
	Left Turn	20	21	102.5%	5.0	14	29	0.1	52.4	17.8	53.8	84.3	F
	Through												
	Right Turn	20	21	102.5%	3.7	14	28	0.1	15.8	4.7	13.3	32.5	C
	Second Right												
	Subtotal	40	41	102.5%	5.5	32	49	0.2	35.3	10.3	37.7	65.2	E
Total		7,232	4,149	57.4%	59.9	4,071	4,234	40.9	31.0	7.8	25.8	45.7	D

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
PM Peak Hour

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	100	53	53.4%	6.1	47	68	5.3	71.3	18.4	56.6	181.9	E
	Through	2,889	1,605	55.5%	49.4	1,510	1,660	27.1	53.5	4.4	55.0	88.5	D
	Right Turn	200	110	54.8%	10.7	88	124	7.3	52.4	11.2	55.5	81.6	D
	Second Right Subtotal	3,189	1,768	55.4%	46.4	1,690	1,838	28.5	54.2	4.6	55.0	88.4	D
SB	U Turn Second Left												
	Left Turn	290	139	47.9%	12.5	117	156	10.3	141.1	8.7	131.1	156.2	F
	Through	3,456	1,997	57.8%	18.2	1,965	2,026	28.0	112.9	2.2	111.2	120.6	F
	Right Turn	144	75	52.1%	9.0	65	93	6.6	87.8	4.3	87.4	101.5	F
	Second Right Subtotal	3,890	2,211	56.8%	24.0	2,169	2,244	30.4	114.2	2.0	113.1	120.6	F
EB	U Turn Second Left												
	Left Turn	101	100	98.6%	8.5	81	107	0.1	80.5	15.7	74.8	138.0	F
	Through	120	121	100.9%	12.5	105	146	0.1	42.3	8.7	44.9	55.7	D
	Right Turn	140	142	101.7%	12.7	119	161	0.2	28.8	7.4	25.5	46.4	C
	Second Right Subtotal	361	363	100.6%	18.9	325	397	0.1	47.5	8.0	41.4	64.2	D
WB	U Turn Second Left												
	Left Turn	150	90	59.7%	2.8	86	95	5.5	537.1	31.0	533.4	692.4	F
	Through	160	93	58.3%	21.5	69	137	5.9	119.4	11.1	120.6	185.1	F
	Right Turn	240	147	61.2%	21.8	100	173	6.7	108.6	14.1	108.4	169.4	F
	Second Right Subtotal	550	330	60.0%	37.5	263	396	10.5	225.0	22.4	230.6	346.6	F
Total		7,990	4,671	58.5%	72.0	4,585	4,772	41.7	94.8	2.2	93.8	105.0	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 1
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	250	123	49.3%	9.1	112	142	9.3	356.6	8.8	359.6	394.8	F
	Through	2,155	1,132	52.5%	23.0	1,101	1,178	25.2	328.4	9.5	327.0	346.1	F
	Right Turn	150	72	48.3%	10.7	59	94	7.4	275.7	12.2	280.3	297.4	F
	Second Right Subtotal	2,555	1,328	52.0%	30.0	1,283	1,379	27.8	328.5	9.3	327.4	348.2	F
SB	U Turn Second Left												
	Left Turn	1,178	587	49.8%	23.0	555	638	19.9	92.0	11.1	93.2	161.8	F
	Through	2,404	1,564	65.1%	24.3	1,512	1,596	18.9	30.4	2.7	31.5	46.8	C
	Right Turn	174	82	47.2%	10.5	71	107	8.1	8.1	3.0	6.9	16.2	A
	Second Right Subtotal	3,756	2,233	59.5%	28.9	2,188	2,289	27.8	45.7	3.3	48.3	68.2	D
EB	U Turn Second Left												
	Left Turn	301	291	96.6%	14.2	266	311	0.6	162.1	71.5	91.5	303.1	F
	Through	590	581	98.5%	23.3	551	613	0.4	76.3	33.7	52.5	147.4	E
	Right Turn	240	239	99.4%	18.3	208	262	0.1	67.3	35.1	50.0	151.5	E
	Second Right Subtotal	1,131	1,111	98.2%	34.9	1,050	1,162	0.6	95.4	37.2	60.6	187.8	F
WB	U Turn Second Left												
	Left Turn	390	140	35.8%	4.6	133	148	15.4	999.5	71.6	989.5	1197.7	F
	Through	780	300	38.4%	23.9	262	333	20.7	409.1	36.5	396.5	577.4	F
	Right Turn	743	292	39.3%	25.5	242	331	19.8	229.6	39.3	216.7	346.9	F
	Second Right Subtotal	1,913	731	38.2%	45.6	640	808	32.5	442.5	49.9	419.3	641.9	F
Total		9,355	5,403	57.8%	44.3	5,332	5,474	46.0	181.9	10.0	173.1	196.4	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	344	204	156	828	988	425	430	1,416	MAX
	Through	400	81	115	34	408	794	348	392	1,404	MAX
	Right Turn	400	1	1	0	2	91	21	54	134	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	46	14	30	77	210	39	148	258	NO
	Through	3,700	3,412	25	3,383	3,457	3,787	8	3,774	3,798	MAX
EB	Right Turn	380	10	2	7	14	168	63	93	315	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	347	6	335	358	443	12	436	474	AVG
WB	Through	460	34	22	0	66	396	116	66	441	NO
	Right Turn	440	32	26	0	71	386	179	122	505	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	386	19	348	404	503	14	488	523	AVG
	Through	500	9	8	0	22	284	195	44	487	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	62	16	46	102	726	13	717	756	MAX
	Right Turn	470	3	1	1	5	150	12	142	180	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	9	3	5	14	89	20	63	129	NO
	Through	800	585	91	388	743	1,399	23	1,372	1,429	MAX
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	528	60	415	587	652	10	634	666	AVG
	Through										
	Right Turn	150	50	93	5	301	384	291	97	679	MAX
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	30	8	21	45	142	22	109	182	NO
	Through	680	58	8	48	75	918	90	785	1,056	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	456	28	395	482	795	17	758	807	MAX
EB	Right Turn	210	5	1	3	6	87	27	63	133	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	48	5	39	55	292	65	213	437	NO
WB	Through										
	Right Turn	90	6	2	2	10	131	74	42	276	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	19	38	0	114	NO
	Through	480	0	0	0	0	19	38	0	114	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	2	1	0	3	64	30	0	128	NO
	Through	670	149	20	127	189	496	11	472	505	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	225	113	73	390	459	159	193	613	NO
WB	Through										
	Right Turn	570	235	113	85	399	468	159	202	622	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	5	1	3	7	85	21	70	127	NO
	Through										
	Right Turn	790	3	1	2	5	76	20	60	118	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	21	7	14	38	134	26	94	188	NO
	Through	450	348	55	292	464	1,237	521	755	2,083	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	53	7	44	62	259	32	227	317	NO
	Through	1,130	1,808	75	1,645	1,874	2,506	16	2,488	2,532	AVG
EB	Right Turn	310	1,834	75	1,672	1,900	2,531	16	2,514	2,558	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	49	10	32	67	297	144	135	595	MAX
WB	Through	800	52	9	38	63	380	80	259	489	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	491	8	477	507	583	16	567	615	AVG
	Through	580	11	7	2	24	201	195	42	564	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	861	816	49	2,282	2,006	953	193	2,496	AVG
	Through	500	2,268	9	2,252	2,279	2,475	10	2,457	2,495	AVG
	Right Turn	300	2	0	2	3	87	13	72	104	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	174	19	156	218	440	67	382	587	NO
	Through	1,050	145	10	132	166	580	100	448	715	NO
EB	Right Turn	440	2	1	1	4	86	27	49	147	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	323	143	161	534	660	117	438	742	AVG
WB	Through	130	313	149	156	534	660	118	438	742	AVG
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	1,533	12	1,514	1,552	1,649	18	1,620	1,671	AVG
	Through	1,610	417	513	46	1,347	962	680	263	1,669	NO
	Right Turn	470	992	12	973	1,010	1,107	18	1,078	1,129	AVG
	Second Right										
	U Turn										

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
AM Peak Hour

Intersection 6		SR 29/Napa Junction Rd							Signal				
Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	360	119	33.0%	13.2	99	137	15.6	113.4	21.4	123.7	215.5	F
	Through	3,929	2,099	53.4%	25.5	2,061	2,138	33.3	69.6	5.9	72.7	81.7	E
	Right Turn	140	44	31.4%	4.5	38	51	10.0	42.0	11.6	39.7	72.3	D
	Second Right												
	Subtotal	4,429	2,262	51.1%	35.8	2,200	2,311	37.5	71.3	6.2	76.5	83.8	E
SB	U Turn												
	Second Left												
	Left Turn	120	59	48.9%	3.0	52	62	6.5	1676.5	210.9	1409.3	1982.1	F
	Through	2,159	1,270	58.8%	117.2	1,097	1,493	21.5	475.8	61.9	461.2	625.1	F
	Right Turn	150	92	61.3%	10.2	75	103	5.3	445.5	68.4	374.0	572.1	F
	Second Right												
	Subtotal	2,429	1,420	58.5%	123.9	1,244	1,654	23.0	527.4	61.0	497.5	667.4	F
EB	U Turn												
	Second Left												
	Left Turn	250	183	73.2%	8.7	170	200	4.6	157.8	13.0	151.8	178.9	F
	Through	70	56	79.4%	7.8	44	67	1.8	80.4	15.8	92.2	106.2	F
	Right Turn	330	252	76.4%	23.1	220	286	4.6	79.7	10.3	69.1	99.9	E
	Second Right												
	Subtotal	650	491	75.5%	23.2	462	537	6.7	111.0	13.2	108.2	132.9	F
WB	U Turn												
	Second Left												
	Left Turn	190	166	87.4%	9.2	151	182	1.8	241.5	35.7	226.3	351.7	F
	Through	80	70	87.6%	11.6	52	86	1.1	126.2	27.6	99.4	171.9	F
	Right Turn	160	145	90.5%	21.0	110	169	1.2	109.3	16.7	100.0	151.2	F
	Second Right												
	Subtotal	430	381	88.6%	30.5	330	434	2.4	174.6	37.3	153.9	246.2	F
Total		7,938	4,554	57.4%	139.1	4,356	4,797	42.8	220.7	18.3	213.2	264.5	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
AM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	4,379	2,261	51.6%	34.7	2,206	2,312	36.8	41.8	3.5	40.2	48.5	D
	Right Turn	220	70	31.9%	8.8	58	89	12.4	2.3	0.5	2.3	5.8	A
	Second Right												
	Subtotal	4,599	2,332	50.7%	36.8	2,278	2,378	38.5	40.6	3.4	39.3	46.8	D
SB	U Turn												
	Second Left												
	Left Turn	60	34	56.2%	5.8	25	42	3.8	109.9	82.8	60.7	315.4	F
	Through	2,619	1,668	63.7%	110.6	1,498	1,892	20.6	2.0	0.6	1.9	4.9	A
	Right Turn												
	Second Right												
	Subtotal	2,679	1,701	63.5%	114.6	1,523	1,929	20.9	4.9	2.4	3.1	11.3	A
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	200	0	0.0%	0.0	0	0	20.0	0.0	0.0	0.0	0.0	A
	Through												
	Right Turn	50	0	0.0%	0.0	0	0	10.0	0.0	0.0	0.0	0.0	A
	Second Right												
	Subtotal	250	0	0.0%	0.0	0	0	22.4	0.0	0.0	0.0	0.0	A
Total		7,528	4,033	53.6%	99.7	3,888	4,225	46.0	24.6	1.7	23.5	27.0	C

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
AM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	30	9	30.0%	2.5	4	12	4.8	68.1	36.8	84.0	129.4	E
	Through	4,109	2,046	49.8%	23.9	2,010	2,088	37.2	37.7	2.3	37.2	41.4	D
	Right Turn Second Right												
	Subtotal	4,139	2,055	49.6%	24.3	2,018	2,099	37.4	37.8	2.4	37.3	41.6	D
SB	U Turn Second Left												
	Left Turn												
	Through	2,741	1,626	59.3%	104.5	1,468	1,835	23.9	8.9	1.1	10.7	15.6	A
	Right Turn	78	46	58.7%	8.4	33	57	4.1	10.2	5.0	11.5	27.0	B
	Second Right Subtotal	2,819	1,672	59.3%	109.5	1,507	1,890	24.2	8.9	1.1	10.5	15.9	A
EB	U Turn Second Left												
	Left Turn	491	285	58.1%	17.4	257	321	10.4	184.9	26.3	174.4	245.2	F
	Through												
	Right Turn	100	54	54.0%	9.5	37	70	5.2	127.1	22.5	131.6	200.1	F
	Second Right Subtotal	591	339	57.4%	24.9	302	383	11.7	176.2	26.7	166.0	238.9	F
WB	U Turn Second Left												
	Left Turn												
	Through												
	Right Turn Second Right												
	Subtotal												
Total		7,549	4,066	53.9%	97.6	3,937	4,253	45.7	38.2	1.3	38.2	40.9	D

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
AM Peak Hour

Intersection 9

SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	50	16	31.4%	2.9	12	20	6.0	151.7	24.9	148.4	193.4	F
	Through	3,969	1,884	47.5%	29.1	1,848	1,950	38.5	197.9	11.1	171.8	209.3	F
	Right Turn	20	7	33.5%	1.8	3	9	3.6	130.4	72.6	144.2	210.0	F
	Second Right												
	Subtotal	4,039	1,906	47.2%	30.4	1,866	1,975	39.1	197.1	10.9	171.3	208.5	F
SB	U Turn												
	Second Left												
	Left Turn	20	12	60.5%	2.3	9	16	2.0	32.3	13.4	40.2	72.7	D
	Through	2,811	1,667	59.3%	100.9	1,519	1,872	24.2	0.5	0.2	0.5	1.0	A
	Right Turn	10	5	51.0%	1.7	3	8	1.8	1.8	5.2	0.0	16.5	A
	Second Right												
	Subtotal	2,841	1,684	59.3%	101.2	1,538	1,890	24.3	0.8	0.3	0.7	1.3	A
EB	U Turn												
	Second Left												
	Left Turn	150	156	104.3%	9.4	144	172	0.5	55.6	11.0	57.9	130.9	F
	Through												
	Right Turn	60	60	100.7%	6.9	44	70	0.1	16.6	5.4	19.6	88.6	C
	Second Right												
	Subtotal	210	217	103.2%	13.7	193	242	0.5	45.2	11.2	43.6	121.0	E
WB	U Turn												
	Second Left												
	Left Turn	10	7	66.0%	2.6	2	10	1.2	528.0	656.9	78.5	1936.8	F
	Through												
	Right Turn	20	16	77.5%	3.7	9	22	1.1	1033.6	670.3	630.4	2252.6	F
	Second Right												
	Subtotal	30	22	73.7%	5.3	13	28	1.5	808.6	629.5	343.8	2189.5	F
Total		7,120	3,829	53.8%	103.5	3,672	3,998	44.5	109.5	10.1	99.7	130.9	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
AM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	150	51	34.3%	8.5	36	63	9.8	387.7	209.7	197.6	875.8	F
	Through	3,476	1,695	48.8%	40.0	1,651	1,762	35.0	174.7	12.3	157.6	197.1	F
	Right Turn	230	72	31.1%	9.4	59	87	12.9	167.3	14.1	148.4	189.9	F
	Second Right Subtotal	3,856	1,818	47.1%	40.6	1,775	1,885	38.3	180.9	11.8	162.6	200.1	F
SB	U Turn Second Left												
	Left Turn	90	57	62.8%	5.9	46	67	3.9	165.2	55.2	122.9	392.4	F
	Through	2,653	1,587	59.8%	83.4	1,458	1,713	23.2	29.7	11.5	23.4	54.6	C
	Right Turn	138	85	61.3%	11.8	57	99	5.1	18.3	9.7	14.1	41.7	B
	Second Right Subtotal	2,881	1,728	60.0%	95.5	1,572	1,871	24.0	34.4	11.4	28.6	58.8	C
EB	U Turn Second Left												
	Left Turn	212	133	62.8%	7.0	125	145	6.0	482.4	91.6	506.4	895.8	F
	Through	170	103	60.3%	18.6	83	140	5.8	313.2	80.9	325.4	692.5	F
	Right Turn	100	68	68.0%	9.8	54	85	3.5	278.9	58.7	306.6	706.6	F
	Second Right Subtotal	482	304	63.0%	29.4	271	370	9.0	384.1	83.9	394.4	848.2	F
WB	U Turn Second Left												
	Left Turn	200	81	40.5%	13.4	58	103	10.0	377.4	124.0	345.4	1255.9	F
	Through	120	37	30.8%	10.5	20	54	9.4	444.3	195.2	393.8	1360.3	F
	Right Turn	350	123	35.3%	22.7	80	154	14.7	721.5	264.1	708.6	1468.1	F
	Second Right Subtotal	670	241	36.0%	38.2	171	301	20.1	608.1	214.5	488.4	1409.0	F
Total		7,889	4,091	51.9%	122.9	3,894	4,263	49.1	159.9	9.8	142.2	173.2	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
AM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	240	70	29.3%	10.0	55	89	13.6	651.7	124.5	477.7	892.0	F
	Through	2,287	699	30.5%	43.4	638	783	41.1	818.3	114.9	658.4	998.8	F
	Right Turn	60	17	28.3%	6.1	11	28	6.9	857.9	121.3	748.6	1013.4	F
	Second Right Subtotal	2,587	786	30.4%	46.0	721	879	43.9	805.7	114.2	643.9	978.3	F
SB	U Turn Second Left												
	Left Turn	779	479	61.5%	46.9	396	541	12.0	92.2	11.6	99.1	293.9	F
	Through	2,025	1,195	59.0%	38.5	1,126	1,250	20.7	49.4	7.7	40.4	66.2	D
	Right Turn	158	104	65.8%	12.5	83	125	4.7	11.4	3.0	10.8	27.6	B
	Second Right Subtotal	2,962	1,778	60.0%	85.1	1,647	1,891	24.3	58.2	7.5	55.6	109.1	E
EB	U Turn Second Left												
	Left Turn	292	272	93.1%	8.4	256	288	1.2	217.9	94.2	148.8	389.1	F
	Through	490	477	97.4%	39.8	399	541	0.6	90.5	60.6	48.4	203.2	F
	Right Turn	160	153	95.6%	13.4	134	174	0.6	69.8	41.8	39.4	172.8	E
	Second Right Subtotal	942	902	95.8%	47.5	801	973	1.3	126.1	69.8	74.3	266.1	F
WB	U Turn Second Left												
	Left Turn	160	109	67.8%	11.2	90	127	4.4	186.9	32.7	179.9	267.7	F
	Through	610	401	65.8%	17.9	375	426	9.3	127.1	4.6	132.9	169.3	F
	Right Turn	1,297	851	65.6%	17.9	824	881	13.6	162.8	9.3	167.6	247.3	F
	Second Right Subtotal	2,067	1,360	65.8%	36.3	1,295	1,403	17.1	154.8	7.2	157.3	219.8	F
Total		8,558	4,827	56.4%	100.0	4,697	4,997	45.6	198.0	18.9	183.7	231.3	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	58	13	45	83	269	57	211	363	NO
	Through	400	848	16	811	871	1,438	14	1,415	1,455	AVG
	Right Turn	400	469	11	443	485	966	14	943	983	AVG
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	3,186	277	2,678	3,540	3,795	12	3,777	3,807	AVG
	Through	3,700	3,382	139	3,128	3,565	3,794	12	3,777	3,806	MAX
EB	Right Turn	380	3	0	2	4	110	23	88	148	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	320	6	306	327	443	7	436	457	AVG
WB	Through	460	66	22	36	108	434	2	428	436	NO
	Right Turn	440	52	21	15	84	495	5	487	499	MAX
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	180	353	40	289	392	499	18	488	539	AVG
	Through	500	36	18	7	64	436	117	136	504	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	322	13	304	342	786	16	766	818	MAX
	Right Turn	470	51	3	46	55	228	14	206	258	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	19	10	5	41	129	40	67	197	NO
	Through	800	0	0	0	0	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	150	611	6	599	619	616	9	599	626	AVG
	Through										
	Right Turn	150	0	0	0	0	0	0	0	0	NO
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	4	1	1	6	45	16	23	80	NO
	Through	680	748	12	730	762	1,141	8	1,125	1,145	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	53	13	36	79	518	77	446	713	NO
EB	Right Turn	210	3	1	1	4	56	20	24	87	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	396	6	386	405	494	11	482	511	MAX
WB	Through										
	Right Turn	90	1	0	1	1	68	13	52	89	NO
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	1,375	78	1,199	1,467	1,917	12	1,897	1,926	AVG
	Through	480	1,375	78	1,199	1,467	1,917	12	1,897	1,926	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	5	2	3	9	87	16	64	124	NO
	Through	670	0	0	0	0	8	25	0	79	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	36	16	20	76	286	87	210	469	NO
WB	Through										
	Right Turn	570	33	17	18	77	292	87	218	476	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	166	82	63	288	380	134	268	643	NO
	Through										
	Right Turn	790	167	87	64	300	369	134	258	632	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	334	489	22	1,543	958	1,244	113	2,999	MAX
	Through	450	1,712	204	1,433	2,029	2,958	352	2,490	3,680	AVG
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	58	28	30	107	196	69	108	304	NO
	Through	1,130	137	43	78	216	1,137	342	725	1,823	MAX
EB	Right Turn	310	142	42	85	223	1,163	342	752	1,849	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	681	58	551	723	820	17	802	850	AVG
WB	Through	800	378	111	186	552	807	16	797	847	MAX
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	211	131	31	437	535	124	184	605	MAX
	Through	580	61	105	6	308	211	196	72	594	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	1,376	1,164	34	2,407	1,564	1,184	156	2,496	AVG
	Through	500	2,394	7	2,380	2,402	2,475	9	2,463	2,491	AVG
	Right Turn	300	1	0	0	1	59	12	44	76	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	179	65	105	308	691	354	429	1,654	NO
	Through	1,050	146	24	111	193	930	240	684	1,499	NO
EB	Right Turn	440	3	1	2	4	94	19	72	138	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	312	130	183	542	604	152	364	758	AVG
WB	Through	130	305	133	177	542	605	152	365	759	AVG
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	66	18	43	95	249	63	171	380	NO
	Through	1,610	63	5	57	69	285	27	240	328	NO
	Right Turn	470	790	35	743	865	1,107	10	1,092	1,124	AVG
	Second Right										
	U Turn										

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
PM Peak Hour

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	300	149	49.7%	4.1	143	156	10.1	324.6	113.5	165.4	514.9	F
	Through	2,459	1,524	62.0%	36.5	1,478	1,596	20.9	22.8	12.3	17.9	52.0	C
	Right Turn	140	76	54.2%	9.0	59	89	6.2	12.5	3.1	10.2	20.4	B
	Second Right												
	Subtotal	2,899	1,749	60.3%	35.2	1,707	1,822	23.9	48.4	20.6	29.9	90.4	D
SB	U Turn												
	Second Left												
	Left Turn	200	100	50.0%	5.8	92	108	8.2	336.7	29.2	325.8	458.7	F
	Through	3,119	1,577	50.6%	37.8	1,515	1,648	31.8	308.2	29.6	293.8	364.3	F
	Right Turn	500	251	50.2%	14.5	226	279	12.8	261.6	22.2	253.2	314.8	F
	Second Right												
	Subtotal	3,819	1,928	50.5%	52.6	1,863	2,035	35.3	303.8	28.3	287.9	359.0	F
EB	U Turn												
	Second Left												
	Left Turn	200	135	67.6%	4.4	126	142	5.0	230.0	30.9	213.6	294.1	F
	Through	20	15	74.0%	3.0	11	20	1.2	122.2	49.8	124.4	239.7	F
	Right Turn	300	208	69.5%	28.3	165	252	5.7	108.6	13.8	107.0	148.1	F
	Second Right												
	Subtotal	520	358	68.9%	29.1	309	399	7.7	158.2	27.1	152.5	214.5	F
WB	U Turn												
	Second Left												
	Left Turn	200	163	81.7%	4.4	155	170	2.7	258.2	21.3	255.2	305.2	F
	Through	70	57	81.4%	8.9	42	72	1.6	119.1	19.9	96.3	149.4	F
	Right Turn	150	131	87.3%	15.0	104	154	1.6	112.8	19.0	99.6	149.2	F
	Second Right												
	Subtotal	420	351	83.6%	21.2	321	378	3.5	187.9	26.8	177.9	235.3	F
Total		7,658	4,386	57.3%	44.2	4,306	4,441	42.2	178.4	10.3	170.4	198.5	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
PM Peak Hour

Intersection 7

SR 29/Eucalyptus Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn												
	Through	2,849	1,729	60.7%	41.0	1,671	1,798	23.4	11.9	3.2	12.6	17.2	B
	Right Turn	420	230	54.8%	8.3	218	246	10.5	4.8	0.9	5.1	6.4	A
	Second Right												
	Subtotal	3,269	1,959	59.9%	39.6	1,917	2,029	25.6	11.1	2.9	11.9	16.1	B
SB	U Turn												
	Second Left												
	Left Turn	60	30	49.8%	5.0	23	39	4.5	87.9	30.6	84.1	168.8	F
	Through	3,559	1,887	53.0%	20.9	1,862	1,923	32.0	99.8	5.7	93.0	116.7	F
	Right Turn												
	Second Right												
	Subtotal	3,619	1,917	53.0%	17.1	1,896	1,946	32.4	99.7	5.8	92.5	117.2	F
EB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
WB	U Turn												
	Second Left												
	Left Turn	450	339	75.4%	11.7	325	358	5.6	381.4	11.9	373.9	417.5	F
	Through												
	Right Turn	50	39	77.4%	3.6	33	45	1.7	267.4	31.8	263.6	331.9	F
	Second Right												
	Subtotal	500	378	75.6%	14.6	360	399	5.8	368.5	11.6	362.7	406.6	F
Total		7,388	4,254	57.6%	35.6	4,180	4,302	41.1	84.1	2.6	79.1	91.3	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
PM Peak Hour

Intersection 8

SR 29/Rio Del Mar

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn												
	Second Left												
	Left Turn	100	56	55.9%	9.8	42	69	5.0	117.7	31.7	90.7	189.9	F
	Through	3,131	1,808	57.7%	41.3	1,774	1,888	26.6	10.0	1.9	10.0	12.9	A
	Right Turn												
	Second Right												
	Subtotal	3,231	1,863	57.7%	39.7	1,824	1,947	27.1	13.2	2.8	12.9	19.4	B
SB	U Turn												
	Second Left												
	Left Turn												
	Through	3,859	2,161	56.0%	21.3	2,131	2,198	30.9	56.0	2.4	55.9	60.4	E
	Right Turn	149	72	48.5%	4.4	67	81	7.3	33.8	5.6	31.7	44.4	C
	Second Right												
	Subtotal	4,008	2,234	55.7%	23.9	2,201	2,279	31.8	55.3	2.3	55.0	59.6	E
EB	U Turn												
	Second Left												
	Left Turn	138	141	101.9%	11.9	118	155	0.2	58.5	8.3	54.5	72.4	E
	Through												
	Right Turn	80	79	98.3%	8.6	67	93	0.2	50.4	9.7	42.1	68.6	D
	Second Right												
	Subtotal	218	219	100.6%	16.3	190	236	0.1	55.7	7.0	51.9	62.7	E
WB	U Turn												
	Second Left												
	Left Turn												
	Through												
	Right Turn												
	Second Right												
	Subtotal												
Total		7,457	4,316	57.9%	39.5	4,244	4,373	40.9	36.7	1.7	36.6	40.0	D

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
PM Peak Hour

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	LOS
NB	U Turn												
	Second Left												
	Left Turn	60	32	53.0%	7.2	25	45	4.2	2.0	0.9	2.1	4.6	A
	Through	3,201	1,823	56.9%	38.0	1,785	1,897	27.5	5.4	1.8	5.7	10.8	A
	Right Turn	20	10	49.0%	2.9	7	16	2.6	1.1	0.9	0.8	23.7	A
	Second Right												
	Subtotal	3,281	1,864	56.8%	37.0	1,823	1,941	27.9	5.3	1.8	5.6	10.6	A
SB	U Turn												
	Second Left												
	Left Turn	20	10	48.0%	3.0	5	14	2.7	16.4	12.5	24.2	78.6	C
	Through	3,879	2,194	56.6%	18.9	2,162	2,224	30.6	36.3	2.4	36.3	39.4	E
	Right Turn	40	20	48.8%	5.2	11	27	3.8	13.4	6.8	18.0	36.2	B
	Second Right												
	Subtotal	3,939	2,223	56.4%	16.2	2,197	2,248	30.9	36.0	2.4	36.1	39.1	E
EB	U Turn												
	Second Left												
	Left Turn	10	7	68.0%	2.4	4	12	1.1	813.2	880.2	418.0	2154.7	F
	Through												
	Right Turn	40	21	53.5%	3.1	17	27	3.4	1383.7	641.9	637.1	2475.6	F
	Second Right												
	Subtotal	50	28	56.4%	3.9	23	35	3.5	1131.9	704.0	539.5	2422.1	F
WB	U Turn												
	Second Left												
	Left Turn	20	20	99.0%	4.5	14	29	0.0	55.2	18.3	54.3	99.9	F
	Through												
	Right Turn	20	21	102.5%	3.5	14	28	0.1	22.4	10.1	11.8	40.7	C
	Second Right												
	Subtotal	40	40	100.8%	5.3	32	49	0.0	38.0	11.9	37.4	70.4	E
Total		7,310	4,156	56.9%	39.2	4,115	4,221	41.7	29.3	8.1	24.7	47.7	D

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
PM Peak Hour

Intersection 10

SR 29/Donaldson Way

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	100	53	53.4%	5.3	45	65	5.3	69.9	12.4	67.7	110.1	E
	Through	2,923	1,620	55.4%	33.2	1,584	1,668	27.3	54.5	3.3	53.3	79.0	D
	Right Turn	200	108	54.0%	10.3	85	122	7.4	55.6	7.8	50.2	82.7	E
	Second Right Subtotal	3,223	1,781	55.3%	29.5	1,746	1,835	28.8	54.9	3.6	53.4	79.8	D
SB	U Turn Second Left												
	Left Turn	290	139	47.8%	8.7	125	150	10.3	141.2	7.4	136.4	167.8	F
	Through	3,489	1,990	57.0%	17.7	1,970	2,028	28.6	114.1	3.2	111.9	118.5	F
	Right Turn	151	79	52.3%	9.1	68	97	6.7	88.8	5.3	90.7	99.6	F
	Second Right Subtotal	3,930	2,208	56.2%	16.2	2,179	2,235	31.1	114.7	3.1	113.1	118.7	F
EB	U Turn Second Left												
	Left Turn	108	108	100.3%	10.0	91	123	0.0	84.5	16.1	82.2	120.7	F
	Through	120	117	97.2%	8.6	108	133	0.3	41.3	8.1	43.9	58.2	D
	Right Turn	140	143	102.2%	13.9	118	165	0.3	26.5	4.1	28.0	41.6	C
	Second Right Subtotal	368	368	100.0%	16.7	334	394	0.0	47.8	7.5	51.6	68.9	D
WB	U Turn Second Left												
	Left Turn	150	90	60.0%	2.7	86	94	5.5	548.1	46.4	534.1	683.0	F
	Through	160	97	60.4%	21.6	69	137	5.6	123.0	18.8	122.7	188.5	F
	Right Turn	240	143	59.5%	19.6	100	172	7.0	118.1	24.6	111.8	169.5	F
	Second Right Subtotal	550	330	59.9%	36.9	264	395	10.5	240.3	43.5	227.3	346.8	F
Total		8,071	4,687	58.1%	59.8	4,614	4,778	42.4	94.5	2.2	92.8	104.4	F

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

SR 29 VISSIM
Cumulative Plus Project Alternative 2
PM Peak Hour

Intersection 11

SR 29/American Canyon

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)						Total Delay (sec/veh)				LOS
			Average	Percent	Std. Dev.	Minimum	Maximum	GEH	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn Second Left												
	Left Turn	250	121	48.5%	9.5	97	132	9.5	352.5	20.4	350.8	389.3	F
	Through	2,175	1,136	52.2%	21.5	1,097	1,159	25.5	319.9	15.8	327.5	339.6	F
	Right Turn	150	71	47.3%	8.7	62	89	7.5	269.0	18.0	278.4	301.3	F
	Second Right Subtotal	2,575	1,328	51.6%	15.0	1,302	1,350	28.2	320.5	15.0	328.4	337.8	F
SB	U Turn Second Left												
	Left Turn	1,184	581	49.0%	22.9	532	602	20.3	89.7	15.8	87.3	136.0	F
	Through	2,423	1,563	64.5%	24.9	1,509	1,600	19.3	32.1	2.6	31.6	42.0	C
	Right Turn	181	84	46.4%	10.7	74	110	8.4	7.1	1.7	5.5	14.5	A
	Second Right Subtotal	3,788	2,228	58.8%	22.7	2,187	2,272	28.5	46.7	6.0	46.1	62.0	D
EB	U Turn Second Left												
	Left Turn	308	292	94.8%	14.9	265	314	0.9	157.2	81.4	103.9	393.7	F
	Through	590	582	98.6%	30.5	519	623	0.3	78.5	45.6	55.8	181.2	E
	Right Turn	240	236	98.5%	18.2	209	261	0.2	62.8	32.1	44.8	131.4	E
	Second Right Subtotal	1,138	1,110	97.5%	42.3	1,032	1,165	0.8	95.5	53.3	64.2	207.9	F
WB	U Turn Second Left												
	Left Turn	390	136	34.9%	3.7	131	141	15.7	1051.9	116.8	1006.6	1241.4	F
	Through	780	298	38.1%	28.4	258	352	20.8	397.0	68.3	430.6	615.5	F
	Right Turn	749	292	39.0%	19.3	259	330	20.0	202.8	42.2	244.6	372.3	F
	Second Right Subtotal	1,919	725	37.8%	39.6	650	786	32.8	435.9	68.5	456.3	658.7	F
Total		9,420	5,390	57.2%	59.0	5,263	5,486	46.8	177.5	13.7	171.8	203.4	F

Intersection 6 SR 29/Napa Junction Rd Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	400	290	119	138	534	851	414	375	1,401	MAX
	Through	400	43	10	31	57	590	144	412	844	MAX
	Right Turn	400	1	0	0	1	86	17	54	117	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	380	379	1,039	36	3,336	588	1,126	205	3,792	MAX
	Through	3,700	3,411	14	3,393	3,437	3,788	10	3,774	3,806	MAX
EB	Right Turn	380	10	1	9	12	149	21	110	176	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	349	6	341	359	443	7	437	455	AVG
WB	Through	460	31	21	0	74	396	116	67	455	NO
	Right Turn	440	30	23	0	72	422	156	122	519	NO
	Second Right										
	U Turn										
	Second Left	180	380	25	328	404	497	16	488	527	AVG
WB	Left Turn	500	8	9	0	27	237	186	23	482	NO
	Through										
	Right Turn										
	Second Right										
	U Turn										

Intersection 7 SR 29/Eucalyptus Dr Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	640	59	9	48	72	725	10	719	749	MAX
	Right Turn	470	3	1	2	5	149	10	142	172	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	400	8	2	6	12	96	19	65	127	NO
	Through	800	599	50	522	682	1,407	19	1,375	1,431	MAX
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left	150	553	30	487	596	652	11	629	676	AVG
WB	Left Turn										
	Through										
	Right Turn	150	30	46	3	152	319	286	79	656	MAX
	Second Right										
	U Turn										

Intersection 8 SR 29/Rio Del Mar Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	270	35	10	20	53	155	33	110	213	NO
	Through	680	59	10	45	73	998	93	781	1,086	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	640	463	17	429	487	795	15	772	807	MAX
EB	Right Turn	210	4	1	3	5	93	28	61	133	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	490	51	8	41	64	309	62	234	407	NO
WB	Through										
	Right Turn	90	5	1	3	7	113	57	45	218	MAX
	Second Right										
	U Turn										
	Second Left										

Intersection 9 SR 29/Poco Way-S. Napa Junction Rd Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	190	0	0	0	0	22	29	0	65	NO
	Through	480	0	0	0	0	22	29	0	65	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	140	2	1	1	4	73	17	62	119	NO
	Through	670	156	14	140	189	499	14	481	524	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	570	246	111	114	415	506	107	264	587	NO
WB	Through										
	Right Turn	570	255	110	124	424	515	107	273	596	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	790	5	1	3	7	107	43	70	200	NO
	Through										
	Right Turn	790	4	2	2	8	98	43	60	194	NO
	Second Right										
	U Turn										

Intersection 10 SR 29/Donaldson Way Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	340	19	4	13	27	131	24	87	175	NO
	Through	450	336	42	307	442	1,048	417	751	1,901	MAX
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	56	8	43	72	277	49	214	366	NO
	Through	1,130	1,829	34	1,754	1,872	2,508	13	2,490	2,532	AVG
EB	Right Turn	310	1,855	35	1,779	1,897	2,534	13	2,516	2,557	AVG
	Second Right										
	U Turn										
	Second Left										
	Left Turn	180	54	10	35	69	279	73	160	378	MAX
WB	Through	800	54	5	48	62	399	75	328	552	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	310	489	12	464	508	590	19	567	618	AVG
	Through	580	11	7	2	22	192	194	42	564	NO
	Right Turn										
	Second Right										
	U Turn										

Intersection 11 SR 29/American Canyon Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	260	768	866	50	2,280	1,563	1,167	199	2,488	AVG
	Through	500	2,266	11	2,238	2,276	2,475	10	2,458	2,490	AVG
	Right Turn	300	3	1	2	4	92	13	72	105	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	760	164	16	139	191	409	47	355	503	NO
	Through	1,050	141	12	130	167	505	138	379	832	NO
EB	Right Turn	440	2	1	1	3	88	18	67	122	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	130	295	128	177	544	686	61	575	758	AVG
WB	Through	130	281	134	167	542	686	61	575	758	AVG
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	370	1,541	11	1,515	1,553	1,652	16	1,630	1,672	AVG
	Through	1,610	106	188	41	642	423	425	222	1,630	NO
	Right Turn	470	999	11	974	1,012	1,109	16	1,087	1,129	AVG
	Second Right										
	U Turn										