APPENDIX D THRU M

HAWANO
Case #: 3100 5566 (TM);
Environmental Log #: 93-19-006OO

Prepared For: The County of San Diego

Submitted To:
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Volume II of II
D&A Ref. No. 091201

APPENDIX D

- Existing - Arterial Analysis
- Existing - Synchro Analysis
- Existing - ILV Analysis
- Existing – Queuing Summaries

Existing - Arterial Analysis

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	16.2	44.6	0.27	22.0	C
Cactus Rd	II	45	44.7	7.7	52.4	0.51	34.9	B
Brittania Blvd	II	45	45.5	15.2	60.7	0.52	30.7	B
La Media	II	45	83.0	6.7	89.7	1.04	41.7	A
Piper Ranch Rd	II	45	44.3	0.8	45.1	0.50	40.2	A
SR125 SB	II	45	29.4	1.4	30.8	0.30	34.7	B
SR125 NB Ramp	II	45	13.4	0.4	13.8	0.12	32.1	B
Sanyo Ave	II	45	35.1	2.2	37.3	0.37	35.3	A
Enrico Fermi Dr	II	45	62.8	8.8	71.6	0.78	39.4	A
Total	II		386.6	59.4	446.0	4.41	35.6	A

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	3.1	46.3	0.49	38.2	A
Sanyo Ave	II	45	62.8	6.6	69.4	0.78	40.7	A
SR125 NB Ramp	II	45	35.1	0.5	35.6	0.37	37.0	A
SR125 SB	II	45	13.4	4.4	17.8	0.12	24.9	C
Piper Ranch Rd	II	45	29.4	10.2	39.6	0.30	27.0	C
La Media	II	45	44.3	5.7	50.0	0.50	36.3	A
Brittania Blvd	II	45	83.0	3.6	86.6	1.04	43.2	A
Cactus Rd	II	45	45.5	11.4	56.9	0.52	32.7	B
Heritage Road	II	45	44.7	9.8	54.5	0.51	33.5	B
Total	II		401.4	55.3	456.7	4.63	36.5	A

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	20.6	49.0	0.27	20.1	D
Cactus Rd	II	45	44.7	14.8	59.5	0.51	30.7	B
Brittania Blvd	II	45	45.5	9.8	55.3	0.52	33.7	B
La Media	II	45	83.0	9.6	92.6	1.04	40.4	A
Piper Ranch Rd	II	45	44.3	2.2	46.5	0.50	39.0	A
SR125 SB	II	45	29.4	1.1	30.5	0.30	35.1	A
SR125 NB Ramp	II	45	13.4	0.1	13.5	0.12	32.8	B
Sanyo Ave	II	45	35.1	3.9	39.0	0.37	33.8	B
Enrico Fermi Dr	II	45	62.8	1.9	64.7	0.78	43.6	A
Total	II		386.6	64.0	450.6	4.41	35.2	A

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	4.1	47.3	0.49	37.4	A
Sanyo Ave	II	45	62.8	5.1	67.9	0.78	41.6	A
SR125 NB Ramp	II	45	35.1	2.3	37.4	0.37	35.2	A
SR125 SB	II	45	13.4	1.5	14.9	0.12	29.7	B
Piper Ranch Rd	II	45	29.4	10.9	40.3	0.30	26.5	C
La Media	II	45	44.3	11.9	56.2	0.50	32.3	B
Brittania Blvd	II	45	83.0	10.1	93.1	1.04	40.1	A
Cactus Rd	II	45	45.5	15.7	61.2	0.52	30.4	B
Heritage Road	II	45	44.7	24.1	68.8	0.51	26.6	C
Total	II		401.4	85.7	487.1	4.63	34.2	B

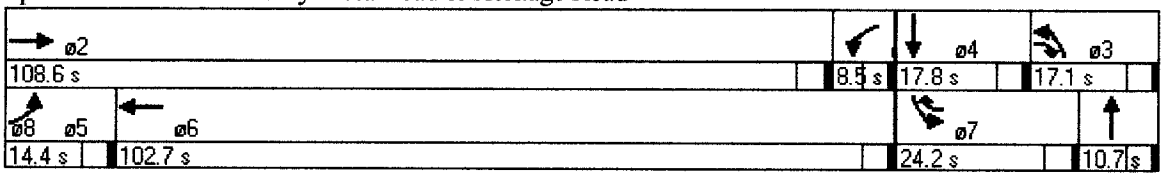
Existing - Synchro Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.895				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1667	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.000		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1667	0	0	1863	2787
Satd. Flow (RTOR)			228			117		54				63
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2033	187	31	1019	96	63	27	63	208	51	52
Adj. Flow (vph)	129	2479	228	38	1243	117	77	33	77	254	62	63
Lane Group Flow (vph)	129	2479	228	38	1243	117	77	110	0	254	62	63
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			pm+pt		Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		4
Total Split (s)	14.4	108.6	17.1	8.5	102.7	24.2	17.1	10.7	0.0	24.2	17.8	17.8
Act Effct Green (s)	10.0	106.3	126.5	4.5	99.1	123.3	16.2	6.7		20.2	10.7	10.7
Actuated g/C Ratio	0.07	0.70	0.83	0.03	0.65	0.81	0.11	0.04		0.13	0.07	0.07
v/c Ratio	0.57	0.74	0.17	0.37	0.40	0.09	0.41	0.88		1.08	0.47	0.25
Control Delay	79.2	16.2	0.6	71.6	9.8	0.8	71.6	89.8		141.5	79.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.2	16.2	0.6	71.6	9.8	0.8	71.6	89.8		141.5	79.2	16.6
LOS	E	B	A	E	A	A	E	F		F	E	B
Approach Delay		17.8			10.7			82.3			110.5	
Approach LOS		B			B			F			F	

Intersection Summary

Cycle Length: 152
Actuated Cycle Length: 152
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 25.6 — Intersection LOS: C
Intersection Capacity Utilization 70.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

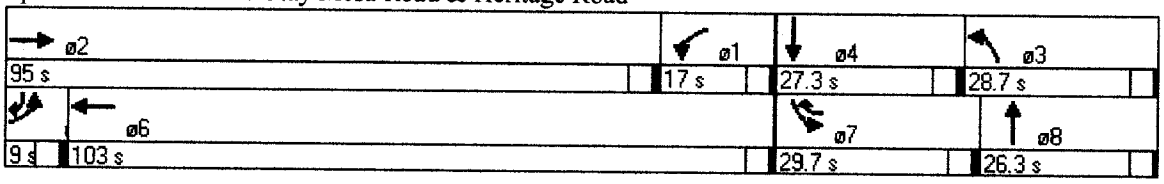


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.942				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1755	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1755	0	1770	1863	2787
Satd. Flow (RTOR)			94			349		15				55
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	127	1239	88	33	2082	328	214	78	49	229	45	247
Adj. Flow (vph)	135	1318	94	35	2215	349	228	83	52	244	48	263
Lane Group Flow (vph)	135	1318	94	35	2215	349	228	135	0	244	48	263
Turn Type	Prot		Perm	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	9.0	95.0	95.0	17.0	103.0	29.7	28.7	26.3	0.0	29.7	27.3	9.0
Act Effct Green (s)	10.9	100.5	100.5	11.6	99.2	128.2	31.8	16.9		25.0	10.0	21.0
Actuated g/C Ratio	0.06	0.60	0.60	0.07	0.59	0.76	0.19	0.10		0.15	0.06	0.12
v/c Ratio	0.61	0.46	0.10	0.15	0.78	0.27	0.68	0.71		0.92	0.43	0.66
Control Delay	85.8	20.6	3.3	62.1	24.1	3.1	74.0	84.5		108.6	87.2	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.8	20.6	3.3	62.1	24.1	3.1	74.0	84.5		108.6	87.2	42.6
LOS	F	C	A	E	C	A	E	F		F	F	D
Approach Delay		25.3			21.8			77.9			75.5	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 168
Actuated Cycle Length: 168
Offset: 5 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 32.8 — Intersection LOS: C
Intersection Capacity Utilization 77.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

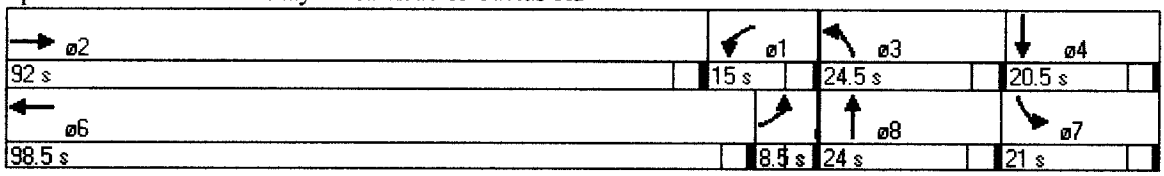


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4772	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4772	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		12			1				219			162
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	4	2205	154	57	1098	6	76	0	69	1	0	1
Adj. Flow (vph)	5	2722	190	70	1356	7	94	0	85	1	0	1
Lane Group Flow (vph)	5	2912	0	70	1363	0	94	0	85	1	0	1
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Total Split (s)	8.5	92.0	0.0	15.0	98.5	0.0	24.5	24.0	24.0	21.0	20.5	20.5
Act Effct Green (s)	13.3	114.2		10.1	119.2		13.7		11.2	8.6		6.0
Actuated g/C Ratio	0.09	0.75		0.07	0.78		0.09		0.07	0.06		0.04
v/c Ratio	0.03	0.81		0.59	0.36		0.59		0.27	0.01		0.00
Control Delay	48.5	7.7		78.6	11.4		80.6		2.0	64.0		0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Total Delay	48.5	7.7		78.6	11.4		80.6		2.0	64.0		0.0
LOS	D	A		E	B		F		A	E		A
Approach Delay		7.8			14.7							
Approach LOS		A			B							

Intersection Summary

Cycle Length: 152
Actuated Cycle Length: 152
Offset: 42 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 11.4 — Intersection LOS: B
Intersection Capacity Utilization 64.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

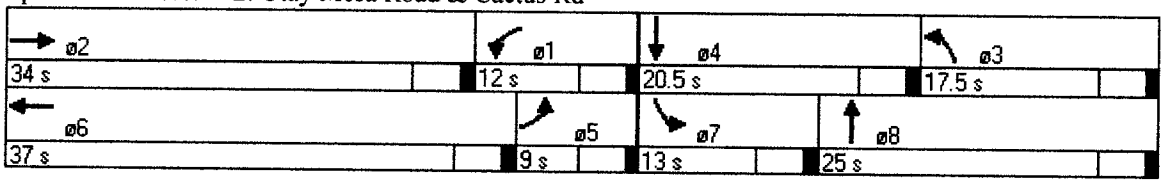


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4764	0	1770	4800	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4764	0	1770	4800	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		21			1				138			4
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	1416	137	81	2282	13	188	1	130	4	1	4
Adj. Flow (vph)	2	1506	146	86	2428	14	200	1	138	4	1	4
Lane Group Flow (vph)	2	1652	0	86	2442	0	200	1	138	4	1	4
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Total Split (s)	9.0	34.0	0.0	12.0	37.0	0.0	17.5	25.0	25.0	13.0	20.5	20.5
Act Effct Green (s)	5.0	48.3		7.7	56.1		15.9	15.9	15.9	6.2	6.2	6.2
Actuated g/C Ratio	0.06	0.58		0.09	0.67		0.19	0.19	0.19	0.07	0.07	0.07
v/c Ratio	0.02	0.60		0.53	0.76		0.60	0.00	0.34	0.03	0.01	0.03
Control Delay	31.5	14.8		47.2	15.7		37.8	24.0	7.2	36.5	36.0	24.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	14.8		47.2	15.7		37.8	24.0	7.2	36.5	36.0	24.5
LOS	C	B		D	B		D	C	A	D	D	C
Approach Delay		14.8			16.8			25.3			31.1	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 33 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 16.7 — Intersection LOS: B
Intersection Capacity Utilization 74.8% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

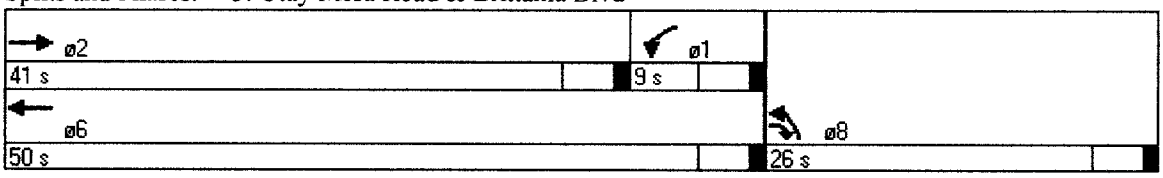


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		488				61
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1349	953	34	382	771	50
Adj. Flow (vph)	1645	1162	41	466	940	61
Lane Group Flow (vph)	1645	1162	41	466	940	61
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Total Split (s)	41.0	26.0	9.0	50.0	26.0	26.0
Act Effct Green (s)	40.6	68.2	5.0	46.0	22.0	22.0
Actuated g/C Ratio	0.53	0.90	0.07	0.61	0.29	0.29
v/c Ratio	0.64	0.79	0.35	0.16	0.95	0.12
Control Delay	15.2	12.9	42.4	3.6	46.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	12.9	42.4	3.6	46.2	6.7
LOS	B	B	D	A	D	A
Approach Delay	14.3			6.7	43.7	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 6 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 20.2 — Intersection LOS: C
Intersection Capacity Utilization 69.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

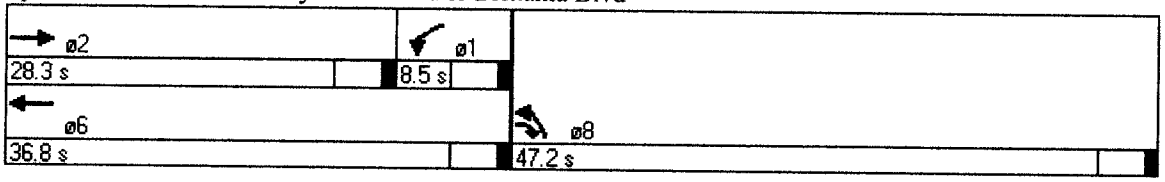


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		712				62
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	593	965	17	1241	1208	60
Adj. Flow (vph)	611	995	18	1279	1245	62
Lane Group Flow (vph)	611	995	18	1279	1245	62
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Total Split (s)	28.3	47.2	8.5	36.8	47.2	47.2
Act Effct Green (s)	33.5	79.0	4.5	36.9	39.1	39.1
Actuated g/C Ratio	0.40	0.94	0.05	0.44	0.47	0.47
v/c Ratio	0.32	0.65	0.19	0.61	0.78	0.08
Control Delay	9.8	11.1	28.8	10.1	22.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	11.1	28.8	10.1	22.5	3.2
LOS	A	B	C	B	C	A
Approach Delay	10.6			10.4	21.5	
Approach LOS	B			B	C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 74 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 13.9 — Intersection LOS: B
Intersection Capacity Utilization 69.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

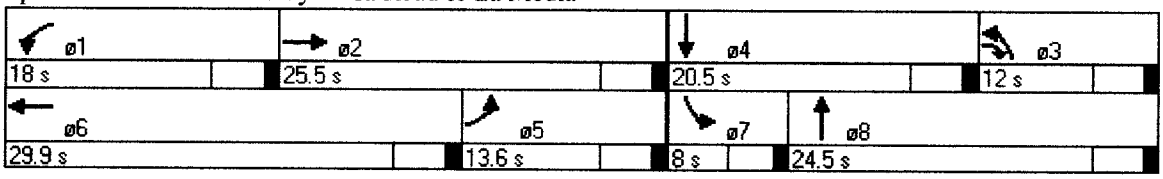


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.985			0.905			0.935	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4757	0	1770	1650	0	3433	1686	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4757	0	1770	1650	0	3433	1686	0
Satd. Flow (RTOR)			318		26			84			36	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	82	785	277	167	263	29	75	42	73	11	41	31
Adj. Flow (vph)	94	902	318	192	302	33	86	48	84	13	47	36
Lane Group Flow (vph)	94	902	318	192	335	0	86	132	0	13	83	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	13.6	25.5	12.0	18.0	29.9	0.0	12.0	24.5	0.0	8.0	20.5	0.0
Act Effct Green (s)	8.9	29.3	38.9	12.9	35.3		9.6	20.2		4.0	8.2	
Actuated g/C Ratio	0.12	0.39	0.51	0.17	0.46		0.13	0.27		0.05	0.11	
v/c Ratio	0.45	0.49	0.33	0.64	0.15		0.38	0.26		0.07	0.39	
Control Delay	22.4	6.7	3.6	31.1	5.7		34.6	10.5		35.2	24.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.4	6.7	3.6	31.1	5.7		34.6	10.5		35.2	24.8	
LOS	C	A	A	C	A		C	B		D	C	
Approach Delay		7.1			14.9			20.0			26.2	
Approach LOS		A			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 29 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 11.2 — Intersection LOS: B
Intersection Capacity Utilization 45.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

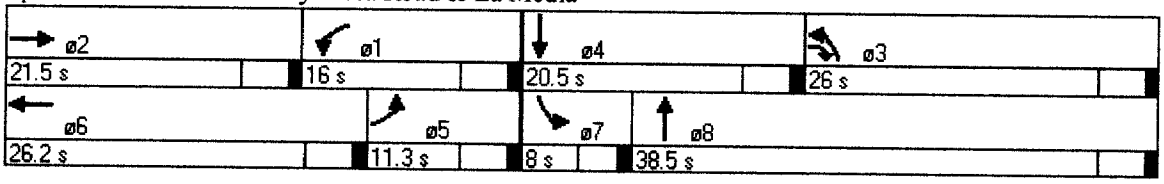


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.992			0.893			0.921	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4779	0	1770	1636	0	3433	1669	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4779	0	1770	1636	0	3433	1669	0
Satd. Flow (RTOR)			298		10			123			60	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	58	310	268	118	613	35	277	45	111	38	83	93
Adj. Flow (vph)	64	344	298	131	681	39	308	50	123	42	92	103
Lane Group Flow (vph)	64	344	298	131	720	0	308	173	0	42	195	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.3	21.5	26.0	16.0	26.2	0.0	26.0	38.5	0.0	8.0	20.5	0.0
Act Effct Green (s)	7.0	25.9	48.7	11.1	31.9		18.8	30.2		4.3	12.2	
Actuated g/C Ratio	0.08	0.31	0.58	0.13	0.38		0.22	0.36		0.05	0.15	
v/c Ratio	0.43	0.23	0.29	0.56	0.40		0.78	0.26		0.24	0.66	
Control Delay	43.5	9.6	1.3	33.7	11.9		44.1	6.9		42.1	33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.5	9.6	1.3	33.7	11.9		44.1	6.9		42.1	33.9	
LOS	D	A	A	C	B		D	A		D	C	
Approach Delay		9.2			15.2			30.7			35.3	
Approach LOS		A			B			C			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.7 — Intersection LOS: B
Intersection Capacity Utilization 54.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

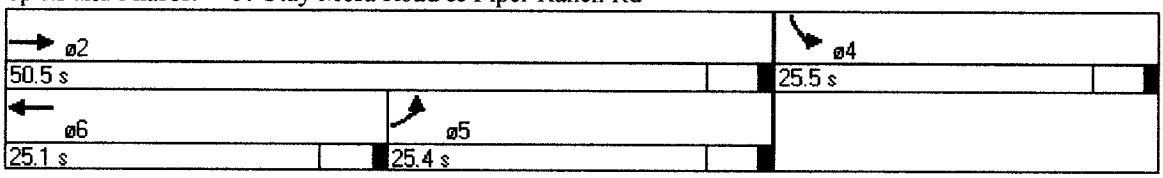


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.975		0.934	0.850
Flt Protected	0.950				0.973	
Satd. Flow (prot)	1770	3539	4958	0	3284	1441
Flt Permitted	0.950				0.973	
Satd. Flow (perm)	1770	3539	4958	0	3284	1441
Satd. Flow (RTOR)			55		60	61
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	180	711	363	73	67	105
Adj. Flow (vph)	207	817	417	84	77	121
Lane Group Flow (vph)	207	817	501	0	137	61
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	25.4	50.5	25.1	0.0	25.5	25.5
Act Effct Green (s)	21.4	60.3	34.9		7.7	7.7
Actuated g/C Ratio	0.28	0.79	0.46		0.10	0.10
v/c Ratio	0.42	0.29	0.22		0.36	0.30
Control Delay	11.6	0.8	10.2		21.2	13.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	11.6	0.8	10.2		21.2	13.3
LOS	B	A	B		C	B
Approach Delay		3.0	10.2		18.8	
Approach LOS		A	B		B	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 50 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 6.9 — Intersection LOS: A
Intersection Capacity Utilization 31.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

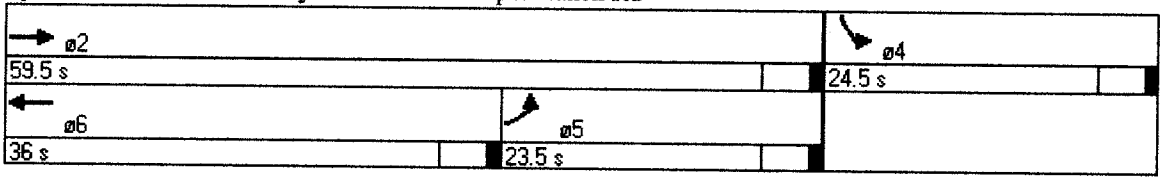


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.983		0.905	0.850
Flt Protected	0.950				0.982	
Satd. Flow (prot)	1770	3539	4999	0	3212	1441
Flt Permitted	0.950				0.982	
Satd. Flow (perm)	1770	3539	4999	0	3212	1441
Satd. Flow (RTOR)			31		202	202
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	167	684	1117	145	116	400
Adj. Flow (vph)	169	691	1128	146	117	404
Lane Group Flow (vph)	169	691	1274	0	319	202
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	23.5	59.5	36.0	0.0	24.5	24.5
Act Effct Green (s)	19.5	66.4	42.9		9.6	9.6
Actuated g/C Ratio	0.23	0.79	0.51		0.11	0.11
v/c Ratio	0.41	0.25	0.50		0.58	0.59
Control Delay	35.3	2.2	10.9		17.3	12.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.3	2.2	10.9		17.3	12.5
LOS	D	A	B		B	B
Approach Delay		8.7	10.9		15.5	
Approach LOS		A	B		B	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 46 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 11.1 — Intersection LOS: B
Intersection Capacity Utilization 51.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

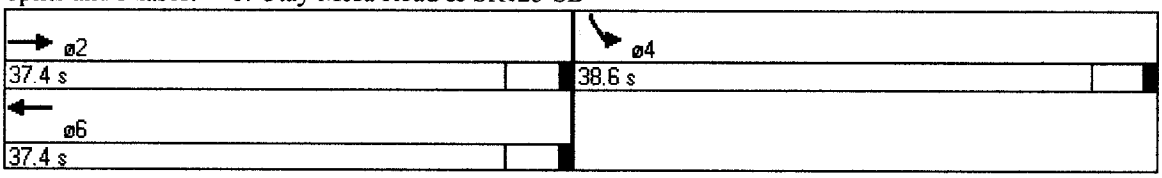


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						267
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	774	220	0	425	224
Adj. Flow (vph)	0	921	262	0	506	267
Lane Group Flow (vph)	0	921	262	0	506	267
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	37.4	37.4	0.0	38.6	38.6
Act Effct Green (s)		51.3	51.3		16.7	16.7
Actuated g/C Ratio		0.68	0.68		0.22	0.22
v/c Ratio		0.27	0.08		0.67	0.48
Control Delay		1.4	4.4		31.2	6.2
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		1.4	4.4		31.2	6.2
LOS		A	A		C	A
Approach Delay		1.4	4.4		22.6	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 23 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 10.2 — Intersection LOS: B
Intersection Capacity Utilization 35.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

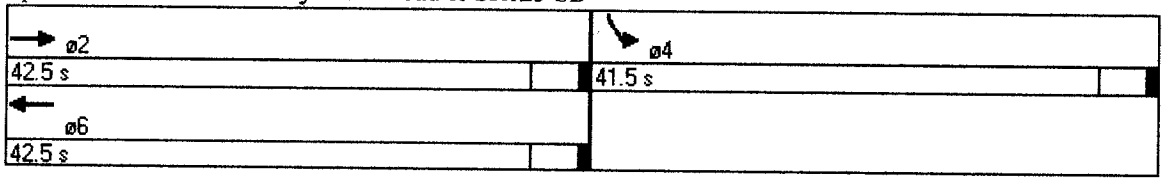


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↖↖	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						115
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	383	693	0	69	110
Adj. Flow (vph)	0	430	779	0	78	124
Lane Group Flow (vph)	0	430	779	0	78	124
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	42.5	42.5	0.0	41.5	41.5
Act Effct Green (s)		71.0	71.0		7.8	7.8
Actuated g/C Ratio		0.85	0.85		0.09	0.09
v/c Ratio		0.10	0.18		0.24	0.49
Control Delay		1.1	1.5		36.5	15.5
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		1.1	1.5		36.5	15.5
LOS		A	A		D	B
Approach Delay		1.1	1.5		23.6	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 56 (67%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 4.5 — Intersection LOS: A
Intersection Capacity Utilization 30.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

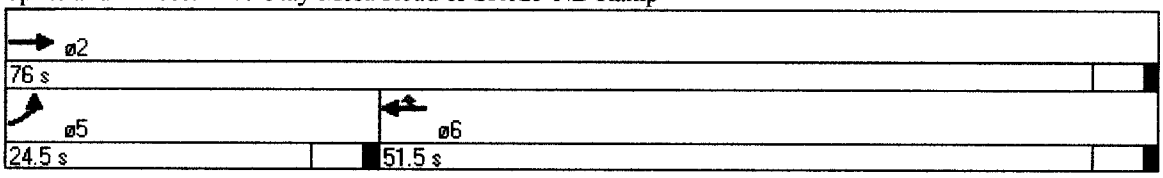


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				44		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1154	220	36	0	0
Adj. Flow (vph)	56	1425	272	44	0	0
Lane Group Flow (vph)	56	1425	272	44	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	24.5	76.0	51.5	51.5	0.0	0.0
Act Effct Green (s)	6.9	76.0	66.8	66.8		
Actuated g/C Ratio	0.09	1.00	0.88	0.88		
v/c Ratio	0.18	0.40	0.09	0.02		
Control Delay	37.7	0.4	0.5	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	37.7	0.4	0.5	0.0		
LOS	D	A	A	A		
Approach Delay		1.8	0.5			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 22 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 1.6 — Intersection LOS: A
Intersection Capacity Utilization 35.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

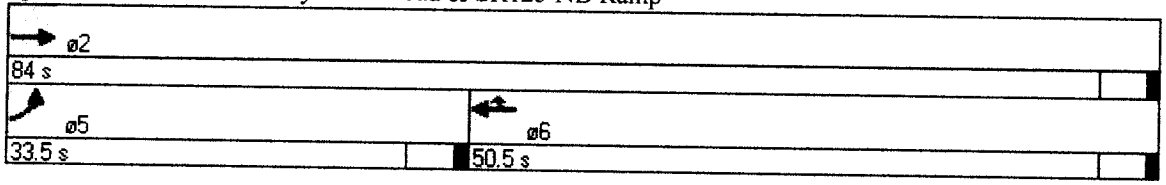


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				331		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	298	693	298	0	0
Adj. Flow (vph)	171	331	770	331	0	0
Lane Group Flow (vph)	171	331	770	331	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	33.5	84.0	50.5	50.5	0.0	0.0
Act Effct Green (s)	8.7	84.0	67.3	67.3		
Actuated g/C Ratio	0.10	1.00	0.80	0.80		
v/c Ratio	0.48	0.09	0.27	0.14		
Control Delay	52.6	0.1	2.3	0.7		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	52.6	0.1	2.3	0.7		
LOS	D	A	A	A		
Approach Delay		17.9	1.8			
Approach LOS		B	A			

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 31 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 6.9 — Intersection LOS: A
Intersection Capacity Utilization 30.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

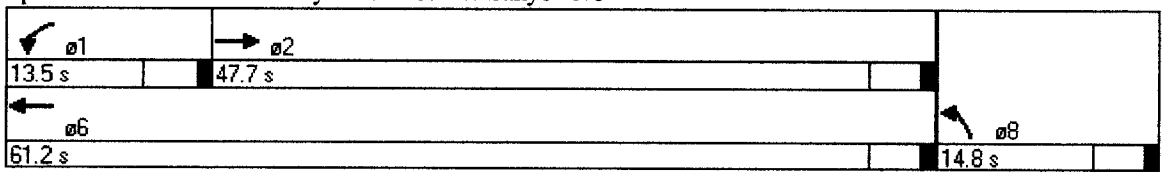


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.937				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3316	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3316	0	1770	1863	3430	0
Satd. Flow (RTOR)	408				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	666	487	4	165	88	3
Adj. Flow (vph)	822	601	5	204	109	4
Lane Group Flow (vph)	1423	0	5	204	113	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	47.7	0.0	13.5	61.2	14.8	0.0
Act Effct Green (s)	60.5		6.3	62.6	8.2	
Actuated g/C Ratio	0.80		0.08	0.82	0.11	
v/c Ratio	0.52		0.03	0.13	0.30	
Control Delay	2.2		22.5	6.6	31.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.2		22.5	6.6	31.8	
LOS	A		C	A	C	
Approach Delay	2.2			6.9	31.8	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 28 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 4.7 — Intersection LOS: A
Intersection Capacity Utilization 44.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

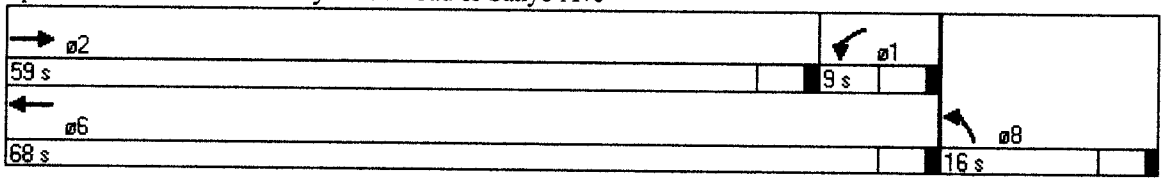


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.906				0.999	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3207	0	1770	1863	3440	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3207	0	1770	1863	3440	0
Satd. Flow (RTOR)	204				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	111	186	14	625	363	4
Adj. Flow (vph)	122	204	15	687	399	4
Lane Group Flow (vph)	326	0	15	687	403	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	59.0	0.0	9.0	68.0	16.0	0.0
Act Effct Green (s)	51.3		14.4	61.4	14.6	
Actuated g/C Ratio	0.61		0.17	0.73	0.17	
v/c Ratio	0.16		0.05	0.50	0.67	
Control Delay	3.9		22.4	5.1	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.9		22.4	5.1	39.2	
LOS	A		C	A	D	
Approach Delay	3.9			5.5	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 24 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 14.6 — Intersection LOS: B
Intersection Capacity Utilization 50.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

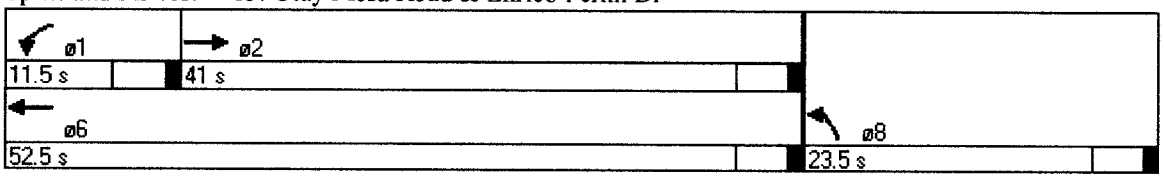


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.978					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1822	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1822	0	1770	1863	1770	1583
Satd. Flow (RTOR)	18					21
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	341	65	2	103	89	15
Adj. Flow (vph)	467	89	3	141	122	21
Lane Group Flow (vph)	556	0	3	141	122	21
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	41.0	0.0	11.5	52.5	23.5	23.5
Act Effct Green (s)	55.4		6.2	57.6	10.4	10.4
Actuated g/C Ratio	0.73		0.08	0.76	0.14	0.14
v/c Ratio	0.42		0.02	0.10	0.50	0.09
Control Delay	8.8		32.5	3.1	33.6	12.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.8		32.5	3.1	33.6	12.5
LOS	A		C	A	C	B
Approach Delay	8.8			3.7	30.5	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 45 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 11.6 — Intersection LOS: B
Intersection Capacity Utilization 33.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

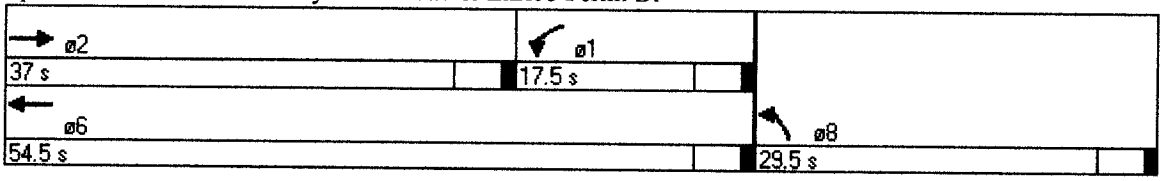


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.958					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1785	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1785	0	1770	1863	1770	1583
Satd. Flow (RTOR)	32					6
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	78	36	10	426	105	5
Adj. Flow (vph)	90	41	12	490	121	6
Lane Group Flow (vph)	131	0	12	490	121	6
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	37.0	0.0	17.5	54.5	29.5	29.5
Act Effct Green (s)	61.4		7.7	64.9	11.1	11.1
Actuated g/C Ratio	0.73		0.09	0.77	0.13	0.13
v/c Ratio	0.10		0.07	0.34	0.52	0.03
Control Delay	1.9		33.9	4.1	56.1	33.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	1.9		33.9	4.1	56.1	33.0
LOS	A		C	A	E	C
Approach Delay	1.9			4.8	55.0	
Approach LOS	A			A	E	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 12.7 — Intersection LOS: B
Intersection Capacity Utilization 30.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	474	1	0	0	0	0	0	0	1	0	0	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	515	1	0	0	0	0	0	0	1	0	0	88

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	516	0	1	88
Volume Left (vph)	515	0	0	0
Volume Right (vph)	0	0	1	88
Hadj (s)	0.23	0.00	-0.57	-0.57
Departure Headway (s)	4.3	4.7	4.7	4.6
Degree Utilization, x	0.62	0.00	0.00	0.11
Capacity (veh/h)	818	750	682	710
Control Delay (s)	14.3	7.7	7.7	8.1
Approach Delay (s)	14.3	0.0	7.7	8.1
Approach LOS	B	A	A	A

Intersection Summary			
Delay	13.4		
HCM Level of Service	B		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	0	0	0	0	0	2	0	0	0	0	343
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	0	0	0	0	0	2	0	0	0	0	373

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	65	0	2	373
Volume Left (vph)	65	0	2	0
Volume Right (vph)	0	0	0	373
Hadj (s)	0.23	0.00	0.23	-0.57
Departure Headway (s)	4.8	4.7	4.6	3.5
Degree Utilization, x	0.09	0.00	0.00	0.36
Capacity (veh/h)	686	708	746	1010
Control Delay (s)	8.3	7.7	7.6	8.5
Approach Delay (s)	8.3	0.0	7.6	8.5
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.5		
HCM Level of Service	A		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	40	28	4	79	81	23	41	3	88	272	72
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	44	31	4	87	89	25	45	3	97	299	79

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	82	91	89	25	48	396	79
Volume Left (vph)	8	4	0	25	0	97	0
Volume Right (vph)	31	0	89	0	3	0	79
Hadj (s)	-0.17	0.06	-0.67	0.53	-0.01	0.16	-0.67
Departure Headway (s)	6.0	6.1	5.4	6.4	5.8	5.5	4.7
Degree Utilization, x	0.14	0.15	0.13	0.04	0.08	0.61	0.10
Capacity (veh/h)	555	548	619	533	581	636	739
Control Delay (s)	9.9	9.0	8.0	8.4	8.1	15.4	7.0
Approach Delay (s)	9.9	8.5		8.2		14.0	
Approach LOS	A	A		A		B	

Intersection Summary			
Delay	11.8		
HCM Level of Service	B		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	60	15	8	82	129	36	175	1	40	131	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	68	17	9	93	147	41	199	1	45	149	43

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	142	102	147	41	200	194	43
Volume Left (vph)	57	9	0	41	0	45	0
Volume Right (vph)	17	0	147	0	1	0	43
Hadj (s)	0.04	0.08	-0.67	0.53	0.03	0.15	-0.67
Departure Headway (s)	6.2	6.2	5.4	6.5	6.0	6.1	5.3
Degree Utilization, x	0.25	0.17	0.22	0.07	0.33	0.33	0.06
Capacity (veh/h)	535	544	618	522	568	554	632
Control Delay (s)	11.3	9.3	8.7	8.8	10.8	10.9	7.5
Approach Delay (s)	11.3	8.9		10.4		10.3	
Approach LOS	B	A		B		B	

Intersection Summary			
Delay	10.1		
HCM Level of Service	B		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	86	28	5	68	2	33	4	9	2	0	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	96	31	6	76	2	37	4	10	2	0	70
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	78			127			268	238	63	186	252	39
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	78			127			268	238	63	186	252	39
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	99	99	100	100	93
cM capacity (veh/h)	1519			1457			610	651	988	737	639	1024

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	19	64	63	6	50	27	41	10	72
Volume Left	19	0	0	6	0	0	37	0	2
Volume Right	0	0	31	0	0	2	0	10	70
cSH	1519	1700	1700	1457	1700	1700	615	988	1012
Volume to Capacity	0.01	0.04	0.04	0.00	0.03	0.02	0.07	0.01	0.07
Queue Length 95th (ft)	1	0	0	0	0	0	5	1	6
Control Delay (s)	7.4	0.0	0.0	7.5	0.0	0.0	11.3	8.7	8.8
Lane LOS	A			A			B	A	A
Approach Delay (s)	1.0			0.5			10.8		8.8
Approach LOS							B		A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	21	56	24	26	127	1	82	3	10	0	2	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	24	64	28	30	146	1	94	3	11	0	2	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	147			92			272	333	46	300	347	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	147			92			272	333	46	300	347	74
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			85	99	99	100	100	99
cM capacity (veh/h)	1432			1501			631	564	1014	602	554	973

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	43	49	30	97	50	98	11	14
Volume Left	24	0	0	30	0	0	94	0	0
Volume Right	0	0	28	0	0	1	0	11	11
cSH	1432	1700	1700	1501	1700	1700	629	1014	864
Volume to Capacity	0.02	0.03	0.03	0.02	0.06	0.03	0.16	0.01	0.02
Queue Length 95th (ft)	1	0	0	2	0	0	14	1	1
Control Delay (s)	7.6	0.0	0.0	7.4	0.0	0.0	11.8	8.6	9.2
Lane LOS	A			A			B	A	A
Approach Delay (s)	1.6			1.3			11.4		9.2
Approach LOS							B		A

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	31	37	4	62	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	40	47	5	79	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			87		153	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			87		153	44
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1507		820	1017

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	26	61	5	79	29	14
Volume Left	0	0	5	0	29	0
Volume Right	0	47	0	0	0	14
cSH	1700	1700	1507	1700	820	1017
Volume to Capacity	0.02	0.04	0.00	0.05	0.04	0.01
Queue Length 95th (ft)	0	0	0	0	3	1
Control Delay (s)	0.0	0.0	7.4	0.0	9.6	8.6
Lane LOS			A		A	A
Approach Delay (s)	0.0		0.4		9.2	
Approach LOS					A	

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	19	36	1	75	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	23	43	1	89	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			65		136	33
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			65		136	33
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	100
cM capacity (veh/h)			1535		843	1033

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	15	50	1	89	65	1
Volume Left	0	0	1	0	65	0
Volume Right	0	43	0	0	0	1
cSH	1700	1700	1535	1700	843	1033
Volume to Capacity	0.01	0.03	0.00	0.05	0.08	0.00
Queue Length 95th (ft)	0	0	0	0	6	0
Control Delay (s)	0.0	0.0	7.3	0.0	9.6	8.5
Lane LOS			A		A	A
Approach Delay (s)	0.0		0.1		9.6	
Approach LOS					A	

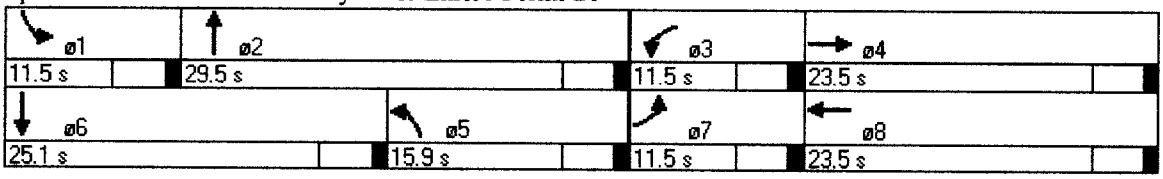
Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	13.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.880	0.850			0.850		0.994			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1557	1504	1770	1863	1583	1770	3518	0	1770	3500	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1557	1504	1770	1863	1583	1770	3518	0	1770	3500	0
Satd. Flow (RTOR)		20	22			5		4			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	4	31	6	2	4	58	71	3	3	75	6
Adj. Flow (vph)	9	5	42	8	3	5	78	96	4	4	101	8
Lane Group Flow (vph)	9	25	22	8	3	5	78	100	0	4	109	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	11.5	23.5	23.5	11.5	23.5	23.5	15.9	29.5	0.0	11.5	25.1	0.0
Act Effct Green (s)	6.4	6.6	6.6	6.3	6.6	6.6	8.7	62.5		6.3	56.4	
Actuated g/C Ratio	0.08	0.09	0.09	0.08	0.09	0.09	0.11	0.82		0.08	0.74	
v/c Ratio	0.06	0.16	0.14	0.05	0.02	0.03	0.38	0.03		0.03	0.04	
Control Delay	32.6	19.1	16.1	32.7	31.5	20.8	29.5	4.0		20.0	9.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	32.6	19.1	16.1	32.7	31.5	20.8	29.5	4.0		20.0	9.0	
LOS	C	B	B	C	C	C	C	A		B	A	
Approach Delay		20.1			28.7			15.2			9.4	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 10 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.38
Intersection Signal Delay: 14.7 — Intersection LOS: B
Intersection Capacity Utilization 22.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

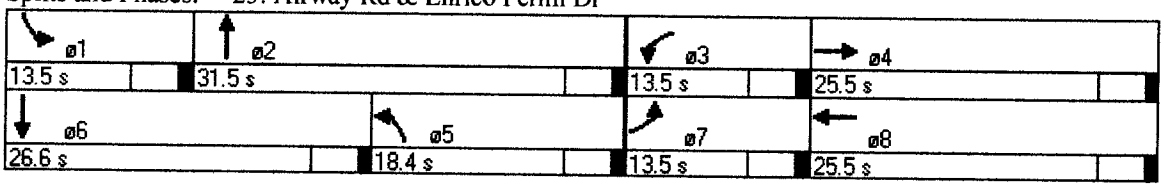


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.991			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3507	0	1770	3504	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3507	0	1770	3504	0
Satd. Flow (RTOR)			12			4		7			5	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	3	10	6	5	3	67	89	6	5	60	4
Adj. Flow (vph)	9	4	12	7	6	4	82	109	7	6	73	5
Lane Group Flow (vph)	9	4	12	7	6	4	82	116	0	6	78	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	13.5	25.5	25.5	13.5	25.5	25.5	18.4	31.5	0.0	13.5	26.6	0.0
Act Effct Green (s)	6.4	6.4	6.4	6.3	6.3	6.3	10.4	76.4		6.4	63.9	
Actuated g/C Ratio	0.08	0.08	0.08	0.08	0.08	0.08	0.12	0.91		0.08	0.76	
v/c Ratio	0.07	0.03	0.10	0.05	0.04	0.03	0.37	0.04		0.04	0.03	
Control Delay	36.7	36.0	20.6	36.7	36.4	24.3	37.3	1.3		37.0	7.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	36.7	36.0	20.6	36.7	36.4	24.3	37.3	1.3		37.0	7.8	
LOS	D	D	C	D	D	C	D	A		D	A	
Approach Delay		28.9			33.7			16.2			9.8	
Approach LOS		C			C			B			A	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 53 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 16.5 — Intersection LOS: B
Intersection Capacity Utilization 22.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

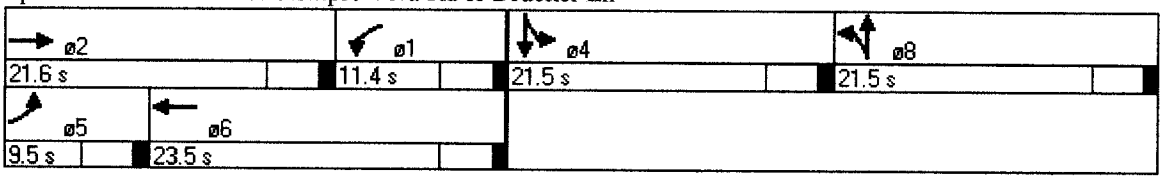


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.975			0.869			0.943	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	4948	0	1770	4958	0	1770	1619	0	0	1718	0
Flt Permitted	0.950			0.950			0.950				0.978	
Satd. Flow (perm)	1770	4948	0	1770	4958	0	1770	1619	0	0	1718	0
Satd. Flow (RTOR)		25			47			7			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	18	104	23	45	220	43	13	1	6	28	7	26
Adj. Flow (vph)	20	113	25	49	239	47	14	1	7	30	8	28
Lane Group Flow (vph)	20	138	0	49	286	0	14	8	0	0	66	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	9.5	21.6	0.0	11.4	23.5	0.0	21.5	21.5	0.0	21.5	21.5	0.0
Act Effct Green (s)	6.9	42.7		7.0	44.7		6.7	6.7			7.8	
Actuated g/C Ratio	0.09	0.56		0.09	0.59		0.09	0.09			0.10	
v/c Ratio	0.12	0.05		0.30	0.10		0.09	0.05			0.33	
Control Delay	33.0	8.1		38.0	7.9		32.8	20.9			24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	33.0	8.1		38.0	7.9		32.8	20.9			24.8	
LOS	C	A		D	A		C	C			C	
Approach Delay		11.3			12.3			28.4			24.8	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 48 (63%), Referenced to phase 2:EBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.33
Intersection Signal Delay: 14.1 — Intersection LOS: B
Intersection Capacity Utilization 28.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

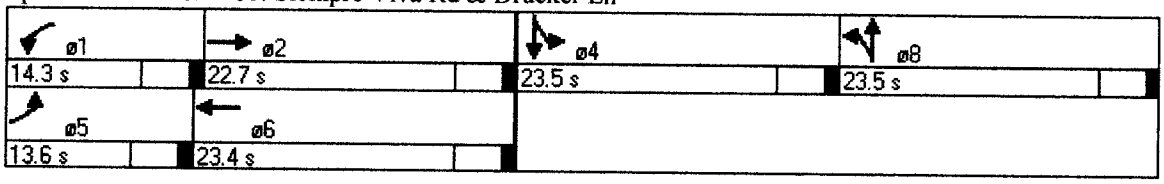


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.961			0.864			0.978	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	4984	0	1770	4887	0	1770	1609	0	0	1778	0
Flt Permitted	0.950			0.950			0.950				0.976	
Satd. Flow (perm)	1770	4984	0	1770	4887	0	1770	1609	0	0	1778	0
Satd. Flow (RTOR)		31			87			19			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	44	208	32	58	224	79	26	2	17	49	33	16
Adj. Flow (vph)	48	229	35	64	246	87	29	2	19	54	36	18
Lane Group Flow (vph)	48	264	0	64	333	0	29	21	0	0	108	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	13.6	22.7	0.0	14.3	23.4	0.0	23.5	23.5	0.0	23.5	23.5	0.0
Act Effct Green (s)	8.2	46.2		8.5	46.4		7.3	7.3			10.2	
Actuated g/C Ratio	0.10	0.55		0.10	0.55		0.09	0.09			0.12	
v/c Ratio	0.28	0.10		0.36	0.12		0.19	0.13			0.48	
Control Delay	38.6	10.3		42.1	3.9		37.8	18.7			37.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	38.6	10.3		42.1	3.9		37.8	18.7			37.2	
LOS	D	B		D	A		D	B			D	
Approach Delay		14.7			10.1			29.8			37.2	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 47 (56%), Referenced to phase 2:EBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 16.2 — Intersection LOS: B
Intersection Capacity Utilization 31.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

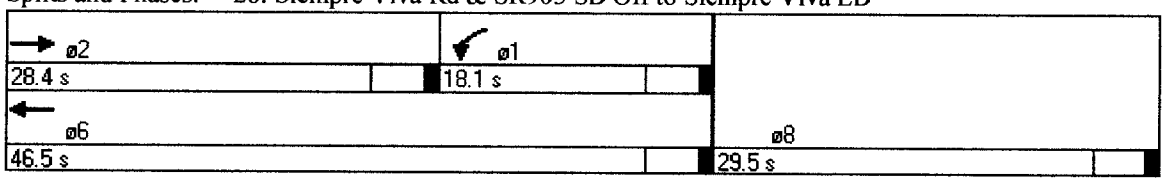


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.977					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4968	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4968	0	3433	5085	0	2787
Satd. Flow (RTOR)	43					1163
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	221	40	74	527	0	271
Adj. Flow (vph)	240	43	80	573	0	295
Lane Group Flow (vph)	283	0	80	573	0	295
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	28.4	0.0	18.1	46.5	0.0	29.5
Act Effct Green (s)	47.5		12.5	62.0		6.0
Actuated g/C Ratio	0.62		0.16	0.82		0.08
v/c Ratio	0.09		0.14	0.14		0.23
Control Delay	4.3		26.8	1.6		0.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	4.3		26.8	1.6		0.4
LOS	A		C	A		A
Approach Delay	4.3			4.7		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 22 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.23
Intersection Signal Delay: 3.6 — Intersection LOS: A
Intersection Capacity Utilization 21.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

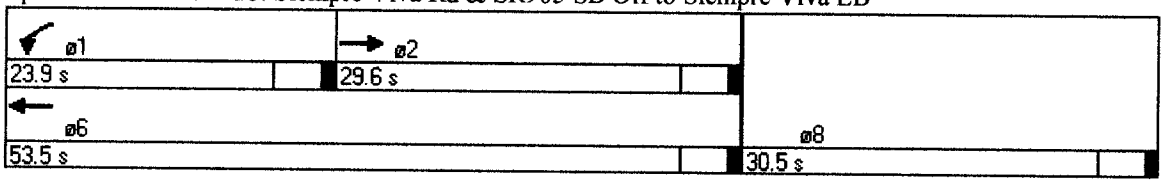


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.944					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4801	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4801	0	3433	5085	0	2787
Satd. Flow (RTOR)	183					1056
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	366	216	207	484	0	128
Adj. Flow (vph)	373	220	211	494	0	131
Lane Group Flow (vph)	593	0	211	494	0	131
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	29.6	0.0	23.9	53.5	0.0	30.5
Act Effct Green (s)	58.0		10.0	72.8		6.0
Actuated g/C Ratio	0.69		0.12	0.87		0.07
v/c Ratio	0.18		0.52	0.11		0.11
Control Delay	2.1		36.3	1.9		0.2
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	2.1		36.3	1.9		0.2
LOS	A		D	A		A
Approach Delay	2.1			12.2		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 26 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 6.9 — Intersection LOS: A
Intersection Capacity Utilization 24.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	492	392	0	0	209
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	523	417	0	0	222
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked						
vC, conflicting volume	417				591	139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	417				591	139
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	75
cM capacity (veh/h)	1138				438	884

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	174	174	174	139	139	139	222
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	222
cSH	1700	1700	1700	1700	1700	1700	884
Volume to Capacity	0.10	0.10	0.10	0.08	0.08	0.08	0.25
Queue Length 95th (ft)	0	0	0	0	0	0	25
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.4
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.4
Approach LOS							B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	494	535	0	0	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	504	546	0	0	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked						
vC, conflicting volume	546				714	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	546				714	182
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	81
cM capacity (veh/h)	1019				366	829

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	168	168	168	182	182	182	159
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	159
cSH	1700	1700	1700	1700	1700	1700	829
Volume to Capacity	0.10	0.10	0.10	0.11	0.11	0.11	0.19
Queue Length 95th (ft)	0	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.4
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.4
Approach LOS							B

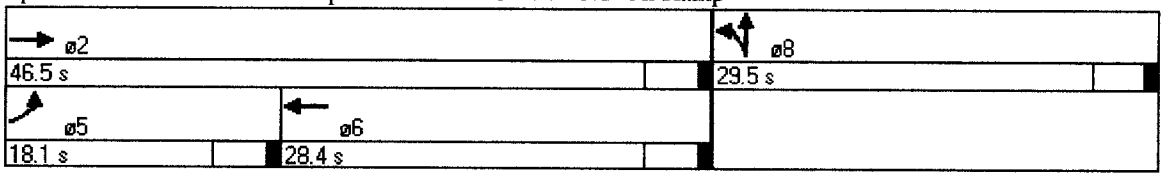
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.944	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4537	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4537	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					140	140			238			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	74	418	0	0	228	269	164	3	228	0	0	0
Adj. Flow (vph)	77	435	0	0	238	280	171	3	238	0	0	0
Lane Group Flow (vph)	77	435	0	0	378	140	0	174	238	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	18.1	46.5	0.0	0.0	28.4	28.4	29.5	29.5	29.5	0.0	0.0	0.0
Act Effct Green (s)	7.3	55.2			48.0	48.0		12.8	12.8			
Actuated g/C Ratio	0.10	0.73			0.63	0.63		0.17	0.17			
v/c Ratio	0.23	0.12			0.13	0.15		0.58	0.36			
Control Delay	34.4	2.3			2.9	1.9		36.4	5.3			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	34.4	2.3			2.9	1.9		36.4	5.3			
LOS	C	A			A	A		D	A			
Approach Delay		7.2			2.6			18.5				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 53 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 8.8 — Intersection LOS: A
Intersection Capacity Utilization 33.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

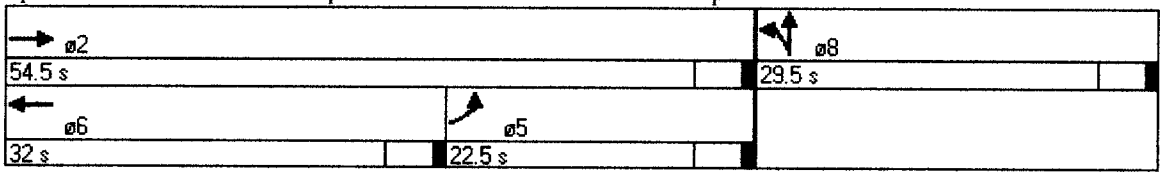


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.962	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4623	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4623	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					108	257			172			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	186	308	0	0	477	401	58	1	162	0	0	0
Adj. Flow (vph)	198	328	0	0	507	427	62	1	172	0	0	0
Lane Group Flow (vph)	198	328	0	0	677	257	0	63	172	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	22.5	54.5	0.0	0.0	32.0	32.0	29.5	29.5	29.5	0.0	0.0	0.0
Act Effct Green (s)	10.5	67.4			52.9	52.9		8.6	8.6			
Actuated g/C Ratio	0.12	0.80			0.63	0.63		0.10	0.10			
v/c Ratio	0.46	0.08			0.23	0.27		0.35	0.39			
Control Delay	38.3	1.0			2.2	0.8		39.7	8.5			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	38.3	1.0			2.2	0.8		39.7	8.5			
LOS	D	A			A	A		D	A			
Approach Delay		15.0			1.8			16.9				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 40 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 8.0 — Intersection LOS: A
Intersection Capacity Utilization 35.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

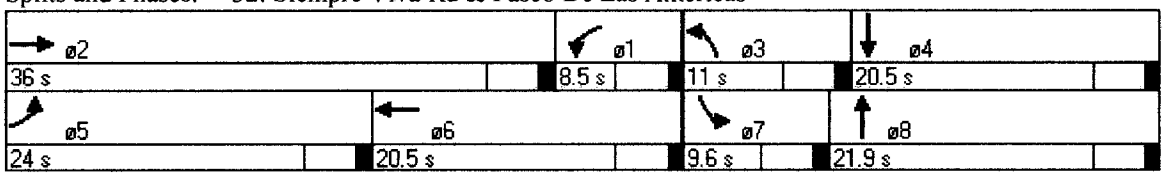


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.993				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3391	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3391	0
Satd. Flow (RTOR)			121		6				4		68	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	382	104	114	8	127	7	88	31	4	54	192	74
Adj. Flow (vph)	406	111	121	9	135	7	94	33	4	57	204	79
Lane Group Flow (vph)	406	111	121	9	142	0	94	33	4	57	283	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	24.0	36.0	36.0	8.5	20.5	0.0	11.0	21.9	21.9	9.6	20.5	0.0
Act Effct Green (s)	22.5	47.2	47.2	4.5	22.4		6.9	13.4	13.4	5.6	10.3	
Actuated g/C Ratio	0.30	0.62	0.62	0.06	0.29		0.09	0.18	0.18	0.07	0.14	
v/c Ratio	0.78	0.04	0.12	0.09	0.14		0.59	0.05	0.01	0.44	0.54	
Control Delay	34.1	6.3	1.6	39.6	25.1		49.5	25.8	17.0	44.4	26.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	34.1	6.3	1.6	39.6	25.1		49.5	25.8	17.0	44.4	26.5	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		23.1			26.0			42.5			29.5	
Approach LOS		C			C			D			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 27.2 — Intersection LOS: C
Intersection Capacity Utilization 50.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

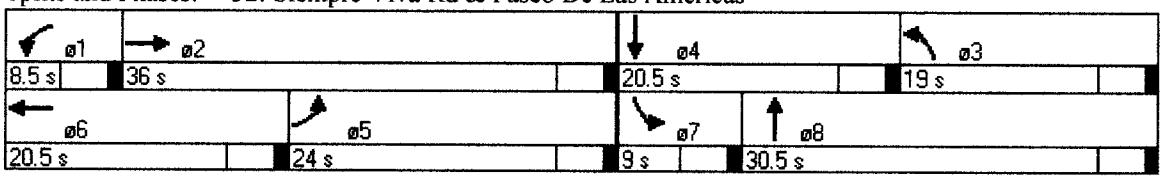


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.993				0.850		0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3253	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3253	0
Satd. Flow (RTOR)			98		5				5		98	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	358	59	96	17	236	12	266	134	5	5	82	96
Adj. Flow (vph)	365	60	98	17	241	12	271	137	5	5	84	98
Lane Group Flow (vph)	365	60	98	17	253	0	271	137	5	5	182	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	24.0	36.0	36.0	8.5	20.5	0.0	19.0	30.5	30.5	9.0	20.5	0.0
Act Effct Green (s)	20.0	41.4	41.4	5.6	20.8		19.1	29.4	29.4	5.0	8.1	
Actuated g/C Ratio	0.24	0.49	0.49	0.07	0.25		0.23	0.35	0.35	0.06	0.10	
v/c Ratio	0.87	0.02	0.12	0.14	0.29		0.67	0.11	0.01	0.05	0.45	
Control Delay	52.7	13.8	3.9	52.8	46.1		38.1	18.4	11.6	37.4	19.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	52.7	13.8	3.9	52.8	46.1		38.1	18.4	11.6	37.4	19.8	
LOS	D	B	A	D	D		D	B	B	D	B	
Approach Delay		39.1			46.5			31.3			20.3	
Approach LOS		D			D			C			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 37 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 35.7 — Intersection LOS: D
Intersection Capacity Utilization 60.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	42	11	12	103	8	29	10	0	3	5	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	20	53	14	15	130	10	37	13	0	4	6	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1284							
pX, platoon unblocked												
vC, conflicting volume	141			67			222	272	34	239	273	70
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			67			222	272	34	239	273	70
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			95	98	100	99	99	98
cM capacity (veh/h)	1440			1532			680	619	1032	672	617	978

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	20	35	32	15	87	54	49	10	23
Volume Left	20	0	0	15	0	0	37	4	0
Volume Right	0	0	14	0	0	10	0	0	23
cSH	1440	1700	1700	1532	1700	1700	663	637	978
Volume to Capacity	0.01	0.02	0.02	0.01	0.05	0.03	0.07	0.02	0.02
Queue Length 95th (ft)	1	0	0	1	0	0	6	1	2
Control Delay (s)	7.5	0.0	0.0	7.4	0.0	0.0	10.9	10.7	8.8
Lane LOS	A			A			B	B	A
Approach Delay (s)	1.7			0.7			10.9	9.4	
Approach LOS							B	A	

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	40	41	28	9	209	1	55	9	3	1	10	46
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	47	48	33	10	243	1	64	10	3	1	12	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1284							
pX, platoon unblocked												
vC, conflicting volume	244			80			359	422	40	390	438	122
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	244			80			359	422	40	390	438	122
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			88	98	100	100	98	94
cM capacity (veh/h)	1319			1516			512	500	1022	516	490	906

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	47	32	48	10	162	82	78	13	53
Volume Left	47	0	0	10	0	0	64	1	0
Volume Right	0	0	33	0	0	1	3	0	53
cSH	1319	1700	1700	1516	1700	1700	522	492	906
Volume to Capacity	0.04	0.02	0.03	0.01	0.10	0.05	0.15	0.03	0.06
Queue Length 95th (ft)	3	0	0	1	0	0	13	2	5
Control Delay (s)	7.8	0.0	0.0	7.4	0.0	0.0	13.1	12.5	9.2
Lane LOS	A			A			B	B	A
Approach Delay (s)	2.9			0.3			13.1	9.9	
Approach LOS							B	A	

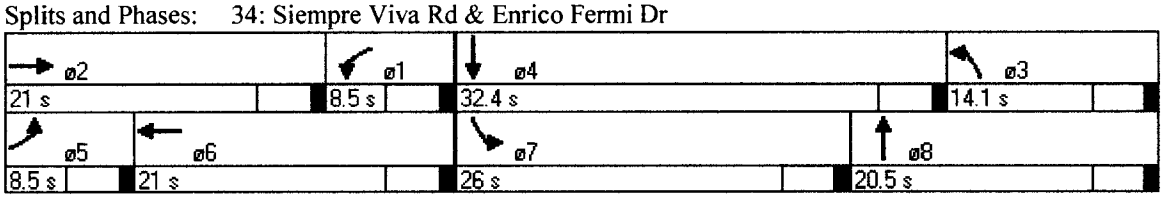
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.942			0.925						0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1755	0	1770	3274	0	1770	3539	0	1770	3320	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1755	0	1770	3274	0	1770	3539	0	1770	3320	0
Satd. Flow (RTOR)		12			11						17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	16	10	7	9	9	89	75	0	1	20	14
Adj. Flow (vph)	24	19	12	8	11	11	107	90	0	1	24	17
Lane Group Flow (vph)	24	31	0	8	22	0	107	90	0	1	41	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	8.5	21.0	0.0	8.5	21.0	0.0	14.1	20.5	0.0	26.0	32.4	0.0
Act Effct Green (s)	6.6	47.8		4.5	45.0		10.4	16.5		6.1	6.2	
Actuated g/C Ratio	0.09	0.63		0.06	0.59		0.14	0.22		0.08	0.08	
v/c Ratio	0.08	0.03		0.08	0.01		0.44	0.12		0.01	0.14	
Control Delay	28.9	3.9		35.4	8.2		34.9	23.1		46.0	34.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.9	3.9		35.4	8.2		34.9	23.1		46.0	34.0	
LOS	C	A		D	A		C	C		D	C	
Approach Delay		14.8			15.5			29.5			34.3	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 36 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 26.3 — Intersection LOS: C
Intersection Capacity Utilization 25.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

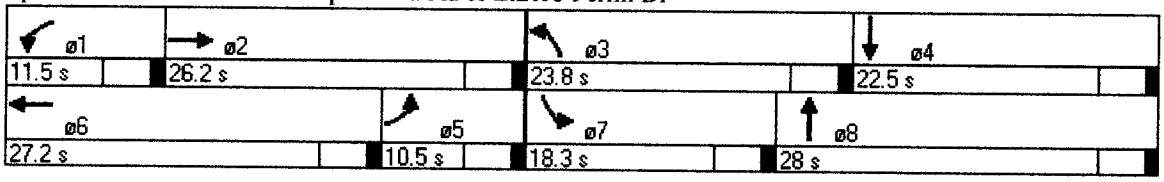


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.900			0.950						0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1676	0	1770	3362	0	1770	3539	0	1770	3210	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1676	0	1770	3362	0	1770	3539	0	1770	3210	0
Satd. Flow (RTOR)		4			9						41	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	22	2	4	11	16	8	186	115	0	3	23	37
Adj. Flow (vph)	24	2	4	12	18	9	204	126	0	3	25	41
Lane Group Flow (vph)	24	6	0	12	27	0	204	126	0	3	66	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	10.5	26.2	0.0	11.5	27.2	0.0	23.8	28.0	0.0	18.3	22.5	0.0
Act Effct Green (s)	6.3	47.8		6.7	46.0		14.9	23.7		6.2	6.9	
Actuated g/C Ratio	0.08	0.57		0.08	0.55		0.18	0.28		0.07	0.08	
v/c Ratio	0.09	0.01		0.09	0.01		0.65	0.13		0.02	0.22	
Control Delay	41.0	10.8		35.9	10.6		41.5	22.5		40.3	24.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.0	10.8		35.9	10.6		41.5	22.5		40.3	24.1	
LOS	D	B		D	B		D	C		D	C	
Approach Delay		34.9			18.4			34.3			24.8	
Approach LOS		C			B			C			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 46 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 31.6 — Intersection LOS: C
Intersection Capacity Utilization 30.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

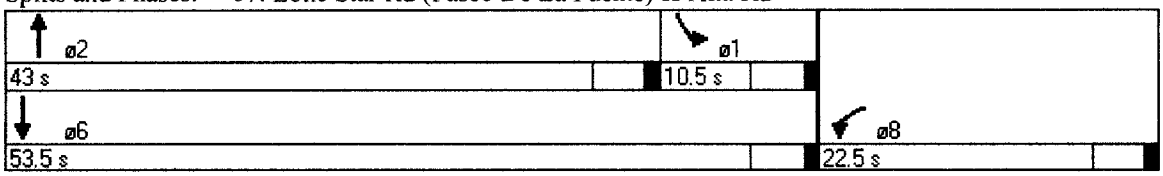


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.998			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1859	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1859	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	2	470	8	0	81
Adj. Flow (vph)	2	2	511	9	0	88
Lane Group Flow (vph)	2	2	520	0	0	88
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	22.5	22.5	43.0	0.0	10.5	53.5
Act Effct Green (s)	6.1	6.1	117.1			117.1
Actuated g/C Ratio	0.05	0.05	0.98			0.98
v/c Ratio	0.02	0.03	0.29			0.05
Control Delay	16.5	12.0	0.8			0.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	16.5	12.0	0.8			0.4
LOS	B	B	A			A
Approach Delay	14.3		0.8			0.4
Approach LOS	B		A			A

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.29
Intersection Signal Delay: 0.8 — Intersection LOS: A
Intersection Capacity Utilization 35.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd

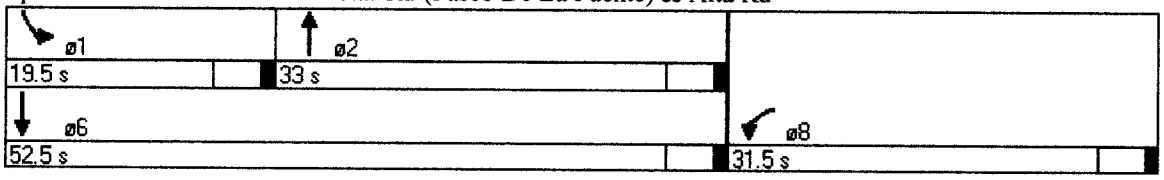


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1837	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1837	0	1770	1863
Satd. Flow (RTOR)		1	7			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	8	1	54	6	2	335
Adj. Flow (vph)	9	1	59	7	2	364
Lane Group Flow (vph)	9	1	66	0	2	364
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	31.5	31.5	33.0	0.0	19.5	52.5
Act Effct Green (s)	6.4	6.4	78.8		6.1	80.9
Actuated g/C Ratio	0.08	0.08	0.94		0.07	0.96
v/c Ratio	0.07	0.01	0.04		0.02	0.20
Control Delay	36.9	28.0	1.7		36.5	0.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.9	28.0	1.7		36.5	0.8
LOS	D	C	A		D	A
Approach Delay	36.0		1.7			1.0
Approach LOS	D		A			A

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.20
Intersection Signal Delay: 1.9 — Intersection LOS: A
Intersection Capacity Utilization 27.6% — ICU Level of Service A
Analysis Period (min) 15

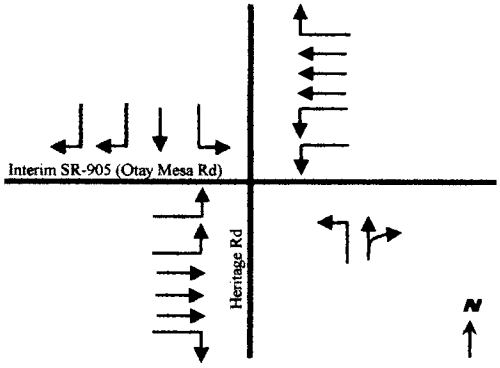
Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd



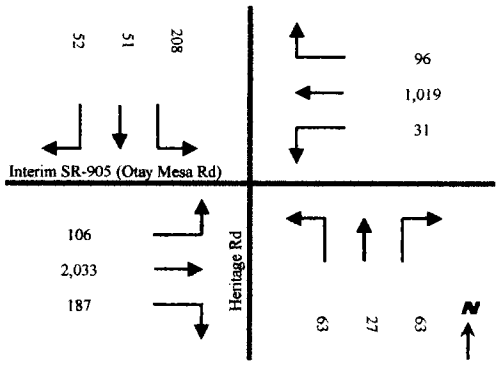
Existing - ILV Analysis

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Heritage Rd
Analyst:	*VSH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

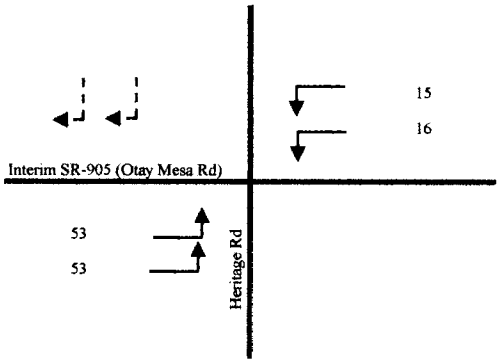
LANE GEOMETRY



TRAFFIC VOLUMES

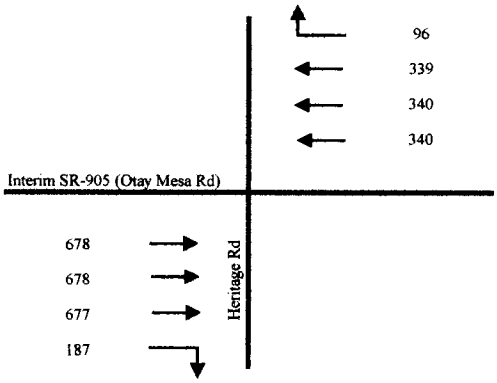


PHASE 1



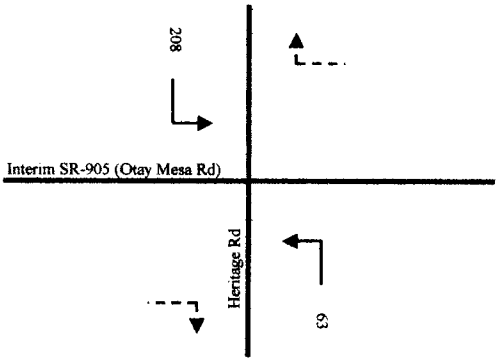
Phase 1 Critical ILV: 53

PHASE 2



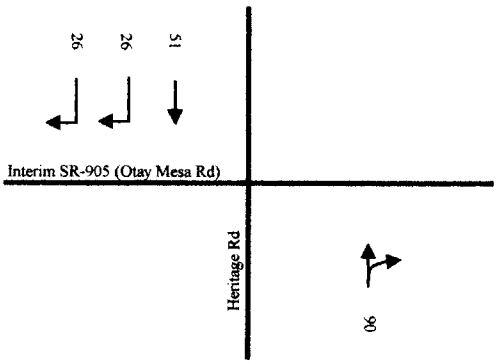
Phase 2 Critical ILV: 678

PHASE 3



Phase 3 Critical ILV: 208

PHASE 4



Phase 4 Critical ILV: 90

GRAND TOTAL ILV: **1,029**

OPERATING CONDITION **STABLE**

LEGEND

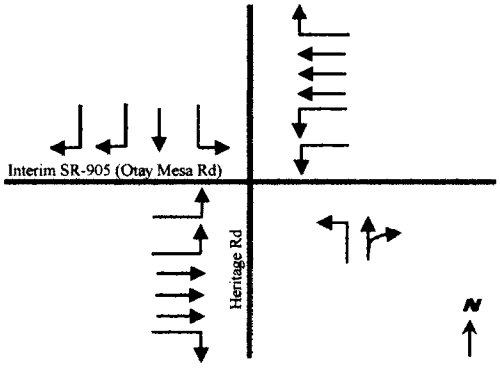
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

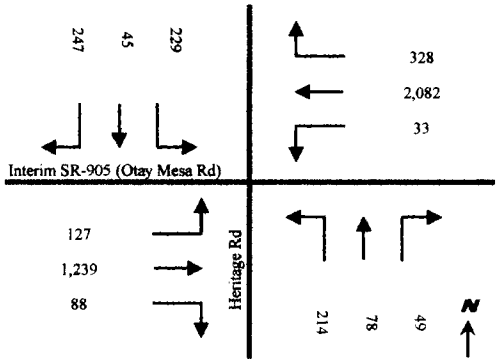
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Heritage Rd
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

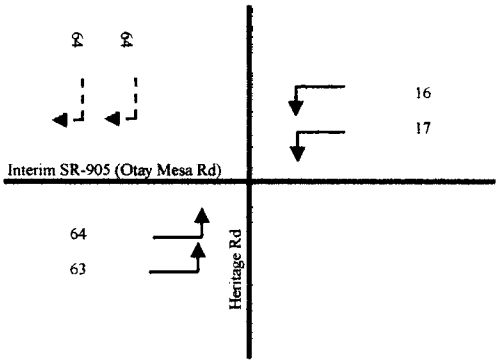
LANE GEOMETRY



TRAFFIC VOLUMES

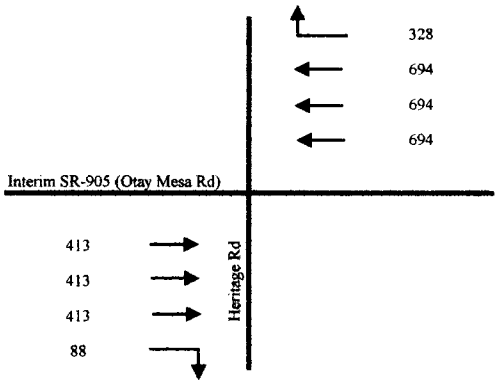


PHASE 1



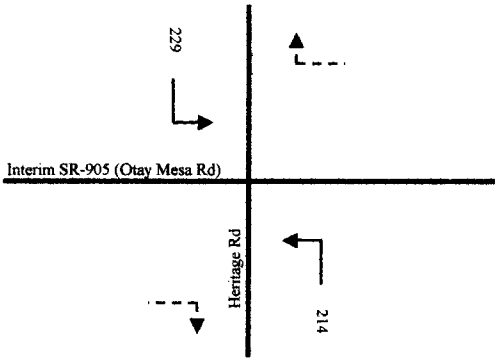
Phase 1 Critical ILV: 64

PHASE 2



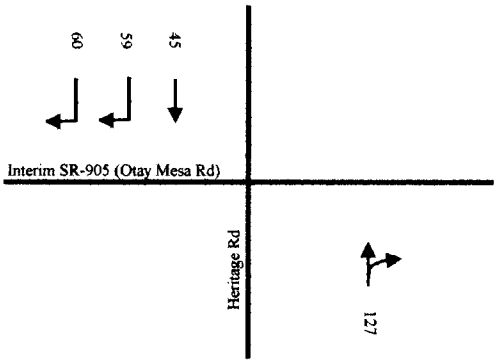
Phase 2 Critical ILV: 694

PHASE 3



Phase 3 Critical ILV: 229

PHASE 4



Phase 4 Critical ILV: 127

GRAND TOTAL ILV: 1,114

OPERATING CONDITION STABLE

LEGEND

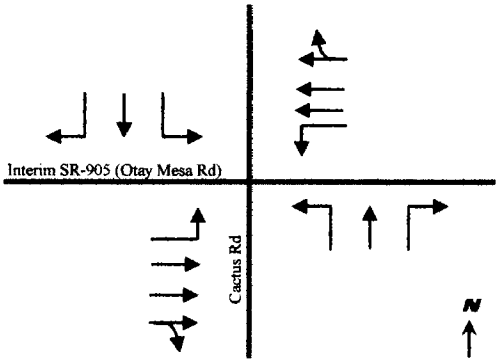
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

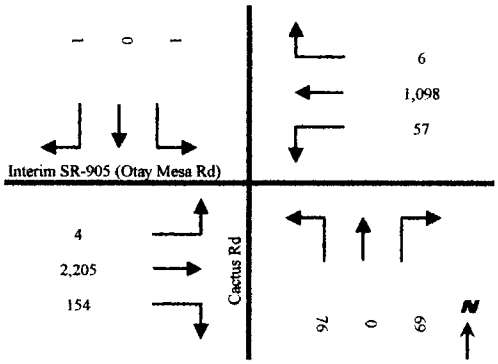
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Cactus Rd
Analyst:	*USH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

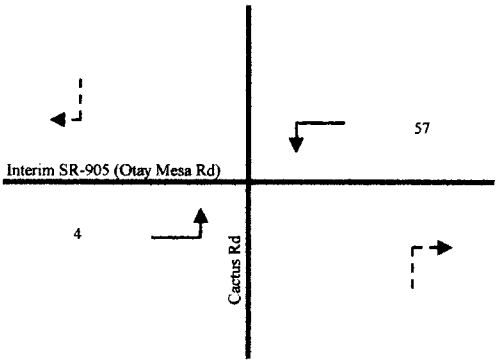
LANE GEOMETRY



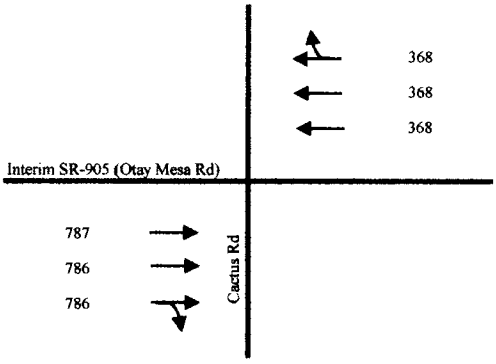
TRAFFIC VOLUMES



PHASE 1



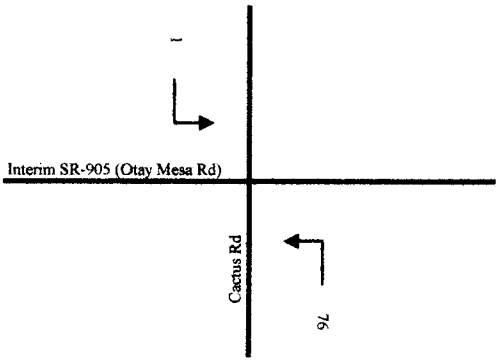
PHASE 2



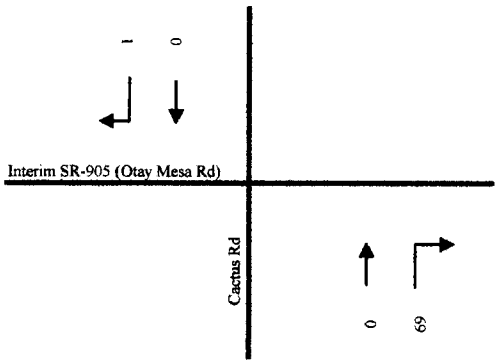
Phase 1 Critical ILV: 57

Phase 2 Critical ILV: 786

PHASE 3



PHASE 4



Phase 3 Critical ILV: 76

Phase 4 Critical ILV: 69

GRAND TOTAL ILV: **988**

OPERATING CONDITION **STABLE**

LEGEND

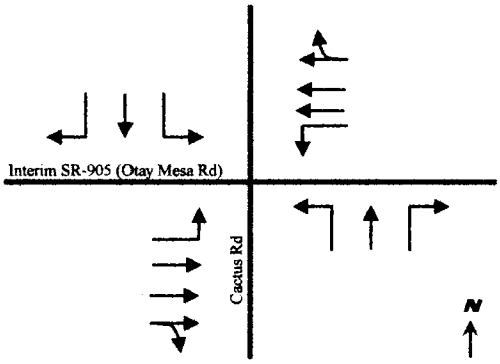
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

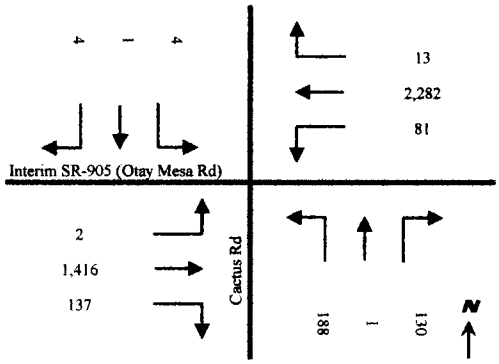
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Cactus Rd
Analyst:	VSM	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

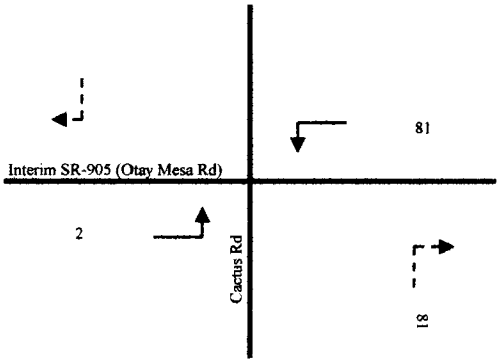
LANE GEOMETRY



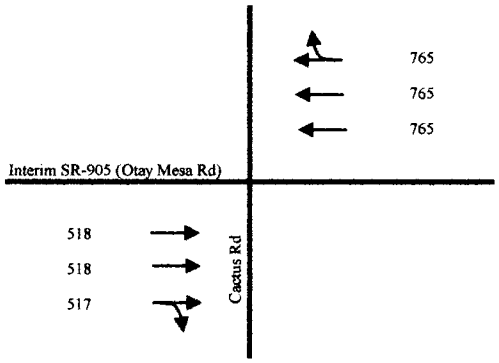
TRAFFIC VOLUMES



PHASE 1



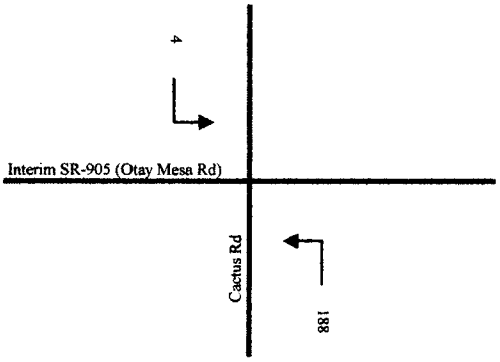
PHASE 2



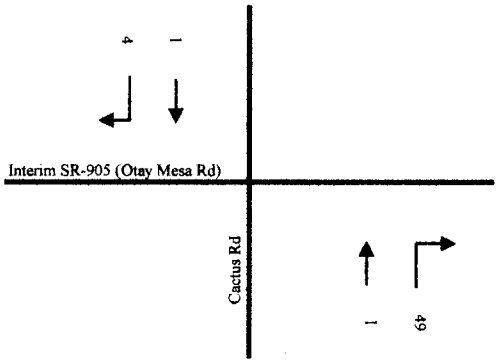
Phase 1 Critical ILV: 81

Phase 2 Critical ILV: 765

PHASE 3



PHASE 4



Phase 3 Critical ILV: 188

Phase 4 Critical ILV: 49

GRAND TOTAL ILV: **1,083**

OPERATING CONDITION **STABLE**

LEGEND

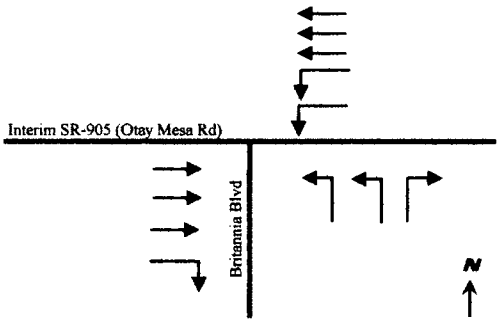
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

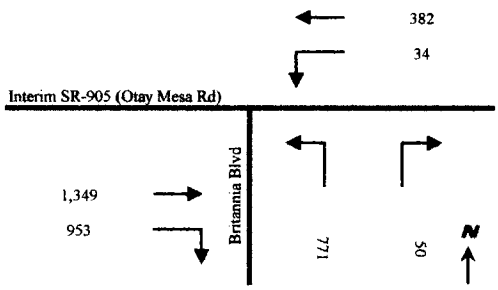
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Britannia Blvd
Analyst:	*WFH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

LANE GEOMETRY



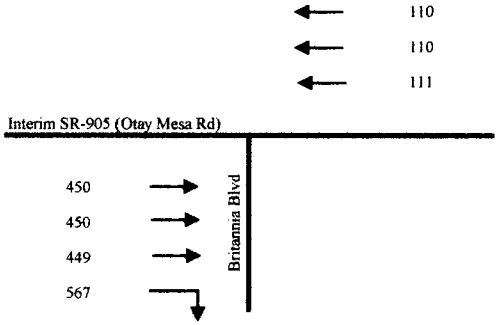
TRAFFIC VOLUMES



PHASE 1

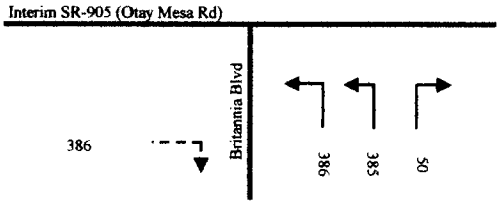
Phase 1 Critical ILV: 17

PHASE 2



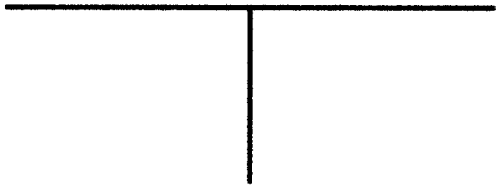
Phase 2 Critical ILV: 567

PHASE 3



Phase 3 Critical ILV: 386

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **970**

OPERATING CONDITION **STABLE**

LEGEND

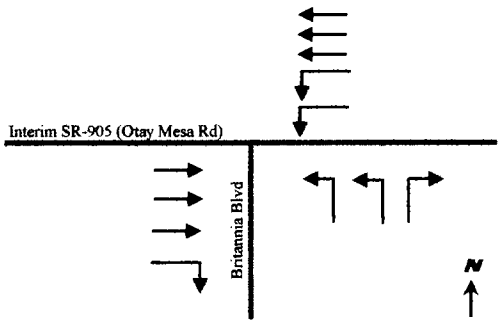
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

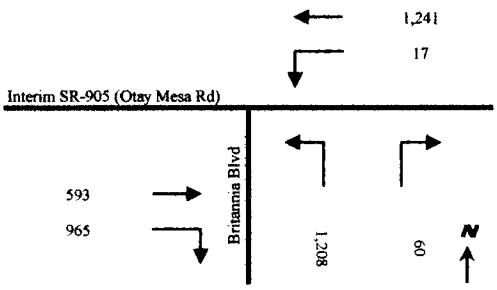
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Britannia Blvd
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

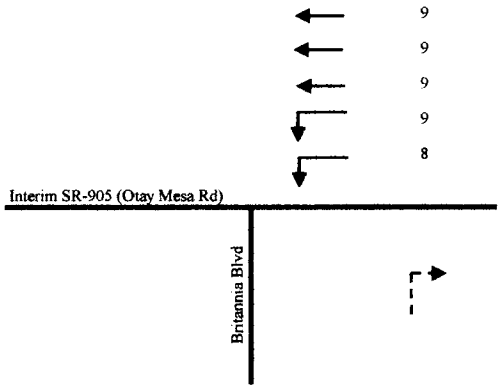
LANE GEOMETRY



TRAFFIC VOLUMES

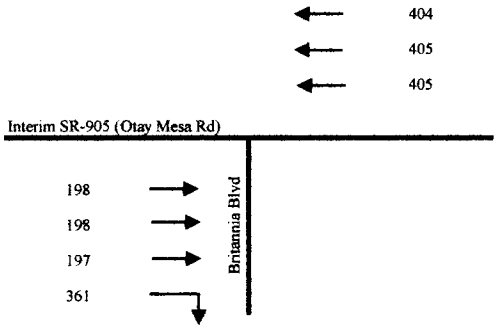


PHASE 1



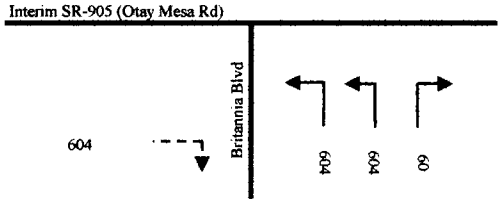
Phase 1 Critical ILV: 9

PHASE 2



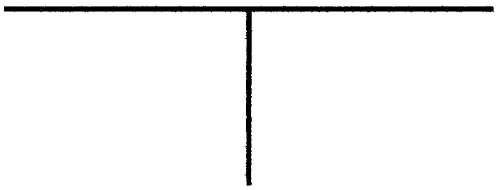
Phase 2 Critical ILV: 405

PHASE 3



Phase 3 Critical ILV: 604

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **1,018**

OPERATING CONDITION **STABLE**

LEGEND

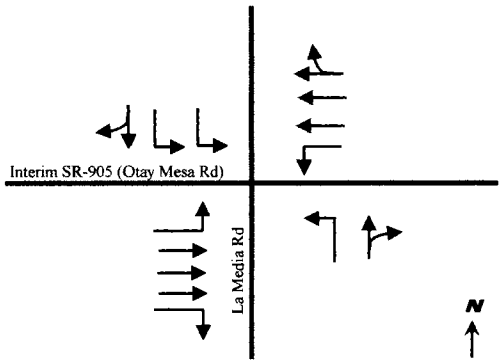
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

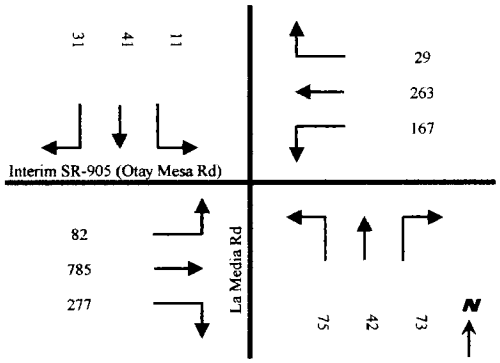
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ La Media Rd
Analyst:	*VSH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

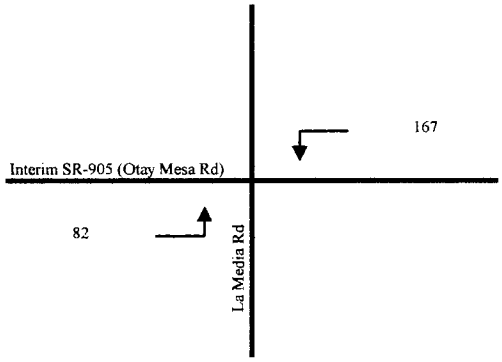
LANE GEOMETRY



TRAFFIC VOLUMES

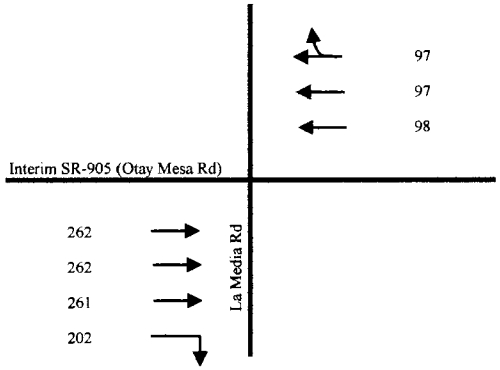


PHASE 1



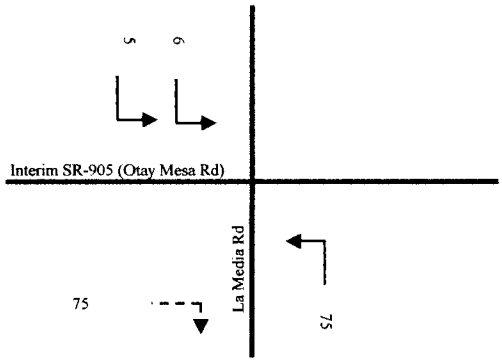
Phase 1 Critical ILV: 167

PHASE 2



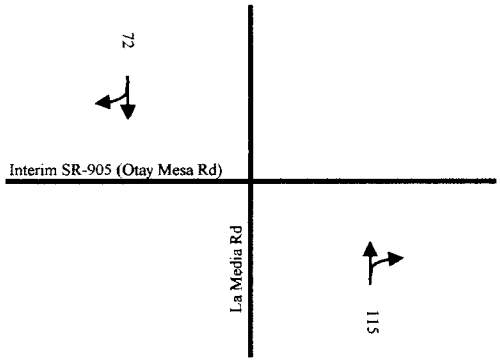
Phase 2 Critical ILV: 262

PHASE 3



Phase 3 Critical ILV: 75

PHASE 4



Phase 4 Critical ILV: 115

GRAND TOTAL ILV: 619

OPERATING CONDITION STABLE

LEGEND

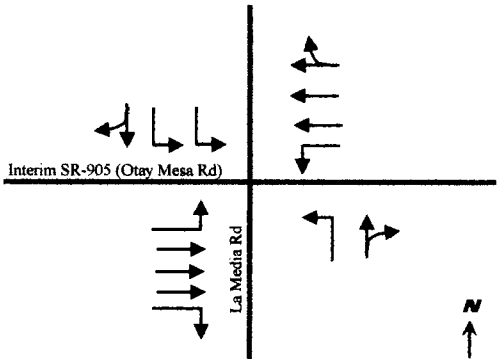
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

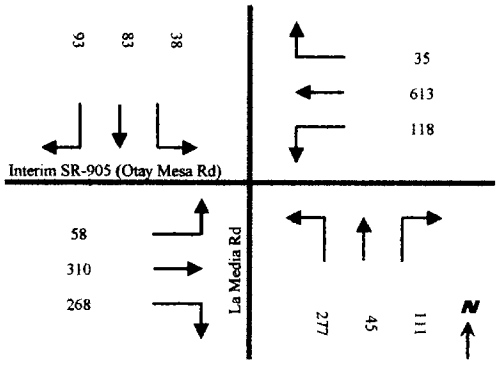
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ La Media Rd
Analyst:	USH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

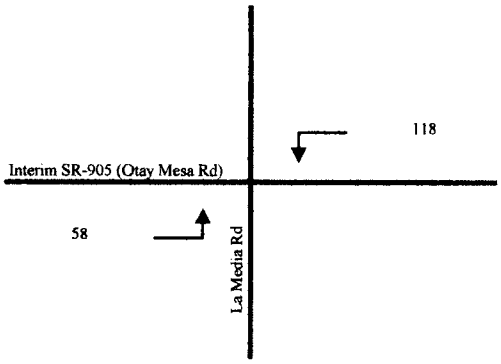
LANE GEOMETRY



TRAFFIC VOLUMES

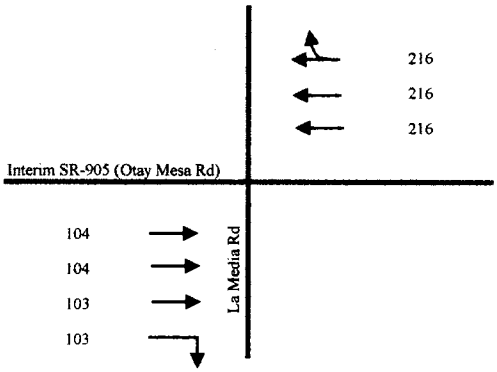


PHASE 1



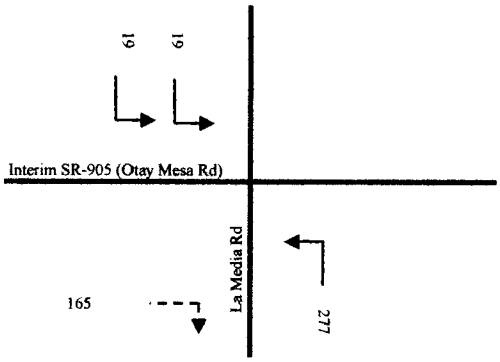
Phase 1 Critical ILV: 118

PHASE 2



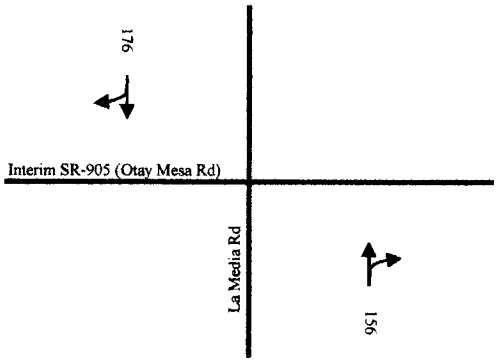
Phase 2 Critical ILV: 216

PHASE 3



Phase 3 Critical ILV: 277

PHASE 4



Phase 4 Critical ILV: 176

GRAND TOTAL ILV: 787

OPERATING CONDITION STABLE

LEGEND

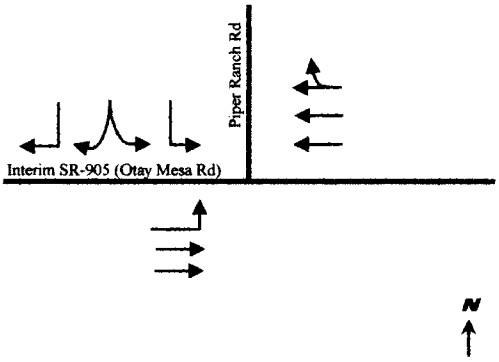
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

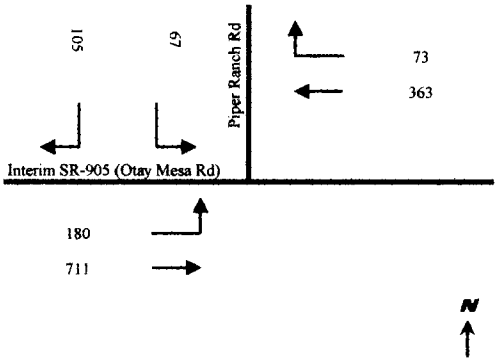
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Piper Ranch Rd
Analyst:	*USH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

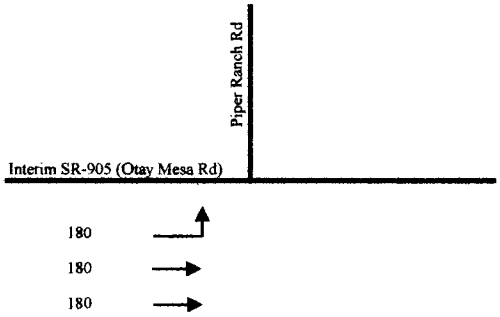
LANE GEOMETRY



TRAFFIC VOLUMES



PHASE 1



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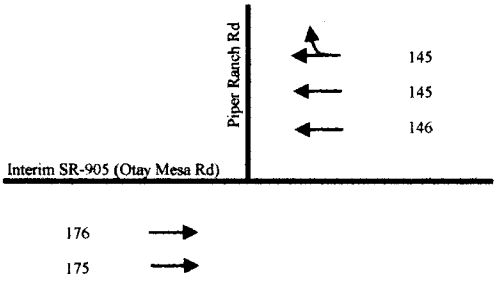
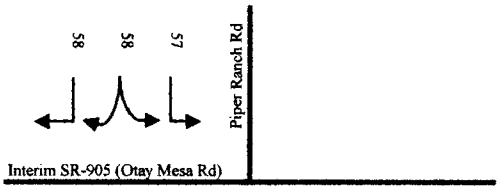


Phase 1 Critical ILV: 180

Phase 2 Critical ILV: 176

PHASE 3



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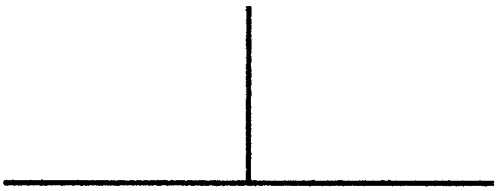


Phase 3 Critical ILV: 58

Phase 4 Critical ILV:

GRAND TOTAL ILV: **414**

OPERATING CONDITION **STABLE**

LEGEND

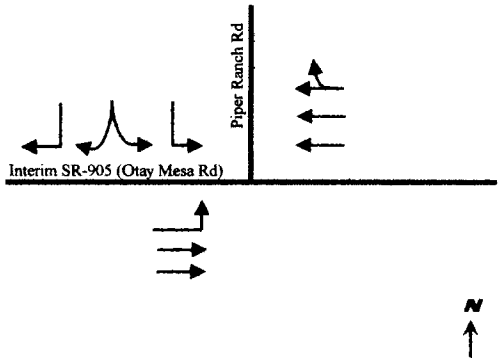
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

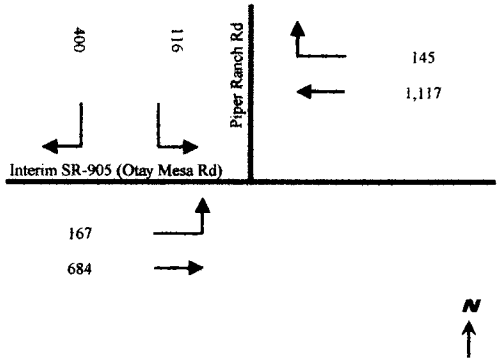
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Piper Ranch Rd
Analyst:	VJH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

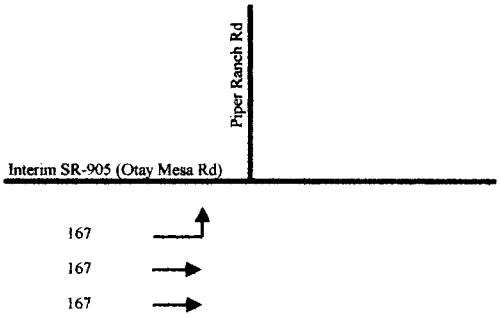
LANE GEOMETRY



TRAFFIC VOLUMES



PHASE 1



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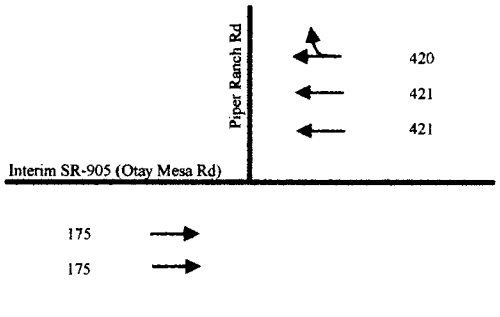
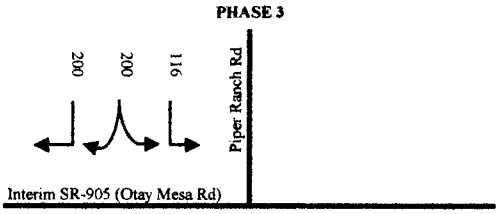


Phase 1 Critical ILV:	167	Phase 2 Critical ILV:	421

PHASE 3



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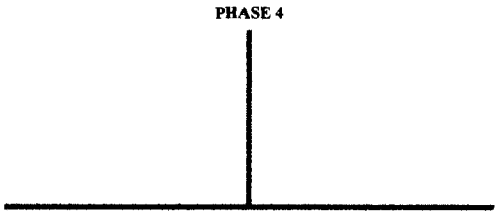


Phase 3 Critical ILV:	200	Phase 4 Critical ILV:	

GRAND TOTAL ILV:	**788**
OPERATING CONDITION	**STABLE**

LEGEND

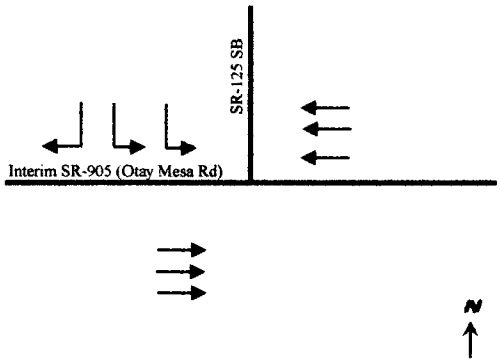
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

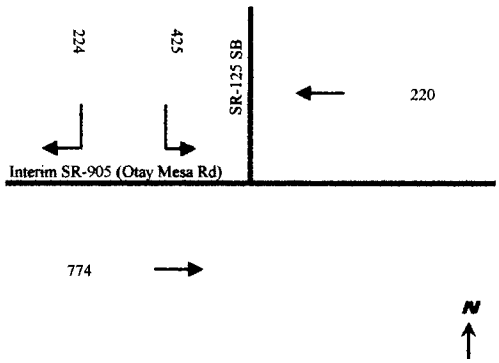
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

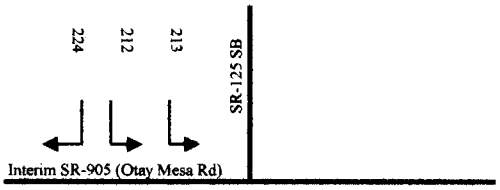
LANE GEOMETRY



TRAFFIC VOLUMES



PHASE 1



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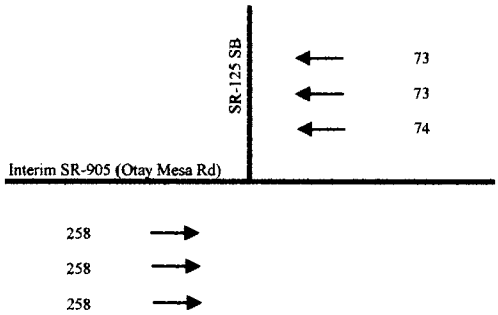
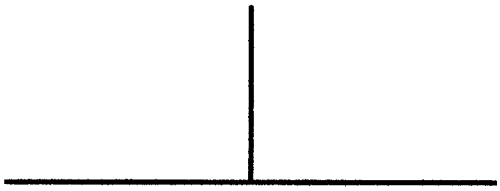


Phase 1 Critical ILV: 224

Phase 2 Critical ILV: 258

PHASE 3



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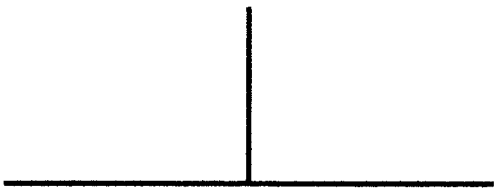


Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 482

OPERATING CONDITION STABLE

LEGEND

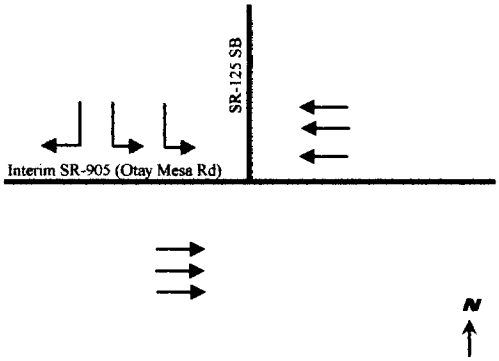
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

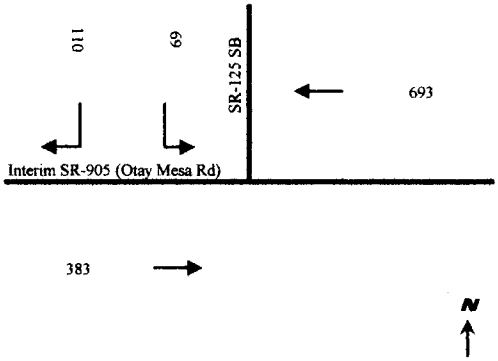
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	*VJH*	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

LANE GEOMETRY

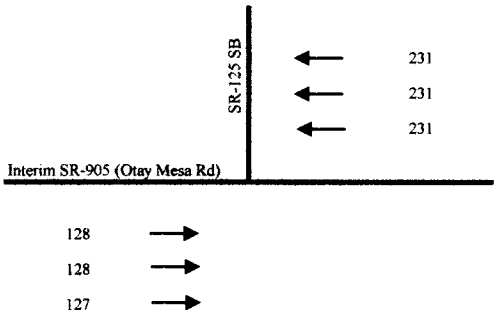


TRAFFIC VOLUMES



PHASE 1

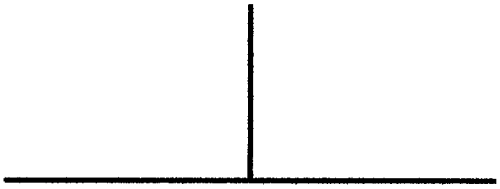
PHASE 2



Phase 1 Critical ILV: 110

Phase 2 Critical ILV: 231

PHASE 3



PHASE 4

Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 341

OPERATING CONDITION STABLE

LEGEND

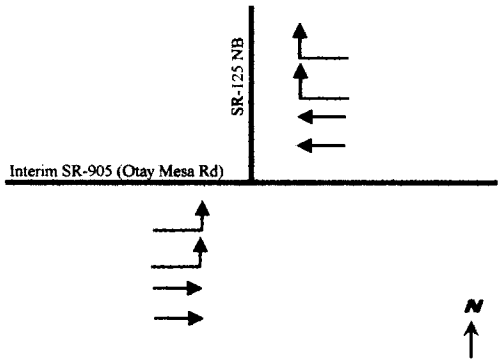
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

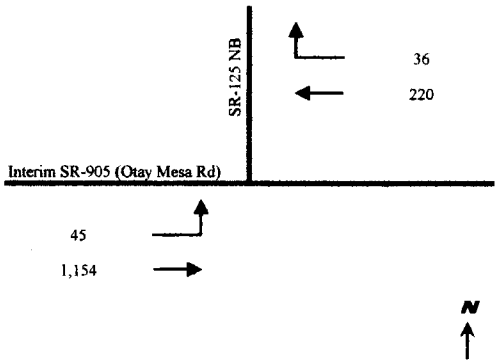
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	VSH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

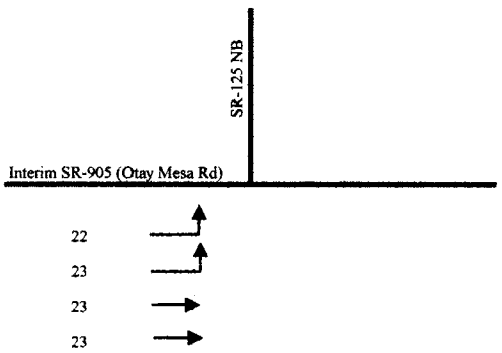
LANE GEOMETRY



TRAFFIC VOLUMES

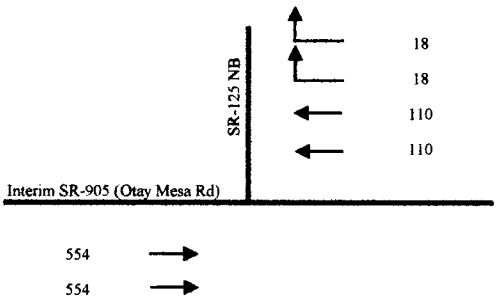


PHASE 1



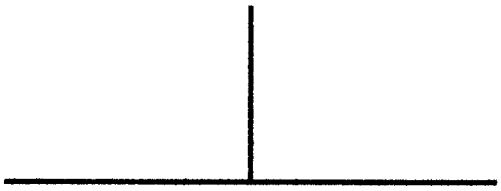
Phase 1 Critical ILV: 23

PHASE 2



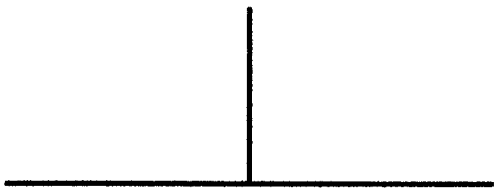
Phase 2 Critical ILV: 554

PHASE 3



Phase 3 Critical ILV:

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 577

OPERATING CONDITION STABLE

LEGEND

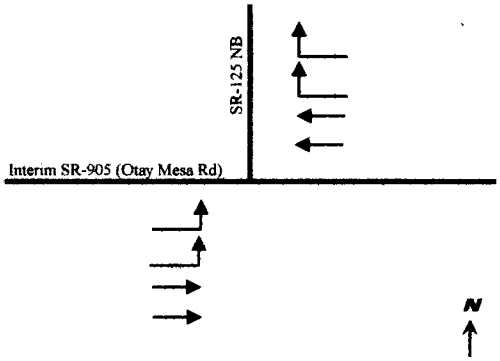
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

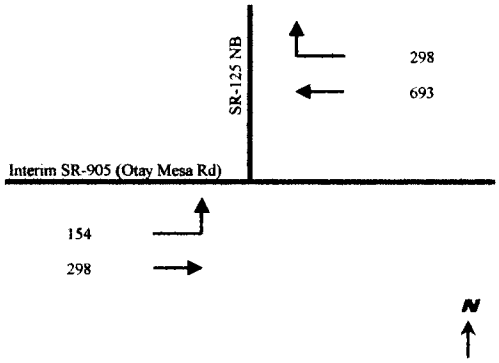
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	BSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

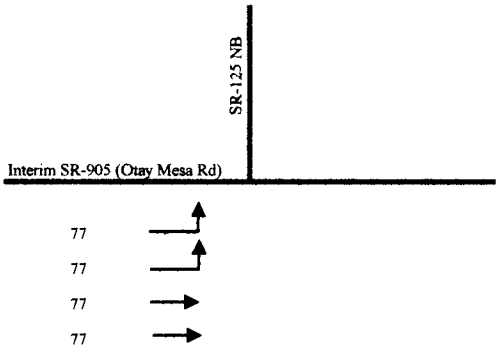
LANE GEOMETRY



TRAFFIC VOLUMES

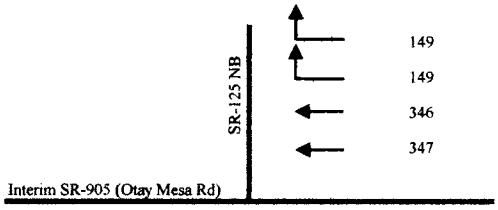


PHASE 1



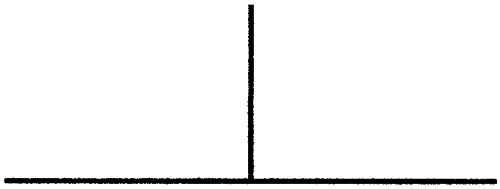
Phase 1 Critical ILV: 77

PHASE 2



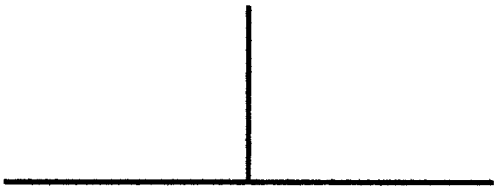
Phase 2 Critical ILV: 347

PHASE 3



Phase 3 Critical ILV:

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 424

OPERATING CONDITION STABLE

LEGEND

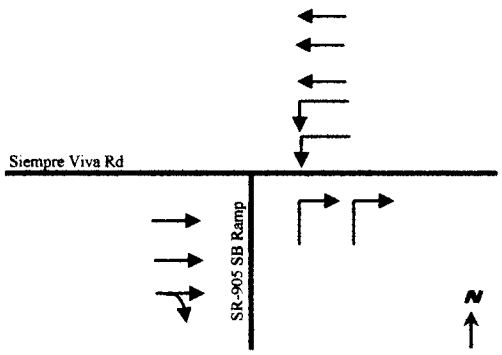
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

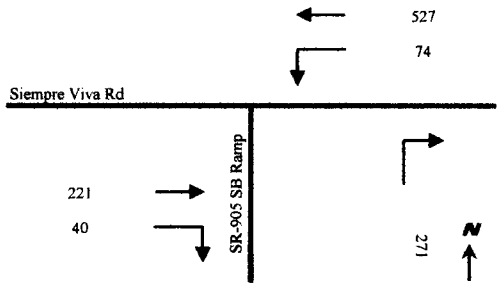
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	VSH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

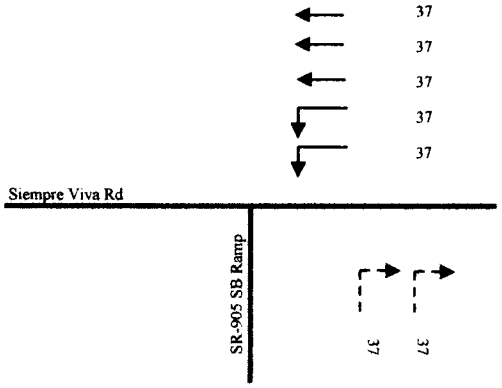
LANE GEOMETRY



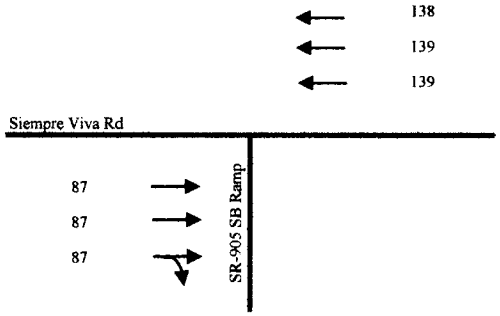
TRAFFIC VOLUMES



PHASE 1



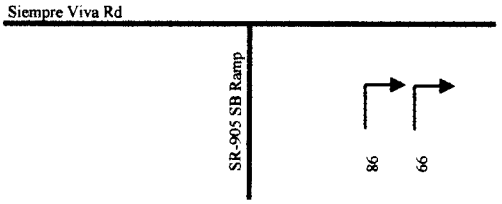
PHASE 2



Phase 1 Critical ILV: 37

Phase 2 Critical ILV: 139

PHASE 3



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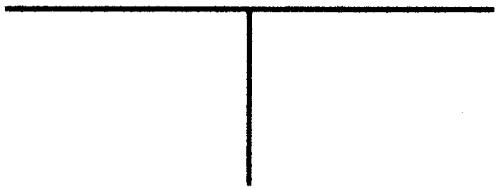


Phase 3 Critical ILV: 99

Phase 4 Critical ILV:

GRAND TOTAL ILV: 275

OPERATING CONDITION STABLE

LEGEND

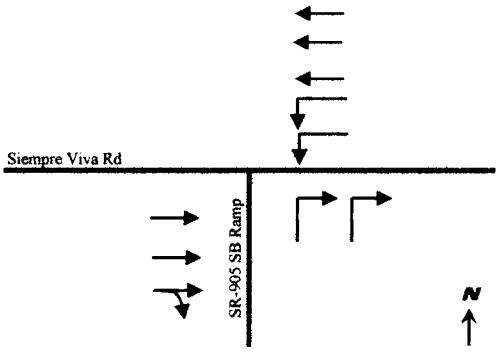
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

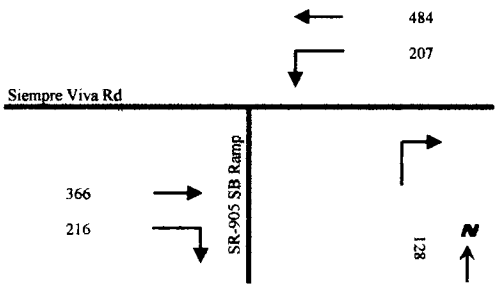
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

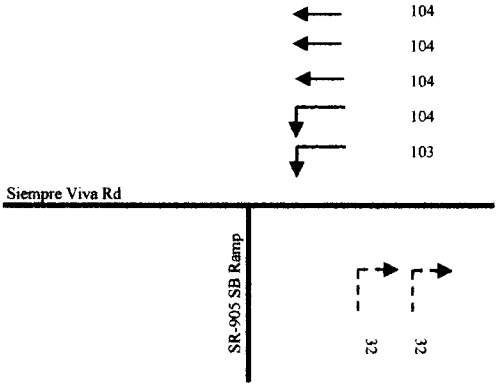
LANE GEOMETRY



TRAFFIC VOLUMES

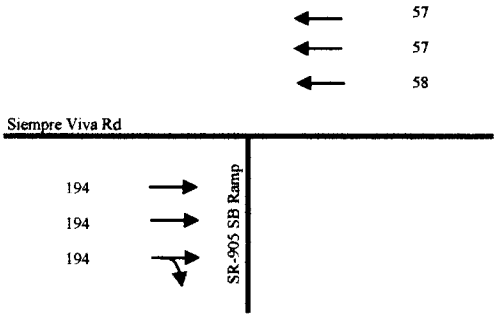


PHASE 1



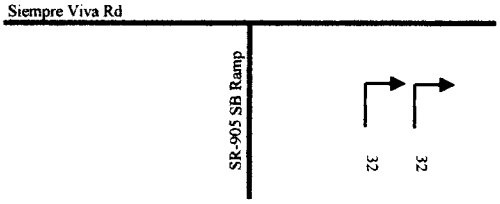
Phase 1 Critical ILV: 104

PHASE 2



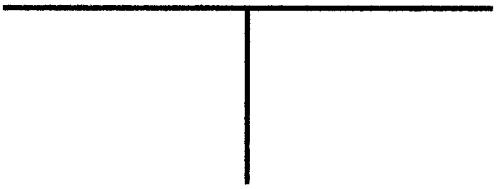
Phase 2 Critical ILV: 194

PHASE 3



Phase 3 Critical ILV: 32

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **330**

OPERATING CONDITION **STABLE**

LEGEND

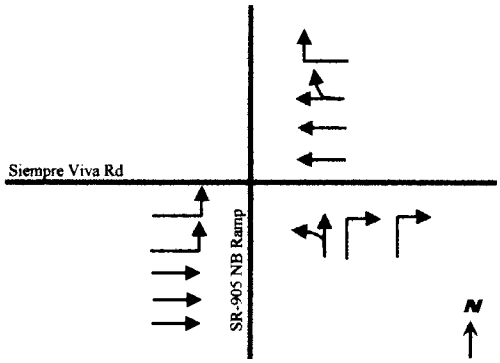
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

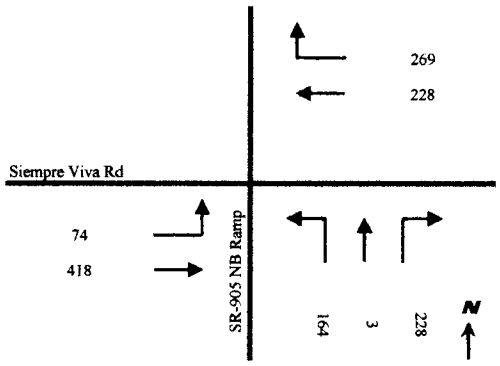
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing		

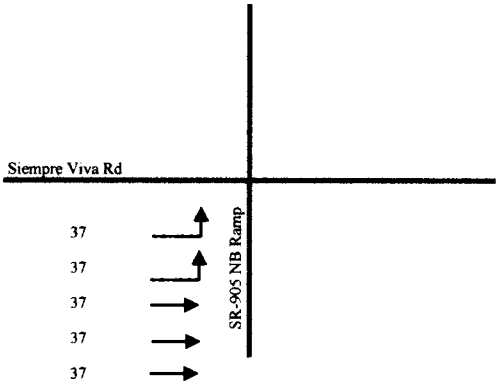
LANE GEOMETRY



TRAFFIC VOLUMES

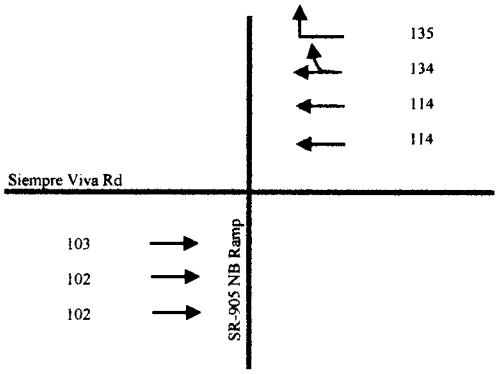


PHASE 1



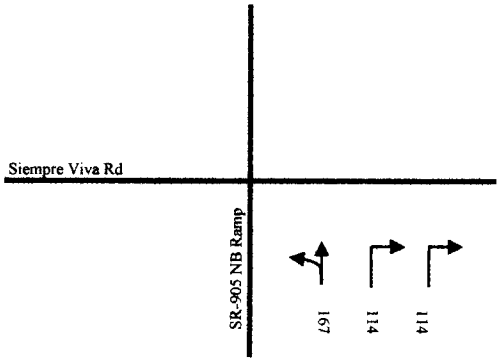
Phase 1 Critical ILV: 37

PHASE 2



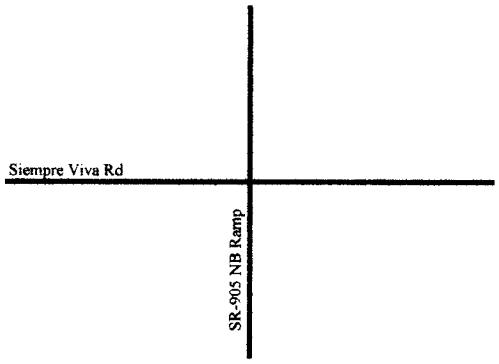
Phase 2 Critical ILV: 135

PHASE 3



Phase 3 Critical ILV: 167

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **339**

OPERATING CONDITION **STABLE**

LEGEND

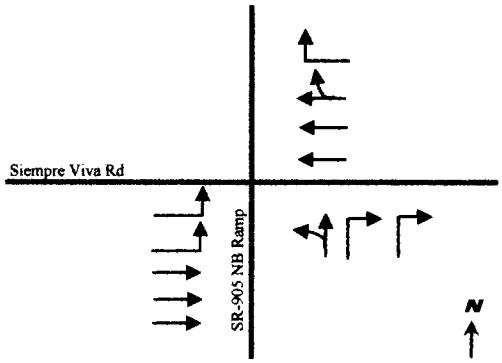
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

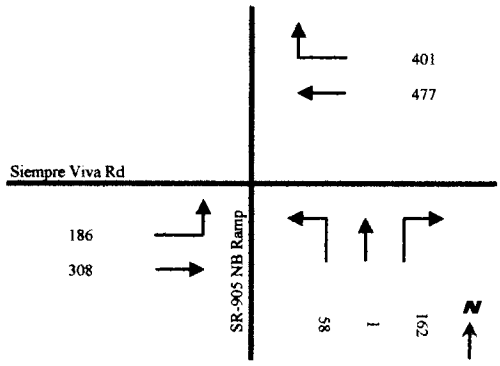
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	*VJK*	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing		

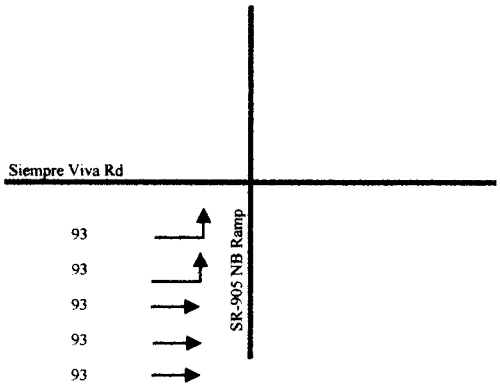
LANE GEOMETRY



TRAFFIC VOLUMES

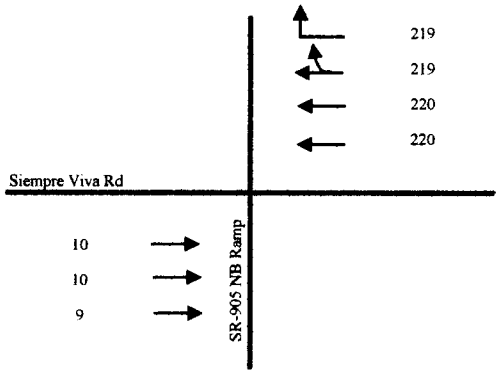


PHASE 1



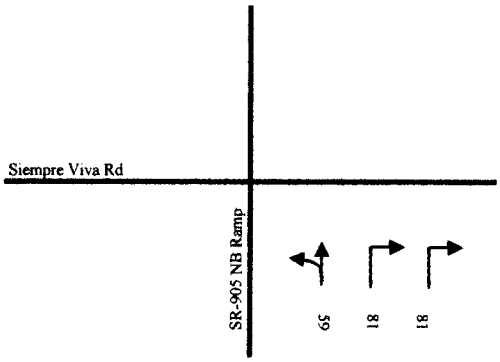
Phase 1 Critical ILV: 93

PHASE 2



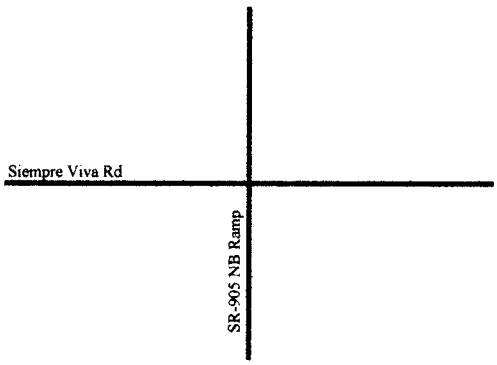
Phase 2 Critical ILV: 220

PHASE 3



Phase 3 Critical ILV: 81

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **394**

OPERATING CONDITION **STABLE**

LEGEND

<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

Existing – Queuing Summaries

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	129	2479	228	38	1243	117	77	110	254	62	63
v/c Ratio	0.57	0.74	0.17	0.37	0.40	0.09	0.41	0.88	1.08	0.47	0.25
Control Delay	79.2	16.2	0.6	71.6	9.8	0.8	71.6	89.8	141.5	79.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	16.2	0.6	71.6	9.8	0.8	71.6	89.8	141.5	79.2	16.6
Queue Length 50th (ft)	64	540	0	19	172	9	73	56	~280	60	0
Queue Length 95th (ft)	92	489	10	m32	198	0	120	#145	#402	100	21
Internal Link Dist (ft)		1361			2600			2637		1263	
Turn Bay Length (ft)	550		510	550		550	200		440		440
Base Capacity (vph)	235	3359	1356	102	3132	1306	189	125	235	169	310
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.74	0.17	0.37	0.40	0.09	0.41	0.88	1.08	0.37	0.20

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	135	1318	94	35	2215	349	228	135	244	48	263
v/c Ratio	0.61	0.46	0.10	0.15	0.78	0.27	0.68	0.71	0.92	0.43	0.66
Control Delay	85.8	20.6	3.3	62.1	24.1	3.1	74.0	84.5	108.6	87.2	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.8	20.6	3.3	62.1	24.1	3.1	74.0	84.5	108.6	87.2	42.6
Queue Length 50th (ft)	76	304	0	19	556	62	235	130	268	52	90
Queue Length 95th (ft)	#176	369	29	m21	567	94	332	203	#437	99	132
Internal Link Dist (ft)		1361			2600			2637		1263	
Turn Bay Length (ft)	550		510	550		550	200		440		440
Base Capacity (vph)	223	2874	985	266	2836	1296	335	246	271	258	396
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.46	0.10	0.13	0.78	0.27	0.68	0.55	0.90	0.19	0.66

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	5	2912	70	1363	94	85	1	1
v/c Ratio	0.03	0.81	0.59	0.36	0.59	0.27	0.01	0.00
Control Delay	48.5	7.7	78.6	11.4	80.6	2.0	64.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	7.7	78.6	11.4	80.6	2.0	64.0	0.0
Queue Length 50th (ft)	4	128	72	14	91	0	1	0
Queue Length 95th (ft)	m6	m712	m84	455	133	0	6	0
Internal Link Dist (ft)		2600		2650				
Turn Bay Length (ft)	550		550		250	120	25	25
Base Capacity (vph)	155	3588	128	3920	239	398	202	316
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.81	0.55	0.35	0.39	0.21	0.00	0.00

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	2	1652	86	2442	200	1	138	4	1	4
v/c Ratio	0.02	0.60	0.53	0.76	0.60	0.00	0.34	0.03	0.01	0.03
Control Delay	31.5	14.8	47.2	15.7	37.8	24.0	7.2	36.5	36.0	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	14.8	47.2	15.7	37.8	24.0	7.2	36.5	36.0	24.5
Queue Length 50th (ft)	1	142	45	190	97	0	0	2	1	0
Queue Length 95th (ft)	m2	371	m67	#722	150	4	42	12	6	10
Internal Link Dist (ft)		2600		2650		2628			1880	
Turn Bay Length (ft)	550		550		250		120	25		25
Base Capacity (vph)	105	2749	169	3207	351	470	502	190	366	314
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.60	0.51	0.76	0.57	0.00	0.27	0.02	0.00	0.01

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1645	1162	41	466	940	61
v/c Ratio	0.64	0.79	0.35	0.16	0.95	0.12
Control Delay	15.2	12.9	42.4	3.6	46.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	12.9	42.4	3.6	46.2	6.7
Queue Length 50th (ft)	302	865	21	25	222	0
Queue Length 95th (ft)	323	662	48	15	#288	21
Internal Link Dist (ft)	2650			5401	660	
Turn Bay Length (ft)		540	550			
Base Capacity (vph)	2566	1471	116	2907	994	502
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.79	0.35	0.16	0.95	0.12

Intersection Summary

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	611	995	18	1279	1245	62
v/c Ratio	0.32	0.65	0.19	0.61	0.78	0.08
Control Delay	9.8	11.1	28.8	10.1	22.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	11.1	28.8	10.1	22.5	3.2
Queue Length 50th (ft)	69	640	9	115	243	0
Queue Length 95th (ft)	39	308	m20	125	317	18
Internal Link Dist (ft)	2650			5401	660	
Turn Bay Length (ft)		540	550			
Base Capacity (vph)	1914	1531	95	2108	1766	844
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.65	0.19	0.61	0.70	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	94	902	318	192	335	86	132	13	83
v/c Ratio	0.45	0.49	0.33	0.64	0.15	0.38	0.26	0.07	0.39
Control Delay	22.4	6.7	3.6	31.1	5.7	34.6	10.5	35.2	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	6.7	3.6	31.1	5.7	34.6	10.5	35.2	24.8
Queue Length 50th (ft)	49	48	19	79	9	38	17	3	21
Queue Length 95th (ft)	m67	124	73	152	61	72	54	11	55
Internal Link Dist (ft)		5401			908		520		2547
Turn Bay Length (ft)	550		500	550				150	
Base Capacity (vph)	224	1852	972	337	2224	233	526	181	394
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.49	0.33	0.57	0.15	0.37	0.25	0.07	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	344	298	131	720	308	173	42	195
v/c Ratio	0.43	0.23	0.29	0.56	0.40	0.78	0.26	0.24	0.66
Control Delay	43.5	9.6	1.3	33.7	11.9	44.1	6.9	42.1	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	9.6	1.3	33.7	11.9	44.1	6.9	42.1	33.9
Queue Length 50th (ft)	48	33	5	65	78	151	18	11	67
Queue Length 95th (ft)	65	65	4	m128	103	233	54	27	129
Internal Link Dist (ft)		5401			908		520		2547
Turn Bay Length (ft)	550		500	550				150	
Base Capacity (vph)	154	1479	1038	253	1822	470	744	175	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.23	0.29	0.52	0.40	0.66	0.23	0.24	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	207	817	501	137	61
v/c Ratio	0.42	0.29	0.22	0.36	0.30
Control Delay	11.6	0.8	10.2	21.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	0.8	10.2	21.2	13.3
Queue Length 50th (ft)	94	7	30	17	0
Queue Length 95th (ft)	28	13	71	40	32
Internal Link Dist (ft)		1591	1489	1149	
Turn Bay Length (ft)	600				125
Base Capacity (vph)	498	2810	2309	972	451
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.29	0.22	0.14	0.14

Intersection Summary

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	169	691	1274	319	202
v/c Ratio	0.41	0.25	0.50	0.58	0.59
Control Delay	35.3	2.2	10.9	17.3	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	2.2	10.9	17.3	12.5
Queue Length 50th (ft)	96	16	111	29	0
Queue Length 95th (ft)	119	30	166	63	62
Internal Link Dist (ft)		1591	1489	1149	
Turn Bay Length (ft)	600				125
Base Capacity (vph)	411	2797	2568	937	504
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.25	0.50	0.34	0.40

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	921	262	506	267
v/c Ratio	0.27	0.08	0.67	0.48
Control Delay	1.4	4.4	31.2	6.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.4	4.4	31.2	6.2
Queue Length 50th (ft)	8	1	113	0
Queue Length 95th (ft)	16	23	134	40
Internal Link Dist (ft)	1489	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	3429	3429	1563	866
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.08	0.32	0.31

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	430	779	78	124
v/c Ratio	0.10	0.18	0.24	0.49
Control Delay	1.1	1.5	36.5	15.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.1	1.5	36.5	15.5
Queue Length 50th (ft)	5	11	20	4
Queue Length 95th (ft)	14	39	38	51
Internal Link Dist (ft)	1489	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	4296	4296	1533	770
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.18	0.05	0.16

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	56	1425	272	44
v/c Ratio	0.18	0.40	0.09	0.02
Control Delay	37.7	0.4	0.5	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.7	0.4	0.5	0.0
Queue Length 50th (ft)	14	0	3	0
Queue Length 95th (ft)	m24	0	5	0
Internal Link Dist (ft)		570	460	
Turn Bay Length (ft)	430			400
Base Capacity (vph)	926	3539	3110	2454
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.40	0.09	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	171	331	770	331
v/c Ratio	0.48	0.09	0.27	0.14
Control Delay	52.6	0.1	2.3	0.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	52.6	0.1	2.3	0.7
Queue Length 50th (ft)	50	0	36	1
Queue Length 95th (ft)	82	0	56	9
Internal Link Dist (ft)		570	460	
Turn Bay Length (ft)	430			400
Base Capacity (vph)	1206	3539	2834	2297
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.09	0.27	0.14

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1423	5	204	113
v/c Ratio	0.52	0.03	0.13	0.30
Control Delay	2.2	22.5	6.6	31.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.2	22.5	6.6	31.8
Queue Length 50th (ft)	4	2	50	24
Queue Length 95th (ft)	1	m8	72	41
Internal Link Dist (ft)	1003		1623	2621
Turn Bay Length (ft)		180		
Base Capacity (vph)	2722	221	1535	491
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.02	0.13	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	326	15	687	403
v/c Ratio	0.16	0.05	0.50	0.67
Control Delay	3.9	22.4	5.1	39.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.9	22.4	5.1	39.2
Queue Length 50th (ft)	0	7	105	100
Queue Length 95th (ft)	33	m8	115	#178
Internal Link Dist (ft)	1003		1623	2621
Turn Bay Length (ft)		180		
Base Capacity (vph)	2333	304	1420	601
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.05	0.48	0.67

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	556	3	141	122	21
v/c Ratio	0.42	0.02	0.10	0.50	0.09
Control Delay	8.8	32.5	3.1	33.6	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	32.5	3.1	33.6	12.5
Queue Length 50th (ft)	99	1	13	49	0
Queue Length 95th (ft)	282	8	27	82	9
Internal Link Dist (ft)	1250		2512	2644	
Turn Bay Length (ft)		90		175	
Base Capacity (vph)	1334	175	1411	454	422
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.02	0.10	0.27	0.05

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	131	12	490	121	6
v/c Ratio	0.10	0.07	0.34	0.52	0.03
Control Delay	1.9	33.9	4.1	56.1	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	33.9	4.1	56.1	33.0
Queue Length 50th (ft)	5	6	59	68	1
Queue Length 95th (ft)	12	17	92	97	10
Internal Link Dist (ft)	1250		2512	2644	
Turn Bay Length (ft)		90		175	
Base Capacity (vph)	1313	284	1439	537	485
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.34	0.23	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	25	22	8	3	5	78	100	4	109
v/c Ratio	0.06	0.16	0.14	0.05	0.02	0.03	0.38	0.03	0.03	0.04
Control Delay	32.6	19.1	16.1	32.7	31.5	20.8	29.5	4.0	20.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	19.1	16.1	32.7	31.5	20.8	29.5	4.0	20.0	9.0
Queue Length 50th (ft)	4	2	0	4	1	0	22	2	2	16
Queue Length 95th (ft)	14	18	15	13	7	7	38	16	m4	28
Internal Link Dist (ft)		1210			1186			501		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	175	414	402	175	478	410	277	2896	175	2598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.05	0.05	0.01	0.01	0.28	0.03	0.02	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	4	12	7	6	4	82	116	6	78
v/c Ratio	0.07	0.03	0.10	0.05	0.04	0.03	0.37	0.04	0.04	0.03
Control Delay	36.7	36.0	20.6	36.7	36.4	24.3	37.3	1.3	37.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	36.0	20.6	36.7	36.4	24.3	37.3	1.3	37.0	7.8
Queue Length 50th (ft)	5	2	0	4	3	0	46	0	3	4
Queue Length 95th (ft)	17	10	14	15	13	8	83	11	14	25
Internal Link Dist (ft)		1210			1186			501		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	200	453	394	200	477	408	303	3192	200	2668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.01	0.03	0.04	0.01	0.01	0.27	0.04	0.03	0.03

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	20	138	49	286	14	8	66
v/c Ratio	0.12	0.05	0.30	0.10	0.09	0.05	0.33
Control Delay	33.0	8.1	38.0	7.9	32.8	20.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	8.1	38.0	7.9	32.8	20.9	24.8
Queue Length 50th (ft)	9	9	23	20	6	0	17
Queue Length 95th (ft)	28	20	55	38	22	13	51
Internal Link Dist (ft)		3989		1156		1019	1012
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	160	2791	172	2938	408	378	417
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	0.13	0.05	0.28	0.10	0.03	0.02	0.16

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	48	264	64	333	29	21	108
v/c Ratio	0.28	0.10	0.36	0.12	0.19	0.13	0.48
Control Delay	38.6	10.3	42.1	3.9	37.8	18.7	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	10.3	42.1	3.9	37.8	18.7	37.2
Queue Length 50th (ft)	24	21	32	16	15	1	48
Queue Length 95th (ft)	55	45	64	29	39	22	93
Internal Link Dist (ft)		3989		1156		1019	1012
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	208	2754	223	2740	411	388	421
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	0.23	0.10	0.29	0.12	0.07	0.05	0.26

Intersection Summary

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	283	80	573	295
v/c Ratio	0.09	0.14	0.14	0.23
Control Delay	4.3	26.8	1.6	0.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.3	26.8	1.6	0.4
Queue Length 50th (ft)	12	17	10	0
Queue Length 95th (ft)	20	m36	28	0
Internal Link Dist (ft)	1279		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3123	637	4148	1708
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.13	0.14	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	593	211	494	131
v/c Ratio	0.18	0.52	0.11	0.11
Control Delay	2.1	36.3	1.9	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.1	36.3	1.9	0.2
Queue Length 50th (ft)	9	55	20	0
Queue Length 95th (ft)	21	84	22	0
Internal Link Dist (ft)	1279		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3372	813	4407	1602
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.26	0.11	0.08

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	77	435	378	140	174	238
v/c Ratio	0.23	0.12	0.13	0.15	0.58	0.36
Control Delay	34.4	2.3	2.9	1.9	36.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	2.3	2.9	1.9	36.4	5.3
Queue Length 50th (ft)	16	10	3	0	77	0
Queue Length 95th (ft)	31	19	36	m32	125	28
Internal Link Dist (ft)		653	439		1142	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	637	3695	2918	912	596	1093
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.12	0.13	0.15	0.29	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	198	328	680	254	63	172
v/c Ratio	0.46	0.08	0.23	0.27	0.35	0.39
Control Delay	38.3	1.0	2.2	0.8	39.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	1.0	2.2	0.8	39.7	8.5
Queue Length 50th (ft)	53	4	12	0	32	0
Queue Length 95th (ft)	86	7	29	m0	66	30
Internal Link Dist (ft)		653	439		1142	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	756	4080	2953	952	539	966
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.08	0.23	0.27	0.12	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	406	111	121	9	142	94	33	4	57	283
v/c Ratio	0.78	0.04	0.12	0.09	0.14	0.59	0.05	0.01	0.44	0.54
Control Delay	34.1	6.3	1.6	39.6	25.1	49.5	25.8	17.0	44.4	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	6.3	1.6	39.6	25.1	49.5	25.8	17.0	44.4	26.5
Queue Length 50th (ft)	155	4	0	5	32	43	7	0	26	50
Queue Length 95th (ft)	#307	15	15	m15	58	#103	18	8	61	83
Internal Link Dist (ft)		493			1124		842			1095
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	538	3156	1028	105	1040	163	853	385	130	789
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.04	0.12	0.09	0.14	0.58	0.04	0.01	0.44	0.36

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	365	60	98	17	253	271	137	5	5	182
v/c Ratio	0.87	0.02	0.12	0.14	0.29	0.67	0.11	0.01	0.05	0.45
Control Delay	52.7	13.8	3.9	52.8	46.1	38.1	18.4	11.6	37.4	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	13.8	3.9	52.8	46.1	38.1	18.4	11.6	37.4	19.8
Queue Length 50th (ft)	186	5	0	10	67	127	23	0	3	22
Queue Length 95th (ft)	#340	15	28	m23	107	208	47	8	m13	52
Internal Link Dist (ft)		493			1124		842			1095
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	421	2506	830	118	874	408	1263	568	105	718
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.02	0.12	0.14	0.29	0.66	0.11	0.01	0.05	0.25

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	31	8	22	107	90	1	41
v/c Ratio	0.08	0.03	0.08	0.01	0.44	0.12	0.01	0.14
Control Delay	28.9	3.9	35.4	8.2	34.9	23.1	46.0	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	3.9	35.4	8.2	34.9	23.1	46.0	34.0
Queue Length 50th (ft)	4	1	4	1	47	16	0	2
Queue Length 95th (ft)	m11	m4	15	7	80	34	m5	20
Internal Link Dist (ft)		1204		311		851		533
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	296	1107	105	1943	267	882	512	1251
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.03	0.08	0.01	0.40	0.10	0.00	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	6	12	27	204	126	3	66
v/c Ratio	0.09	0.01	0.09	0.01	0.65	0.13	0.02	0.22
Control Delay	41.0	10.8	35.9	10.6	41.5	22.5	40.3	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	10.8	35.9	10.6	41.5	22.5	40.3	24.0
Queue Length 50th (ft)	6	1	6	2	101	25	1	3
Queue Length 95th (ft)	19	10	21	11	159	48	12	30
Internal Link Dist (ft)		1204		311		851		533
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	266	956	160	1845	417	1066	301	739
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.01	0.08	0.01	0.49	0.12	0.01	0.09

Intersection Summary

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	2	2	520	88
v/c Ratio	0.02	0.03	0.29	0.05
Control Delay	16.5	12.0	0.8	0.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.5	12.0	0.8	0.4
Queue Length 50th (ft)	2	0	0	0
Queue Length 95th (ft)	11	9	59	10
Internal Link Dist (ft)	670		520	1210
Turn Bay Length (ft)				
Base Capacity (vph)	234	210	1814	1818
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.29	0.05

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	9	1	66	2	364
v/c Ratio	0.07	0.01	0.04	0.02	0.20
Control Delay	36.9	28.0	1.7	36.5	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	28.0	1.7	36.5	0.8
Queue Length 50th (ft)	5	0	0	1	0
Queue Length 95th (ft)	19	5	20	8	46
Internal Link Dist (ft)	670		520		1210
Turn Bay Length (ft)				150	
Base Capacity (vph)	579	519	1724	327	1795
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.02	0.00	0.04	0.01	0.20

Intersection Summary

APPENDIX E

- Existing + Project Phase 1 - Arterial Analysis
- Existing + Project Phase 1 - Synchro Analysis
- Existing + Project Phase 1 - ILV Analysis
- Existing + Project Phase 1 – Queuing Summaries

Existing + Project Phase 1 - Arterial Analysis

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	22.2	50.6	0.27	19.4	D
Cactus Rd	II	45	44.7	10.6	55.3	0.51	33.0	B
Brittania Blvd	II	45	45.5	19.6	65.1	0.52	28.6	B
La Media	II	45	83.0	9.1	92.1	1.04	40.6	A
Piper Ranch Rd	II	45	44.3	2.6	46.9	0.50	38.7	A
SR125 SB	II	45	29.4	2.0	31.4	0.30	34.1	B
SR125 NB Ramp	II	45	13.4	1.0	14.4	0.12	30.8	B
Sanyo Ave	II	45	35.1	6.8	41.9	0.37	31.5	B
Enrico Fermi Dr	II	45	62.8	64.1	126.9	0.78	22.2	C
Total	II		386.6	138.0	524.6	4.41	30.3	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	5.1	48.3	0.49	36.6	A
Sanyo Ave	II	45	62.8	9.1	71.9	0.78	39.3	A
SR125 NB Ramp	II	45	35.1	0.5	35.6	0.37	37.0	A
SR125 SB	II	45	13.4	8.8	22.2	0.12	20.0	D
Piper Ranch Rd	II	45	29.4	12.2	41.6	0.30	25.7	C
La Media	II	45	44.3	5.5	49.8	0.50	36.4	A
Brittania Blvd	II	45	83.0	3.0	86.0	1.04	43.5	A
Cactus Rd	II	45	45.5	3.1	48.6	0.52	38.3	A
Heritage Road	II	45	44.7	8.2	52.9	0.51	34.5	B
Total	II		401.4	55.5	456.9	4.63	36.5	A

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	21.4	49.8	0.27	19.7	D
Cactus Rd	II	45	44.7	15.4	60.1	0.51	30.4	B
Brittania Blvd	II	45	45.5	9.9	55.4	0.52	33.6	B
La Media	II	45	83.0	9.8	92.8	1.04	40.3	A
Piper Ranch Rd	II	45	44.3	2.4	46.7	0.50	38.8	A
SR125 SB	II	45	29.4	1.4	30.8	0.30	34.7	B
SR125 NB Ramp	II	45	13.4	0.1	13.5	0.12	32.8	B
Sanyo Ave	II	45	35.1	5.3	40.4	0.37	32.6	B
Enrico Fermi Dr	II	45	62.8	3.7	66.5	0.78	42.5	A
Total	II		386.6	69.4	456.0	4.41	34.8	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	10.6	53.8	0.49	32.8	B
Sanyo Ave	II	45	62.8	6.6	69.4	0.78	40.7	A
SR125 NB Ramp	II	45	35.1	3.5	38.6	0.37	34.1	B
SR125 SB	II	45	13.4	3.2	16.6	0.12	26.7	C
Piper Ranch Rd	II	45	29.4	12.0	41.4	0.30	25.8	C
La Media	II	45	44.3	14.8	59.1	0.50	30.7	B
Brittania Blvd	II	45	83.0	11.3	94.3	1.04	39.6	A
Cactus Rd	II	45	45.5	16.7	62.2	0.52	29.9	B
Heritage Road	II	45	44.7	29.6	74.3	0.51	24.6	C
Total	II		401.4	108.3	509.7	4.63	32.7	B

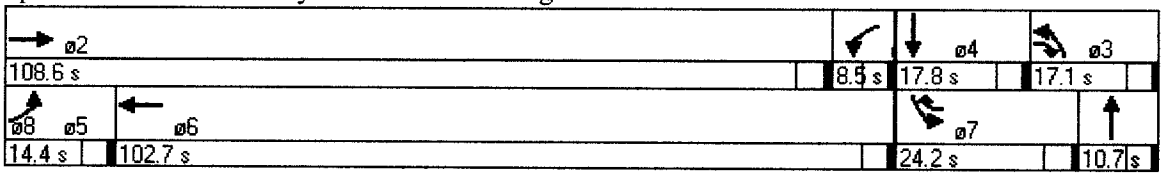
Existing + Project Phase 1 - Synchro Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.895				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1667	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.000		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1667	0	0	1863	2787
Satd. Flow (RTOR)			228			121		48				63
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2412	187	31	1114	99	63	27	63	221	51	52
Adj. Flow (vph)	129	2941	228	38	1359	121	77	33	77	270	62	63
Lane Group Flow (vph)	129	2941	228	38	1359	121	77	110	0	270	62	63
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			pm+pt		Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		4
Total Split (s)	14.4	108.6	17.1	8.5	102.7	24.2	17.1	10.7	0.0	24.2	17.8	17.8
Act Effct Green (s)	10.0	106.3	126.5	4.5	99.1	123.3	16.2	6.7		20.2	10.7	10.7
Actuated g/C Ratio	0.07	0.70	0.83	0.03	0.65	0.81	0.11	0.04		0.13	0.07	0.07
v/c Ratio	0.57	0.88	0.17	0.37	0.43	0.09	0.41	0.92		1.15	0.47	0.25
Control Delay	79.2	22.2	0.6	69.9	8.2	1.0	71.6	103.6		160.8	79.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.2	22.2	0.6	69.9	8.2	1.0	71.6	103.6		160.8	79.2	16.6
LOS	E	C	A	E	A	A	E	F		F	E	B
Approach Delay		22.9			9.2			90.4			125.0	
Approach LOS		C			A			F			F	

Intersection Summary

Cycle Length: 152
Actuated Cycle Length: 152
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 28.9 — Intersection LOS: C
Intersection Capacity Utilization 72.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

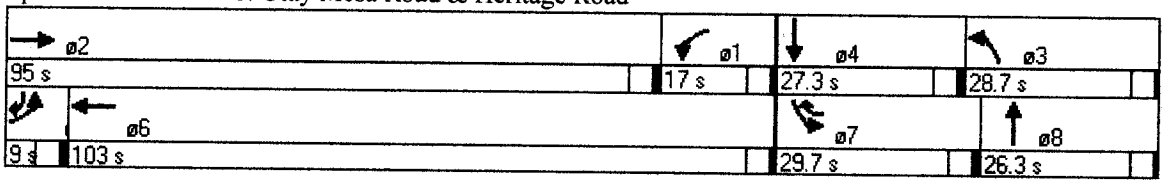


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.942				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1755	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1755	0	1770	1863	2787
Satd. Flow (RTOR)			94			363		15				50
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	127	1334	88	33	2461	341	214	78	49	232	45	247
Adj. Flow (vph)	135	1419	94	35	2618	363	228	83	52	247	48	263
Lane Group Flow (vph)	135	1419	94	35	2618	363	228	135	0	247	48	263
Turn Type	Prot		Perm	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	9.0	95.0	95.0	17.0	103.0	29.7	28.7	26.3	0.0	29.7	27.3	9.0
Act Effct Green (s)	10.9	100.4	100.4	11.6	99.1	128.2	32.0	16.9		25.1	10.0	21.0
Actuated g/C Ratio	0.06	0.60	0.60	0.07	0.59	0.76	0.19	0.10		0.15	0.06	0.12
v/c Ratio	0.61	0.49	0.10	0.15	0.92	0.28	0.68	0.71		0.93	0.43	0.67
Control Delay	85.8	21.4	3.3	60.5	29.6	2.5	73.7	84.5		109.6	87.2	43.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.8	21.4	3.3	60.5	29.6	2.5	73.7	84.5		109.6	87.2	43.9
LOS	F	C	A	E	C	A	E	F		F	F	D
Approach Delay		25.6			26.7			77.7			76.7	
Approach LOS		C			C			E			E	

Intersection Summary

Cycle Length: 168
Actuated Cycle Length: 168
Offset: 5 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 34.7 — Intersection LOS: C
Intersection Capacity Utilization 84.3% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

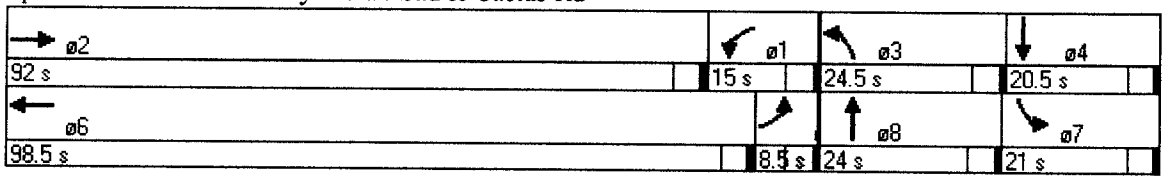


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4779	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4779	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		10			1				218			151
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	4	2597	154	57	1196	6	76	0	69	1	0	1
Adj. Flow (vph)	5	3206	190	70	1477	7	94	0	85	1	0	1
Lane Group Flow (vph)	5	3396	0	70	1484	0	94	0	85	1	0	1
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Total Split (s)	8.5	92.0	0.0	15.0	98.5	0.0	24.5	24.0	24.0	21.0	20.5	20.5
Act Effct Green (s)	7.6	114.1		10.1	124.9		13.7		11.2	8.6		6.0
Actuated g/C Ratio	0.05	0.75		0.07	0.82		0.09		0.07	0.06		0.04
v/c Ratio	0.06	0.95		0.59	0.38		0.59		0.27	0.01		0.00
Control Delay	58.2	10.6		77.9	3.1		80.6		2.0	64.0		0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Total Delay	58.2	10.6		77.9	3.1		80.6		2.0	64.0		0.0
LOS	E	B		E	A		F		A	E		A
Approach Delay		10.7			6.4							
Approach LOS		B			A							

Intersection Summary

Cycle Length: 152
Actuated Cycle Length: 152
Offset: 42 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 10.6 — Intersection LOS: B
Intersection Capacity Utilization 71.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

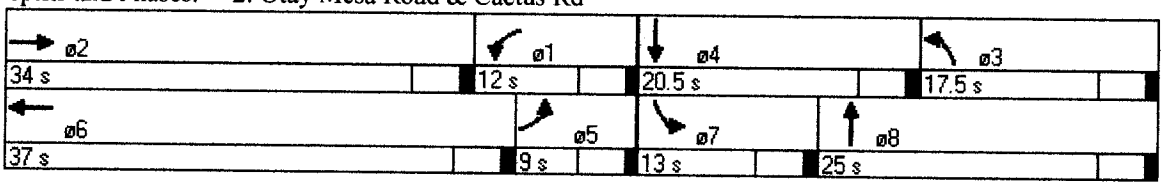


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4767	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4767	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		20			1				138			4
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	1514	137	81	2674	13	188	1	130	4	1	4
Adj. Flow (vph)	2	1611	146	86	2845	14	200	1	138	4	1	4
Lane Group Flow (vph)	2	1757	0	86	2859	0	200	1	138	4	1	4
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Total Split (s)	9.0	34.0	0.0	12.0	37.0	0.0	17.5	25.0	25.0	13.0	20.5	20.5
Act Effct Green (s)	5.0	48.3		7.7	56.1		15.9	15.9	15.9	6.2	6.2	6.2
Actuated g/C Ratio	0.06	0.58		0.09	0.67		0.19	0.19	0.19	0.07	0.07	0.07
v/c Ratio	0.02	0.64		0.53	0.89		0.60	0.00	0.34	0.03	0.01	0.03
Control Delay	31.5	15.4		42.9	16.7		37.8	24.0	7.2	36.5	36.0	24.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	15.4		42.9	16.7		37.8	24.0	7.2	36.5	36.0	24.5
LOS	C	B		D	B		D	C	A	D	D	C
Approach Delay		15.4			17.5			25.3			31.1	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 33 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 17.3 — Intersection LOS: B
Intersection Capacity Utilization 82.4% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

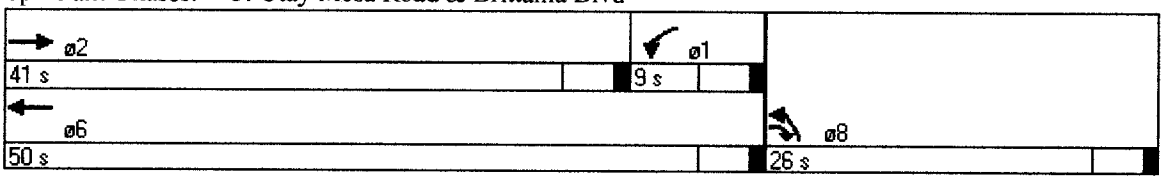


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		488				61
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1721	973	34	475	776	50
Adj. Flow (vph)	2099	1187	41	579	946	61
Lane Group Flow (vph)	2099	1187	41	579	946	61
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Total Split (s)	41.0	26.0	9.0	50.0	26.0	26.0
Act Effct Green (s)	40.6	68.2	5.0	46.0	22.0	22.0
Actuated g/C Ratio	0.53	0.90	0.07	0.61	0.29	0.29
v/c Ratio	0.82	0.81	0.35	0.20	0.95	0.12
Control Delay	19.6	10.4	40.6	3.0	47.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	10.4	40.6	3.0	47.2	6.7
LOS	B	B	D	A	D	A
Approach Delay	16.3			5.5	44.7	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 6 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 20.7 — Intersection LOS: C
Intersection Capacity Utilization 70.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

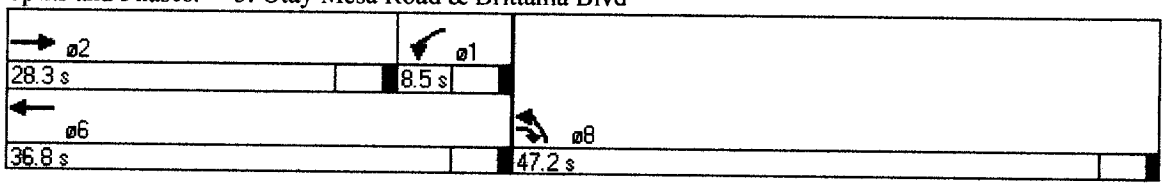


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		712				62
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	686	970	17	1613	1228	60
Adj. Flow (vph)	707	1000	18	1663	1266	62
Lane Group Flow (vph)	707	1000	18	1663	1266	62
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Total Split (s)	28.3	47.2	8.5	36.8	47.2	47.2
Act Effct Green (s)	33.3	79.0	4.5	36.7	39.3	39.3
Actuated g/C Ratio	0.40	0.94	0.05	0.44	0.47	0.47
v/c Ratio	0.37	0.65	0.19	0.79	0.79	0.08
Control Delay	9.9	10.8	24.7	11.3	22.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	10.8	24.7	11.3	22.7	3.2
LOS	A	B	C	B	C	A
Approach Delay	10.4			11.5	21.8	
Approach LOS	B			B	C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 74 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 72.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

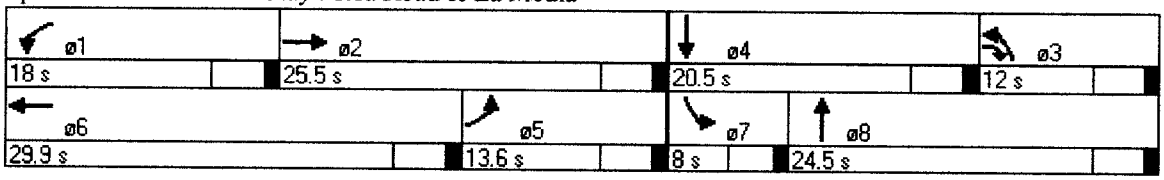


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.989			0.905			0.935	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4770	0	1770	1650	0	3433	1686	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4770	0	1770	1650	0	3433	1686	0
Satd. Flow (RTOR)			318		18			84			36	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	82	1157	277	167	356	29	75	42	73	11	41	31
Adj. Flow (vph)	94	1330	318	192	409	33	86	48	84	13	47	36
Lane Group Flow (vph)	94	1330	318	192	442	0	86	132	0	13	83	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	13.6	25.5	12.0	18.0	29.9	0.0	12.0	24.5	0.0	8.0	20.5	0.0
Act Effct Green (s)	8.9	29.4	39.0	12.8	35.3		9.6	20.2		4.0	8.2	
Actuated g/C Ratio	0.12	0.39	0.51	0.17	0.46		0.13	0.27		0.05	0.11	
v/c Ratio	0.45	0.72	0.33	0.64	0.20		0.38	0.26		0.07	0.39	
Control Delay	19.0	9.1	2.3	30.6	5.5		34.6	10.5		35.2	24.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.0	9.1	2.3	30.6	5.5		34.6	10.5		35.2	24.8	
LOS	B	A	A	C	A		C	B		D	C	
Approach Delay		8.4			13.1			20.0			26.2	
Approach LOS		A			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 29 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 11.1 — Intersection LOS: B
Intersection Capacity Utilization 52.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

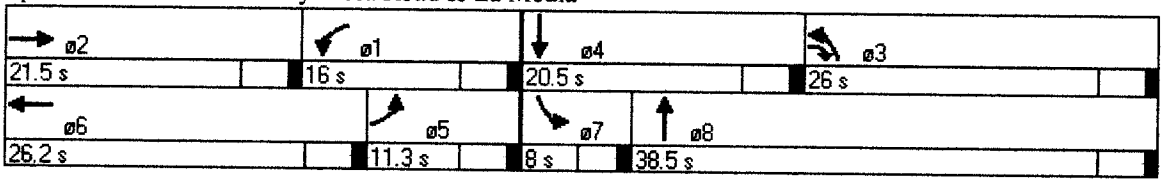


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.995			0.893			0.921	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4788	0	1770	1636	0	3433	1669	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4788	0	1770	1636	0	3433	1669	0
Satd. Flow (RTOR)			298		6			123			60	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	58	403	268	118	985	35	277	45	111	38	83	93
Adj. Flow (vph)	64	448	298	131	1094	39	308	50	123	42	92	103
Lane Group Flow (vph)	64	448	298	131	1133	0	308	173	0	42	195	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.3	21.5	26.0	16.0	26.2	0.0	26.0	38.5	0.0	8.0	20.5	0.0
Act Effct Green (s)	7.0	25.9	48.7	11.1	31.9		18.8	30.2		4.3	12.2	
Actuated g/C Ratio	0.08	0.31	0.58	0.13	0.38		0.22	0.36		0.05	0.15	
v/c Ratio	0.43	0.30	0.29	0.56	0.62		0.78	0.26		0.24	0.66	
Control Delay	42.9	9.8	1.0	29.8	14.8		44.1	6.9		42.1	33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.9	9.8	1.0	29.8	14.8		44.1	6.9		42.1	33.9	
LOS	D	A	A	C	B		D	A		D	C	
Approach Delay		9.2			16.4			30.7			35.3	
Approach LOS		A			B			C			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.4 — Intersection LOS: B
Intersection Capacity Utilization 61.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

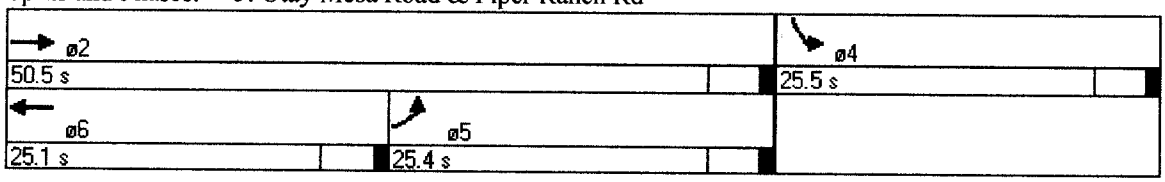


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.979		0.940	0.850
Flt Protected	0.950				0.971	
Satd. Flow (prot)	1770	3539	4979	0	3298	1441
Flt Permitted	0.950				0.971	
Satd. Flow (perm)	1770	3539	4979	0	3298	1441
Satd. Flow (RTOR)			41		57	64
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	180	1083	456	75	74	105
Adj. Flow (vph)	207	1245	524	86	85	121
Lane Group Flow (vph)	207	1245	610	0	142	64
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	25.4	50.5	25.1	0.0	25.5	25.5
Act Effct Green (s)	21.4	60.2	34.8		7.8	7.8
Actuated g/C Ratio	0.28	0.79	0.46		0.10	0.10
v/c Ratio	0.42	0.44	0.26		0.36	0.31
Control Delay	8.9	2.6	12.2		22.1	13.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	8.9	2.6	12.2		22.1	13.2
LOS	A	A	B		C	B
Approach Delay		3.5	12.2		19.3	
Approach LOS		A	B		B	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 50 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 7.3 — Intersection LOS: A
Intersection Capacity Utilization 39.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

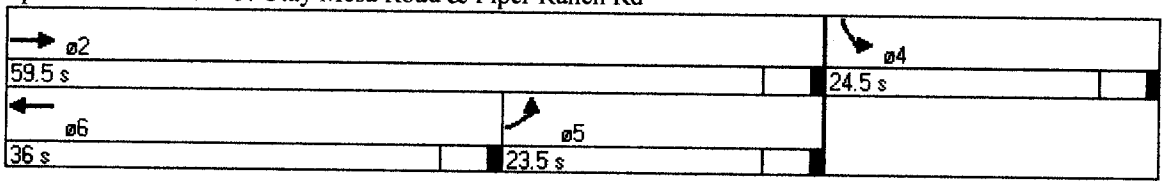


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.986		0.906	0.850
Flt Protected	0.950				0.982	
Satd. Flow (prot)	1770	3539	5014	0	3215	1441
Flt Permitted	0.950				0.982	
Satd. Flow (perm)	1770	3539	5014	0	3215	1441
Satd. Flow (RTOR)			24		202	202
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	167	777	1489	152	118	400
Adj. Flow (vph)	169	785	1504	154	119	404
Lane Group Flow (vph)	169	785	1658	0	321	202
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	23.5	59.5	36.0	0.0	24.5	24.5
Act Effct Green (s)	19.5	66.4	42.9		9.6	9.6
Actuated g/C Ratio	0.23	0.79	0.51		0.11	0.11
v/c Ratio	0.41	0.28	0.65		0.59	0.59
Control Delay	36.2	2.4	12.0		17.5	12.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.2	2.4	12.0		17.5	12.5
LOS	D	A	B		B	B
Approach Delay		8.4	12.0		15.5	
Approach LOS		A	B		B	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 46 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 11.5 — Intersection LOS: B
Intersection Capacity Utilization 59.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

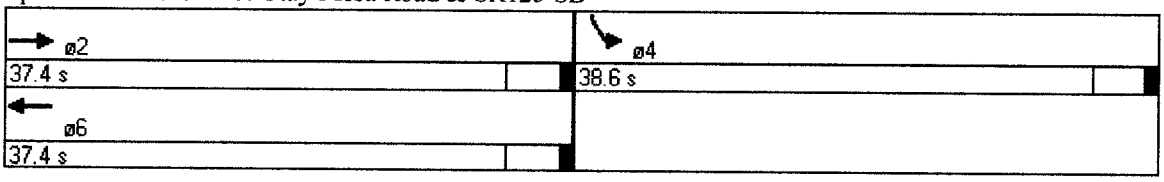


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						267
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1153	315	0	465	224
Adj. Flow (vph)	0	1373	375	0	554	267
Lane Group Flow (vph)	0	1373	375	0	554	267
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	37.4	37.4	0.0	38.6	38.6
Act Effct Green (s)		50.3	50.3		17.7	17.7
Actuated g/C Ratio		0.66	0.66		0.23	0.23
v/c Ratio		0.41	0.11		0.69	0.47
Control Delay		2.0	8.8		30.9	5.8
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		2.0	8.8		30.9	5.8
LOS		A	A		C	A
Approach Delay		2.0	8.8		22.8	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 23 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 9.6 — Intersection LOS: A
Intersection Capacity Utilization 46.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

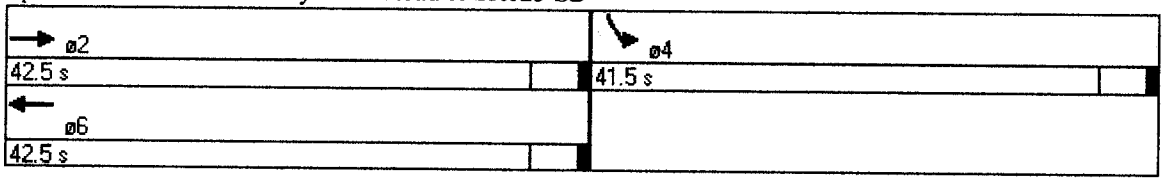


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						31
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	478	1072	0	79	110
Adj. Flow (vph)	0	537	1204	0	89	124
Lane Group Flow (vph)	0	537	1204	0	89	124
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	42.5	42.5	0.0	41.5	41.5
Act Effct Green (s)		68.7	68.7		10.1	10.1
Actuated g/C Ratio		0.82	0.82		0.12	0.12
v/c Ratio		0.13	0.29		0.21	0.57
Control Delay		1.4	3.2		33.3	35.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		1.4	3.2		33.3	35.6
LOS		A	A		C	D
Approach Delay		1.4	3.2		34.7	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 56 (67%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 6.2 — Intersection LOS: A
Intersection Capacity Utilization 40.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

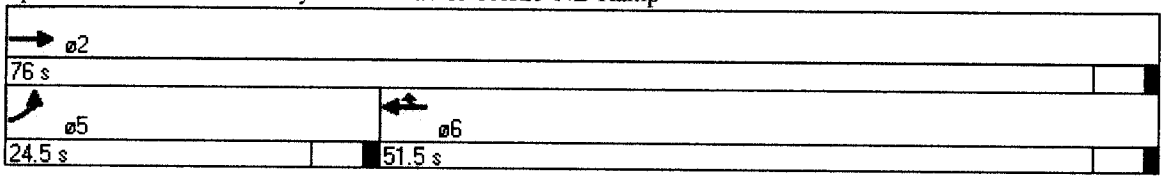


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				57		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1573	315	46	0	0
Adj. Flow (vph)	56	1942	389	57	0	0
Lane Group Flow (vph)	56	1942	389	57	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	24.5	76.0	51.5	51.5	0.0	0.0
Act Effct Green (s)	7.0	76.0	66.7	66.7		
Actuated g/C Ratio	0.09	1.00	0.88	0.88		
v/c Ratio	0.18	0.55	0.13	0.02		
Control Delay	32.8	1.0	0.5	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	32.8	1.0	0.5	0.0		
LOS	C	A	A	A		
Approach Delay		1.9	0.4			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 22 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 1.6 — Intersection LOS: A
Intersection Capacity Utilization 46.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

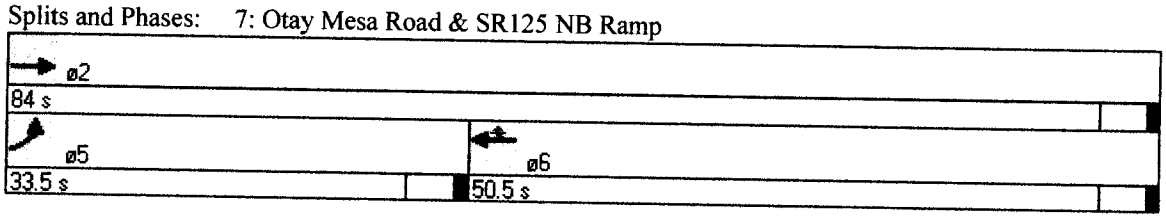


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				376		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	403	1072	338	0	0
Adj. Flow (vph)	171	448	1191	376	0	0
Lane Group Flow (vph)	171	448	1191	376	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	33.5	84.0	50.5	50.5	0.0	0.0
Act Effct Green (s)	9.2	84.0	66.8	66.8		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.46	0.13	0.42	0.16		
Control Delay	30.0	0.1	3.5	0.5		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	30.0	0.1	3.5	0.5		
LOS	C	A	A	A		
Approach Delay		8.3	2.8			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 31 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 4.3 — Intersection LOS: A
Intersection Capacity Utilization 40.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

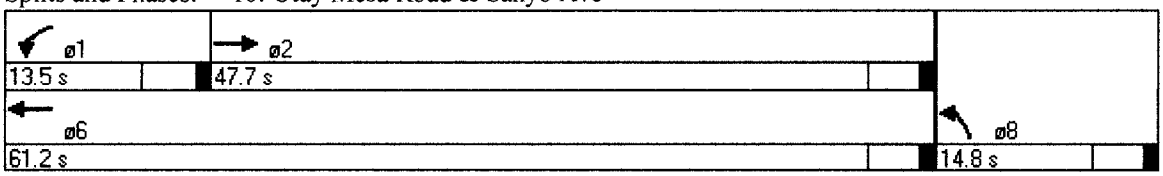


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.954				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3376	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3376	0	1770	1863	3430	0
Satd. Flow (RTOR)	159				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1085	487	4	270	88	3
Adj. Flow (vph)	1340	601	5	333	109	4
Lane Group Flow (vph)	1941	0	5	333	113	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	47.7	0.0	13.5	61.2	14.8	0.0
Act Effct Green (s)	60.4		6.3	62.6	8.2	
Actuated g/C Ratio	0.79		0.08	0.82	0.11	
v/c Ratio	0.71		0.03	0.22	0.30	
Control Delay	6.8		24.5	9.1	31.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	6.8		24.5	9.1	31.8	
LOS	A		C	A	C	
Approach Delay	6.8			9.3	31.8	
Approach LOS	A			A	C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 28 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 8.4 — Intersection LOS: A
Intersection Capacity Utilization 55.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

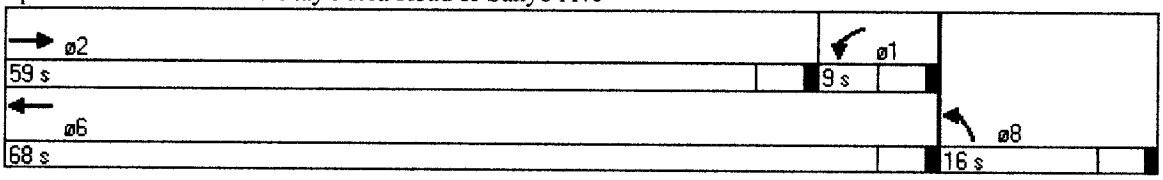


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.931				0.999	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3295	0	1770	1863	3440	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3295	0	1770	1863	3440	0
Satd. Flow (RTOR)	204				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	216	186	14	1044	363	4
Adj. Flow (vph)	237	204	15	1147	399	4
Lane Group Flow (vph)	441	0	15	1147	403	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	59.0	0.0	9.0	68.0	16.0	0.0
Act Effct Green (s)	54.6		13.6	63.8	12.2	
Actuated g/C Ratio	0.65		0.16	0.76	0.15	
v/c Ratio	0.20		0.05	0.81	0.81	
Control Delay	5.3		21.4	6.6	48.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.3		21.4	6.6	48.9	
LOS	A		C	A	D	
Approach Delay	5.3			6.8	48.9	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 24 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 14.9 — Intersection LOS: B
Intersection Capacity Utilization 72.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

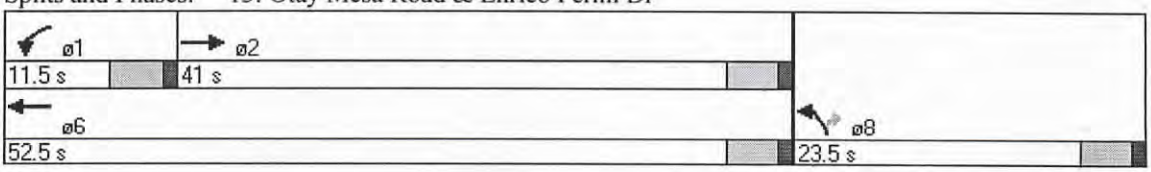


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.921					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1716	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1716	0	1770	1863	1770	1583
Satd. Flow (RTOR)	131					33
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	341	484	42	103	194	24
Adj. Flow (vph)	467	663	58	141	266	33
Lane Group Flow (vph)	1130	0	58	141	266	33
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	41.0	0.0	11.5	52.5	23.5	23.5
Act Effct Green (s)	44.7		7.2	51.8	16.2	16.2
Actuated g/C Ratio	0.59		0.09	0.68	0.21	0.21
v/c Ratio	1.06		0.35	0.11	0.70	0.09
Control Delay	64.8		38.0	5.1	34.3	8.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	64.8		38.0	5.1	34.3	8.5
LOS	E		D	A	C	A
Approach Delay	64.8			14.7	31.5	
Approach LOS	E			B	C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 45 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 52.5 — Intersection LOS: D
Intersection Capacity Utilization 65.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

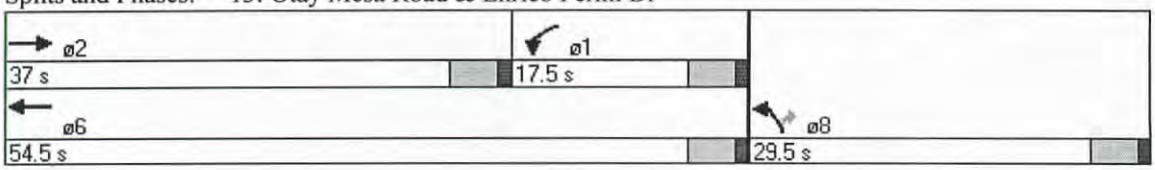


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.913					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1701	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1701	0	1770	1863	1770	1583
Satd. Flow (RTOR)	127					52
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	78	141	20	426	524	45
Adj. Flow (vph)	90	162	23	490	603	52
Lane Group Flow (vph)	252	0	23	490	603	52
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	37.0	0.0	17.5	54.5	29.5	29.5
Act Effct Green (s)	43.5		9.1	50.5	25.5	25.5
Actuated g/C Ratio	0.52		0.11	0.60	0.30	0.30
v/c Ratio	0.27		0.12	0.44	1.12	0.10
Control Delay	3.7		33.1	10.6	110.8	14.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	3.7		33.1	10.6	110.8	14.9
LOS	A		C	B	F	B
Approach Delay	3.7			11.6	103.2	
Approach LOS	A			B	F	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 52.5 — Intersection LOS: D
Intersection Capacity Utilization 49.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	481	1	0	0	0	0	0	0	1	0	0	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	523	1	0	0	0	0	0	0	1	0	0	117

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	524	0	1	117
Volume Left (vph)	523	0	0	0
Volume Right (vph)	0	0	1	117
Hadj (s)	0.23	0.00	-0.57	-0.57
Departure Headway (s)	4.4	4.8	4.8	4.6
Degree Utilization, x	0.64	0.00	0.00	0.15
Capacity (veh/h)	794	730	668	707
Control Delay (s)	15.0	7.8	7.8	8.4
Approach Delay (s)	15.0	0.0	7.8	8.4
Approach LOS	C	A	A	A

Intersection Summary			
Delay	13.8		
HCM Level of Service	B		
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	87	0	0	0	0	0	2	0	0	0	0	350
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	95	0	0	0	0	0	2	0	0	0	0	380

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	95	0	2	380
Volume Left (vph)	95	0	2	0
Volume Right (vph)	0	0	0	380
Hadj (s)	0.23	0.00	0.23	-0.57
Departure Headway (s)	4.9	4.8	4.7	3.6
Degree Utilization, x	0.13	0.00	0.00	0.38
Capacity (veh/h)	684	696	725	984
Control Delay (s)	8.6	7.8	7.7	8.8
Approach Delay (s)	8.6	0.0	7.7	8.8
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	60	28	4	84	83	23	41	3	95	272	72
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	66	31	4	92	91	25	45	3	104	299	79

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	104	97	91	25	48	403	79
Volume Left (vph)	8	4	0	25	0	104	0
Volume Right (vph)	31	0	91	0	3	0	79
Hadj (s)	-0.13	0.06	-0.67	0.53	-0.01	0.16	-0.67
Departure Headway (s)	6.1	6.2	5.5	6.5	5.9	5.6	4.8
Degree Utilization, x	0.18	0.17	0.14	0.05	0.08	0.63	0.11
Capacity (veh/h)	547	540	608	518	564	624	723
Control Delay (s)	10.4	9.2	8.1	8.6	8.3	16.5	7.1
Approach Delay (s)	10.4	8.7		8.4		14.9	
Approach LOS	B	A		A		B	

Intersection Summary			
Delay	12.4		
HCM Level of Service	B		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	65	15	8	102	136	36	175	1	42	131	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	74	17	9	116	155	41	199	1	48	149	43

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	148	125	155	41	200	197	43
Volume Left (vph)	57	9	0	41	0	48	0
Volume Right (vph)	17	0	155	0	1	0	43
Hadj (s)	0.04	0.07	-0.67	0.53	0.03	0.16	-0.67
Departure Headway (s)	6.3	6.2	5.5	6.6	6.1	6.3	5.4
Degree Utilization, x	0.26	0.22	0.23	0.08	0.34	0.34	0.07
Capacity (veh/h)	528	543	614	510	555	542	616
Control Delay (s)	11.5	9.7	8.9	9.0	11.1	11.3	7.6
Approach Delay (s)	11.5	9.3		10.7		10.6	
Approach LOS	B	A		B		B	

Intersection Summary			
Delay	10.4		
HCM Level of Service	B		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	113	28	6	75	2	33	4	15	2	0	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	126	31	7	83	2	37	4	17	2	0	70
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	86			157			304	278	78	217	292	43
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	86			157			304	278	78	217	292	43
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	99	98	100	100	93
cM capacity (veh/h)	1509			1421			575	618	966	695	607	1018

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	19	84	73	7	56	30	41	17	72
Volume Left	19	0	0	7	0	0	37	0	2
Volume Right	0	0	31	0	0	2	0	17	70
cSH	1509	1700	1700	1421	1700	1700	579	966	1004
Volume to Capacity	0.01	0.05	0.04	0.00	0.03	0.02	0.07	0.02	0.07
Queue Length 95th (ft)	1	0	0	0	0	0	6	1	6
Control Delay (s)	7.4	0.0	0.0	7.5	0.0	0.0	11.7	8.8	8.9
Lane LOS	A			A			B	A	A
Approach Delay (s)	0.8			0.5			10.9		8.9
Approach LOS							B		A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	21	63	24	32	154	1	82	3	11	0	2	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	24	72	28	37	177	1	94	3	13	0	2	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	178			100			309	386	50	350	399	89
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	178			100			309	386	50	350	399	89
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			84	99	99	100	100	99
cM capacity (veh/h)	1395			1490			591	524	1008	552	515	951

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	48	52	37	118	60	98	13	14
Volume Left	24	0	0	37	0	0	94	0	0
Volume Right	0	0	28	0	0	1	0	13	11
cSH	1395	1700	1700	1490	1700	1700	589	1008	834
Volume to Capacity	0.02	0.03	0.03	0.02	0.07	0.04	0.17	0.01	0.02
Queue Length 95th (ft)	1	0	0	2	0	0	15	1	1
Control Delay (s)	7.6	0.0	0.0	7.5	0.0	0.0	12.3	8.6	9.4
Lane LOS	A			A			B	A	A
Approach Delay (s)	1.5			1.3			11.9		9.4
Approach LOS							B		A

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	64	37	4	70	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	82	47	5	90	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			129		206	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			129		206	65
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1454		761	986

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	55	75	5	90	29	14
Volume Left	0	0	5	0	29	0
Volume Right	0	47	0	0	0	14
cSH	1700	1700	1454	1700	761	986
Volume to Capacity	0.03	0.04	0.00	0.05	0.04	0.01
Queue Length 95th (ft)	0	0	0	0	3	1
Control Delay (s)	0.0	0.0	7.5	0.0	9.9	8.7
Lane LOS			A		A	A
Approach Delay (s)	0.0		0.4		9.5	
Approach LOS					A	

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	13.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	27	36	1	108	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	32	43	1	129	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			75		185	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			75		185	38
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	100
cM capacity (veh/h)			1522		787	1026

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	21	54	1	129	65	1
Volume Left	0	0	1	0	65	0
Volume Right	0	43	0	0	0	1
cSH	1700	1700	1522	1700	787	1026
Volume to Capacity	0.01	0.03	0.00	0.08	0.08	0.00
Queue Length 95th (ft)	0	0	0	0	7	0
Control Delay (s)	0.0	0.0	7.4	0.0	10.0	8.5
Lane LOS			A		A	A
Approach Delay (s)	0.0		0.1		10.0	
Approach LOS					A	

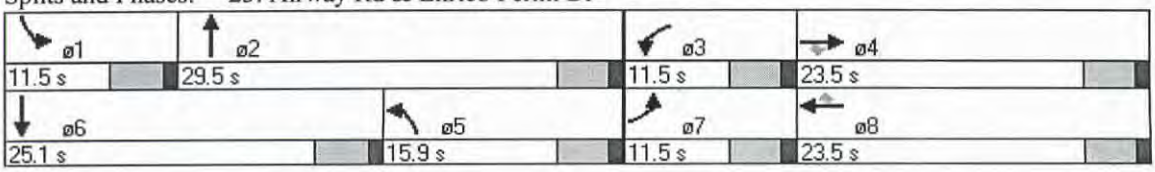
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.968			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3426	0	1770	3529	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3426	0	1770	3529	0
Satd. Flow (RTOR)			42			43		49			2	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	37	31	6	4	32	65	157	43	223	314	6
Adj. Flow (vph)	9	50	42	8	5	43	88	212	58	301	424	8
Lane Group Flow (vph)	9	50	42	8	5	43	88	270	0	301	432	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	11.5	23.5	23.5	11.5	23.5	23.5	15.9	29.5	0.0	11.5	25.1	0.0
Act Effct Green (s)	6.4	8.0	8.0	6.3	8.0	8.0	9.6	25.0		30.8	49.0	
Actuated g/C Ratio	0.08	0.11	0.11	0.08	0.11	0.11	0.13	0.33		0.41	0.64	
v/c Ratio	0.06	0.27	0.21	0.05	0.03	0.21	0.39	0.23		0.42	0.19	
Control Delay	32.6	34.3	13.0	32.7	29.5	12.9	44.4	23.5		15.5	10.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	32.6	34.3	13.0	32.7	29.5	12.9	44.4	23.5		15.5	10.9	
LOS	C	C	B	C	C	B	D	C		B	B	
Approach Delay		25.3			17.2			28.7			12.8	
Approach LOS		C			B			C			B	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 10 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 18.6 — Intersection LOS: B
Intersection Capacity Utilization 33.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.995			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3522	0	1770	3522	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3522	0	1770	3522	0
Satd. Flow (RTOR)			12			141		5			4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	11	10	6	11	116	94	435	16	60	120	4
Adj. Flow (vph)	9	13	12	7	13	141	115	530	20	73	146	5
Lane Group Flow (vph)	9	13	12	7	13	141	115	550	0	73	151	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	13.5	25.5	25.5	13.5	25.5	25.5	18.4	31.5	0.0	13.5	26.6	0.0
Act Effct Green (s)	6.4	7.6	7.6	6.3	7.6	7.6	16.3	54.8		9.3	48.1	
Actuated g/C Ratio	0.08	0.09	0.09	0.08	0.09	0.09	0.19	0.65		0.11	0.57	
v/c Ratio	0.07	0.08	0.08	0.05	0.08	0.52	0.34	0.24		0.37	0.07	
Control Delay	36.7	34.5	18.5	36.7	34.5	13.9	27.5	6.4		40.2	15.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	36.7	34.5	18.5	36.7	34.5	13.9	27.5	6.4		40.2	15.0	
LOS	D	C	B	D	C	B	C	A		D	B	
Approach Delay		29.5			16.5			10.0			23.2	
Approach LOS		C			B			B			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 53 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 14.3 — Intersection LOS: B
Intersection Capacity Utilization 33.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

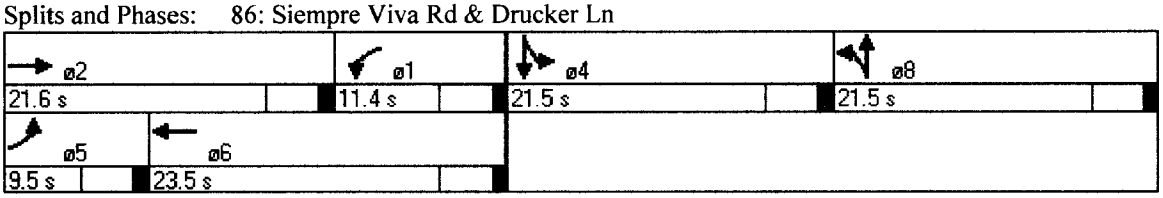
ø1	ø2	ø3	ø4
13.5 s	31.5 s	13.5 s	25.5 s
ø6	ø5	ø7	ø8
26.6 s	18.4 s	13.5 s	25.5 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.976			0.869			0.943	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	4953	0	1770	4963	0	1770	1619	0	0	1718	0
Flt Permitted	0.950			0.950			0.950				0.978	
Satd. Flow (perm)	1770	4953	0	1770	4963	0	1770	1619	0	0	1718	0
Satd. Flow (RTOR)		25			47			7			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	18	111	23	53	222	43	13	1	6	28	7	26
Adj. Flow (vph)	20	121	25	58	241	47	14	1	7	30	8	28
Lane Group Flow (vph)	20	146	0	58	288	0	14	8	0	0	66	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	9.5	21.6	0.0	11.4	23.5	0.0	21.5	21.5	0.0	21.5	21.5	0.0
Act Effct Green (s)	6.9	42.7		7.1	44.7		6.7	6.7			7.8	
Actuated g/C Ratio	0.09	0.56		0.09	0.59		0.09	0.09			0.10	
v/c Ratio	0.12	0.05		0.35	0.10		0.09	0.05			0.33	
Control Delay	33.0	8.2		38.8	7.5		32.8	20.9			24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	33.0	8.2		38.8	7.5		32.8	20.9			24.8	
LOS	C	A		D	A		C	C			C	
Approach Delay		11.2			12.8			28.4			24.8	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 48 (63%), Referenced to phase 2:EBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 14.2 — Intersection LOS: B
Intersection Capacity Utilization 28.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

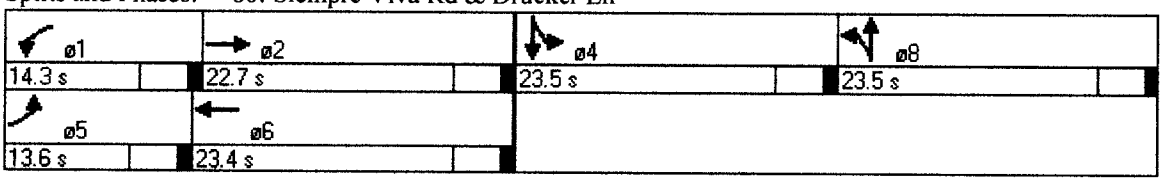


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.962			0.864			0.978	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	4984	0	1770	4892	0	1770	1609	0	0	1778	0
Flt Permitted	0.950			0.950			0.950				0.976	
Satd. Flow (perm)	1770	4984	0	1770	4892	0	1770	1609	0	0	1778	0
Satd. Flow (RTOR)		31			87			19			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	44	210	32	91	231	79	26	2	17	49	33	16
Adj. Flow (vph)	48	231	35	100	254	87	29	2	19	54	36	18
Lane Group Flow (vph)	48	266	0	100	341	0	29	21	0	0	108	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	13.6	22.7	0.0	14.3	23.4	0.0	23.5	23.5	0.0	23.5	23.5	0.0
Act Effct Green (s)	8.2	42.2		10.4	46.4		7.3	7.3			10.2	
Actuated g/C Ratio	0.10	0.50		0.12	0.55		0.09	0.09			0.12	
v/c Ratio	0.28	0.11		0.46	0.12		0.19	0.13			0.48	
Control Delay	38.6	12.2		44.1	2.9		37.8	18.7			37.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	38.6	12.2		44.1	2.9		37.8	18.7			37.2	
LOS	D	B		D	A		D	B			D	
Approach Delay		16.2			12.2			29.8			37.2	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 47 (56%), Referenced to phase 2:EBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 17.5 — Intersection LOS: B
Intersection Capacity Utilization 31.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

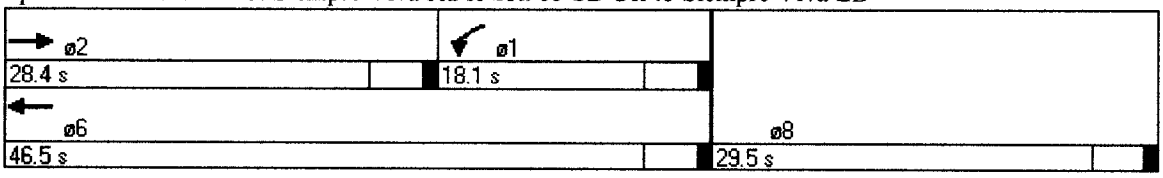


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.978					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4973	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4973	0	3433	5085	0	2787
Satd. Flow (RTOR)	43					1137
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	234	40	94	539	0	291
Adj. Flow (vph)	254	43	102	586	0	316
Lane Group Flow (vph)	297	0	102	586	0	316
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	28.4	0.0	18.1	46.5	0.0	29.5
Act Effct Green (s)	47.5		12.5	62.0		6.0
Actuated g/C Ratio	0.62		0.16	0.82		0.08
v/c Ratio	0.10		0.18	0.14		0.25
Control Delay	4.2		27.2	1.7		0.5
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	4.2		27.2	1.7		0.5
LOS	A		C	A		A
Approach Delay	4.2			5.5		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 22 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.25
Intersection Signal Delay: 4.0 — Intersection LOS: A
Intersection Capacity Utilization 22.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

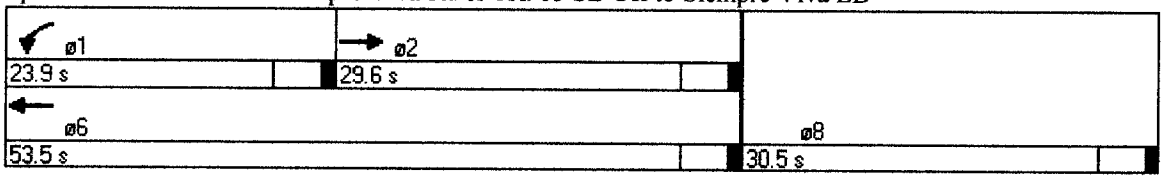


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.945					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4806	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4806	0	3433	5085	0	2787
Satd. Flow (RTOR)	181					1052
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	369	216	287	530	0	133
Adj. Flow (vph)	377	220	293	541	0	136
Lane Group Flow (vph)	597	0	293	541	0	136
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	29.6	0.0	23.9	53.5	0.0	30.5
Act Effct Green (s)	56.5		11.5	72.8		6.0
Actuated g/C Ratio	0.67		0.14	0.87		0.07
v/c Ratio	0.18		0.63	0.12		0.12
Control Delay	2.1		38.0	1.7		0.2
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	2.1		38.0	1.7		0.2
LOS	A		D	A		A
Approach Delay	2.1			14.5		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 26 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 8.5 — Intersection LOS: A
Intersection Capacity Utilization 26.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	525	424	0	0	209
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	559	451	0	0	222
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked						
vC, conflicting volume	451				637	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	451				637	150
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	74
cM capacity (veh/h)	1106				409	869

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	186	186	186	150	150	150	222
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	222
cSH	1700	1700	1700	1700	1700	1700	869
Volume to Capacity	0.11	0.11	0.11	0.09	0.09	0.09	0.26
Queue Length 95th (ft)	0	0	0	0	0	0	25
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.6
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.6
Approach LOS							B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	502	661	0	0	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	512	674	0	0	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked						
vC, conflicting volume	674				845	225
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	674				845	225
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	80
cM capacity (veh/h)	913				302	778

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	171	171	171	225	225	225	159
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	159
cSH	1700	1700	1700	1700	1700	1700	778
Volume to Capacity	0.10	0.10	0.10	0.13	0.13	0.13	0.20
Queue Length 95th (ft)	0	0	0	0	0	0	19
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.8
Approach LOS							B

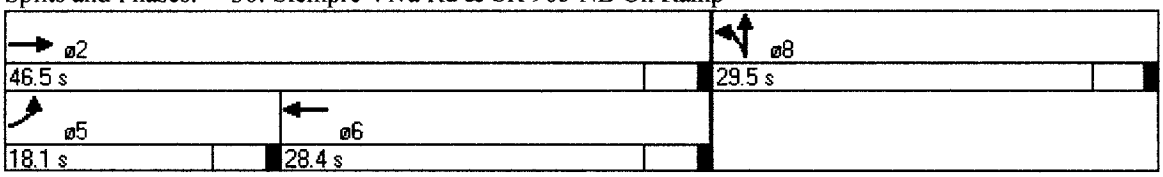
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.948	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4556	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4556	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					142	143			321			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	74	451	0	0	260	274	164	3	308	0	0	0
Adj. Flow (vph)	77	470	0	0	271	285	171	3	321	0	0	0
Lane Group Flow (vph)	77	470	0	0	413	143	0	174	321	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	18.1	46.5	0.0	0.0	28.4	28.4	29.5	29.5	29.5	0.0	0.0	0.0
Act Effct Green (s)	7.4	55.0			47.8	47.8		13.0	13.0			
Actuated g/C Ratio	0.10	0.72			0.63	0.63		0.17	0.17			
v/c Ratio	0.23	0.13			0.14	0.16		0.57	0.43			
Control Delay	34.4	2.4			3.1	2.1		35.9	5.2			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	34.4	2.4			3.1	2.1		35.9	5.2			
LOS	C	A			A	A		D	A			
Approach Delay		6.9			2.8			15.9				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 53 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 8.3 — Intersection LOS: A
Intersection Capacity Utilization 33.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

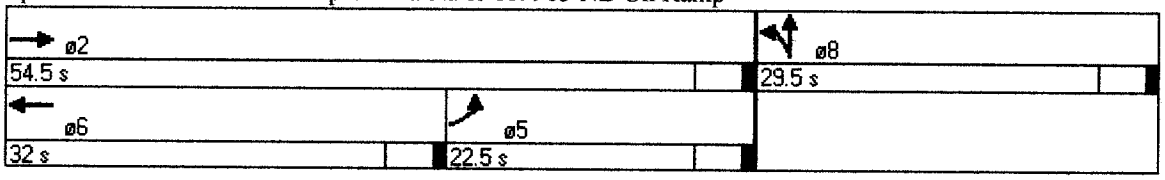


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.975	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4686	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4686	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					49	318			194			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	186	316	0	0	603	421	58	1	182	0	0	0
Adj. Flow (vph)	198	336	0	0	641	448	62	1	194	0	0	0
Lane Group Flow (vph)	198	336	0	0	771	318	0	63	194	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	22.5	54.5	0.0	0.0	32.0	32.0	29.5	29.5	29.5	0.0	0.0	0.0
Act Effct Green (s)	10.5	67.4			52.9	52.9		8.6	8.6			
Actuated g/C Ratio	0.12	0.80			0.63	0.63		0.10	0.10			
v/c Ratio	0.46	0.08			0.26	0.33		0.35	0.42			
Control Delay	37.8	1.0			2.5	0.9		39.7	8.5			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.8	1.0			2.5	0.9		39.7	8.5			
LOS	D	A			A	A		D	A			
Approach Delay		14.6			2.0			16.1				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 40 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 7.5 — Intersection LOS: A
Intersection Capacity Utilization 36.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

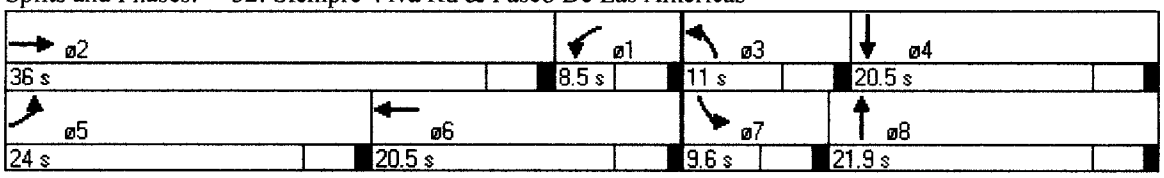


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.994				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3391	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3391	0
Satd. Flow (RTOR)			121		5				12		68	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	382	217	114	9	164	7	88	31	11	54	192	74
Adj. Flow (vph)	406	231	121	10	174	7	94	33	12	57	204	79
Lane Group Flow (vph)	406	231	121	10	181	0	94	33	12	57	283	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	24.0	36.0	36.0	8.5	20.5	0.0	11.0	21.9	21.9	9.6	20.5	0.0
Act Effct Green (s)	22.5	47.2	47.2	4.5	22.4		6.9	13.4	13.4	5.6	10.3	
Actuated g/C Ratio	0.30	0.62	0.62	0.06	0.29		0.09	0.18	0.18	0.07	0.14	
v/c Ratio	0.78	0.07	0.12	0.10	0.17		0.59	0.05	0.04	0.44	0.54	
Control Delay	34.0	6.1	1.6	36.0	23.5		49.5	25.8	14.2	45.2	26.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	34.0	6.1	1.6	36.0	23.5		49.5	25.8	14.2	45.2	26.4	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		20.3			24.1			40.8			29.5	
Approach LOS		C			C			D			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 25.0 — Intersection LOS: C
Intersection Capacity Utilization 51.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

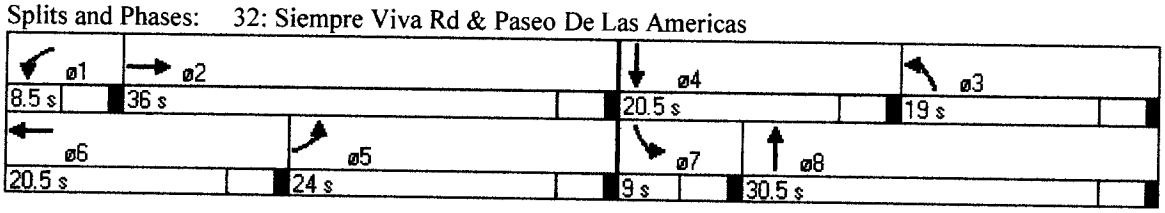


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.996				0.850		0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3525	0	1770	3539	1583	1770	3253	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3525	0	1770	3539	1583	1770	3253	0
Satd. Flow (RTOR)			98		3				7		98	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	358	87	96	24	382	12	266	134	7	5	82	96
Adj. Flow (vph)	365	89	98	24	390	12	271	137	7	5	84	98
Lane Group Flow (vph)	365	89	98	24	402	0	271	137	7	5	182	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	24.0	36.0	36.0	8.5	20.5	0.0	19.0	30.5	30.5	9.0	20.5	0.0
Act Effct Green (s)	20.0	41.4	41.4	5.7	20.8		19.1	29.4	29.4	5.0	8.1	
Actuated g/C Ratio	0.24	0.49	0.49	0.07	0.25		0.23	0.35	0.35	0.06	0.10	
v/c Ratio	0.87	0.04	0.12	0.20	0.46		0.67	0.11	0.01	0.05	0.45	
Control Delay	52.5	13.5	3.9	48.2	42.6		38.1	18.4	10.9	36.4	19.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	52.5	13.5	3.9	48.2	42.6		38.1	18.4	10.9	36.4	19.1	
LOS	D	B	A	D	D		D	B	B	D	B	
Approach Delay		37.6			42.9			31.1			19.5	
Approach LOS		D			D			C			B	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 37 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 35.2 — Intersection LOS: D
Intersection Capacity Utilization 64.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	162	11	12	141	10	29	10	0	10	5	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	20	205	14	15	178	13	37	13	0	13	6	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1284							
pX, platoon unblocked												
vC, conflicting volume	191			219			398	474	109	365	475	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	191			219			398	474	109	365	475	96
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			93	97	100	98	99	98
cM capacity (veh/h)	1380			1348			508	475	923	544	475	942

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	20	137	82	15	119	72	49	19	23
Volume Left	20	0	0	15	0	0	37	13	0
Volume Right	0	0	14	0	0	13	0	0	23
cSH	1380	1700	1700	1348	1700	1700	499	519	942
Volume to Capacity	0.01	0.08	0.05	0.01	0.07	0.04	0.10	0.04	0.02
Queue Length 95th (ft)	1	0	0	1	0	0	8	3	2
Control Delay (s)	7.6	0.0	0.0	7.7	0.0	0.0	13.0	12.2	8.9
Lane LOS	A			A			B	B	A
Approach Delay (s)	0.6			0.6			13.0	10.4	
Approach LOS							B	B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	40	71	28	9	362	8	55	9	3	3	10	46
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	47	83	33	10	421	9	64	10	3	3	12	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1284							
pX, platoon unblocked												
vC, conflicting volume	430			115			483	643	58	590	655	215
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	430			115			483	643	58	590	655	215
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			84	97	100	99	97	93
cM capacity (veh/h)	1126			1472			409	371	996	368	366	790

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	47	55	60	10	281	150	78	15	53
Volume Left	47	0	0	10	0	0	64	3	0
Volume Right	0	0	33	0	0	9	3	0	53
cSH	1126	1700	1700	1472	1700	1700	414	366	790
Volume to Capacity	0.04	0.03	0.04	0.01	0.17	0.09	0.19	0.04	0.07
Queue Length 95th (ft)	3	0	0	1	0	0	17	3	5
Control Delay (s)	8.3	0.0	0.0	7.5	0.0	0.0	15.7	15.3	9.9
Lane LOS	A			A			C	C	A
Approach Delay (s)	2.4			0.2			15.7	11.1	
Approach LOS							C	B	

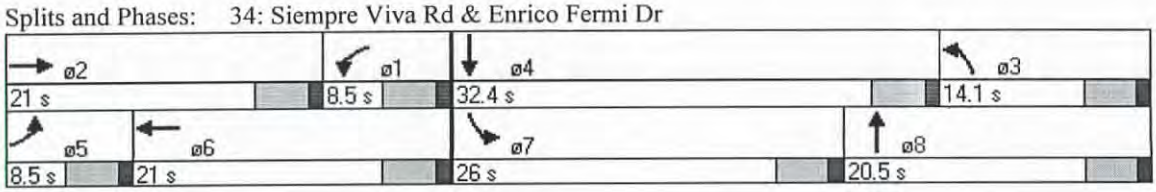
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.899			0.959			0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1840	0	1770	3182	0	1770	3394	0	1770	3320	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1840	0	1770	3182	0	1770	3394	0	1770	3320	0
Satd. Flow (RTOR)		5			123			40			17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	47	116	10	10	49	102	89	88	33	240	20	14
Adj. Flow (vph)	57	140	12	12	59	123	107	106	40	289	24	17
Lane Group Flow (vph)	57	152	0	12	182	0	107	146	0	289	41	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	8.5	21.0	0.0	8.5	21.0	0.0	14.1	20.5	0.0	26.0	32.4	0.0
Act Effct Green (s)	7.3	35.9		4.5	30.5		19.1	8.2		18.2	9.4	
Actuated g/C Ratio	0.10	0.47		0.06	0.40		0.25	0.11		0.24	0.12	
v/c Ratio	0.17	0.17		0.11	0.13		0.24	0.36		0.68	0.10	
Control Delay	44.3	10.9		37.1	8.3		22.2	24.9		42.9	36.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.3	10.9		37.1	8.3		22.2	24.9		42.9	36.0	
LOS	D	B		D	A		C	C		D	D	
Approach Delay		20.0			10.1			23.8			42.0	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 36 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 26.4 — Intersection LOS: C
Intersection Capacity Utilization 40.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

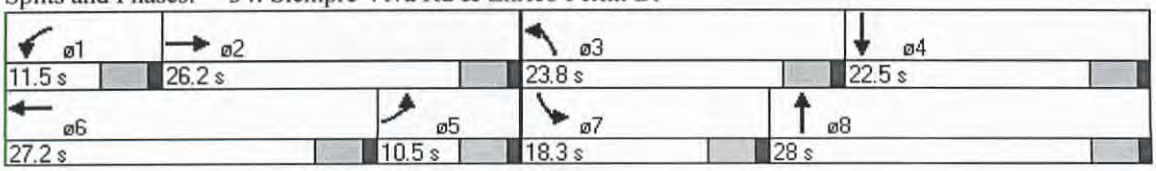


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982			0.897			0.990			0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1829	0	1770	3175	0	1770	3504	0	1770	3210	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1829	0	1770	3175	0	1770	3504	0	1770	3210	0
Satd. Flow (RTOR)		4			419			8			41	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	27	4	24	176	381	186	118	8	63	23	37
Adj. Flow (vph)	32	30	4	26	193	419	204	130	9	69	25	41
Lane Group Flow (vph)	32	34	0	26	612	0	204	139	0	69	66	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	10.5	26.2	0.0	11.5	27.2	0.0	23.8	28.0	0.0	18.3	22.5	0.0
Act Effct Green (s)	6.4	45.1		7.3	43.9		14.9	14.6		9.2	7.0	
Actuated g/C Ratio	0.08	0.54		0.09	0.52		0.18	0.17		0.11	0.08	
v/c Ratio	0.12	0.03		0.17	0.33		0.65	0.23		0.36	0.22	
Control Delay	42.3	14.8		37.0	6.0		41.5	29.5		36.4	36.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.3	14.8		37.0	6.0		41.5	29.5		36.4	36.1	
LOS	D	B		D	A		D	C		D	D	
Approach Delay		28.1			7.2			36.7			36.2	
Approach LOS		C			A			D			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 46 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 20.3 — Intersection LOS: C
Intersection Capacity Utilization 40.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

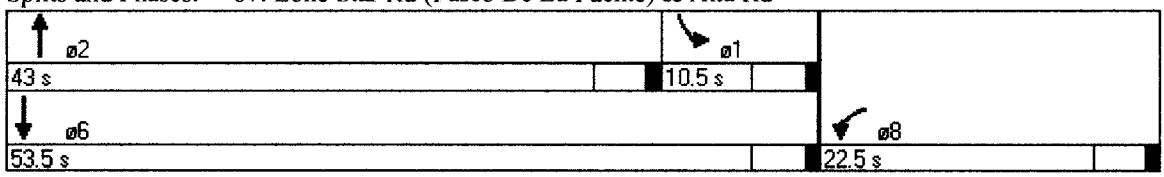


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.997			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1857	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1857	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	9	2	475	10	0	101
Adj. Flow (vph)	10	2	516	11	0	110
Lane Group Flow (vph)	10	2	527	0	0	110
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	22.5	22.5	43.0	0.0	10.5	53.5
Act Effct Green (s)	6.7	6.7	108.2			108.2
Actuated g/C Ratio	0.06	0.06	0.96			0.96
v/c Ratio	0.10	0.02	0.29			0.06
Control Delay	17.9	12.5	1.0			0.6
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	17.9	12.5	1.0			0.6
LOS	B	B	A			A
Approach Delay	17.0		1.0			0.6
Approach LOS	B		A			A

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 112.2
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.29
Intersection Signal Delay: 1.2 — Intersection LOS: A
Intersection Capacity Utilization 35.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd

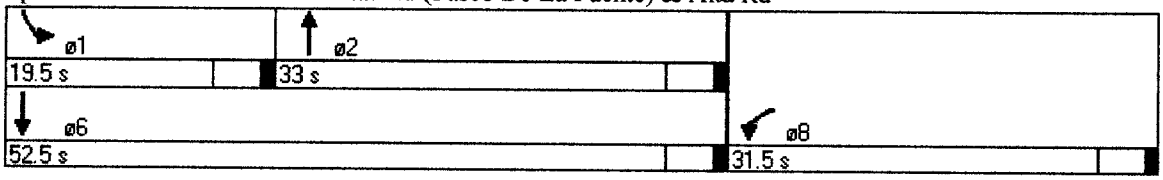


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.980			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1825	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1825	0	1770	1863
Satd. Flow (RTOR)		1	11			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	10	1	74	13	2	340
Adj. Flow (vph)	11	1	80	14	2	370
Lane Group Flow (vph)	11	1	94	0	2	370
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	31.5	31.5	33.0	0.0	19.5	52.5
Act Effct Green (s)	6.4	6.4	78.8		6.1	80.9
Actuated g/C Ratio	0.08	0.08	0.94		0.07	0.96
v/c Ratio	0.08	0.01	0.05		0.02	0.21
Control Delay	37.0	28.0	1.6		36.5	0.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	37.0	28.0	1.6		36.5	0.8
LOS	D	C	A		D	A
Approach Delay	36.3		1.6			1.0
Approach LOS	D		A			A

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.21
Intersection Signal Delay: 2.0 — Intersection LOS: A
Intersection Capacity Utilization 27.9% — ICU Level of Service A
Analysis Period (min) 15

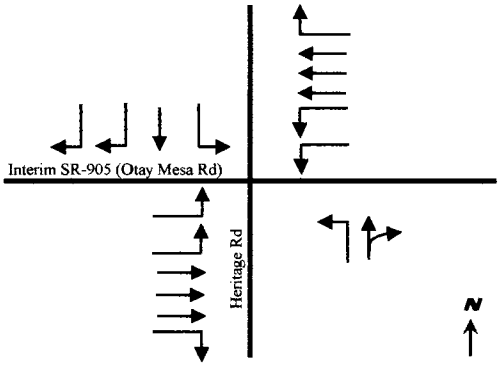
Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd



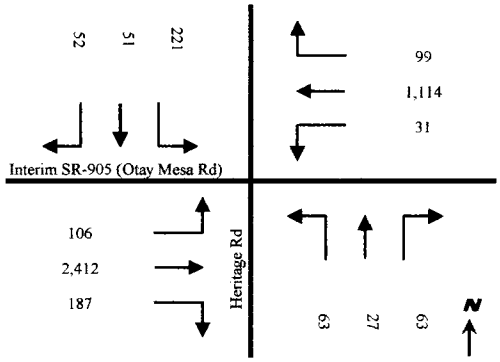
Existing + Project Phase 1 - ILV Analysis

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Heritage Rd
Analyst:	VSH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

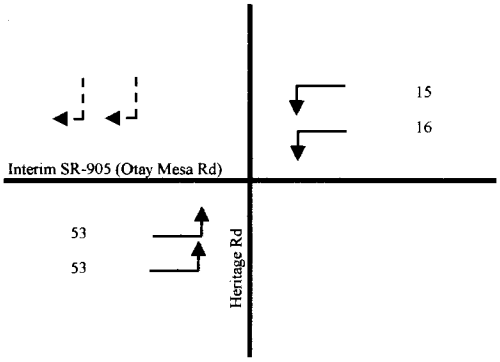
LANE GEOMETRY



TRAFFIC VOLUMES

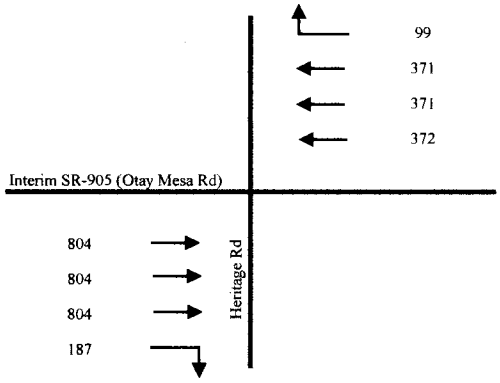


PHASE 1



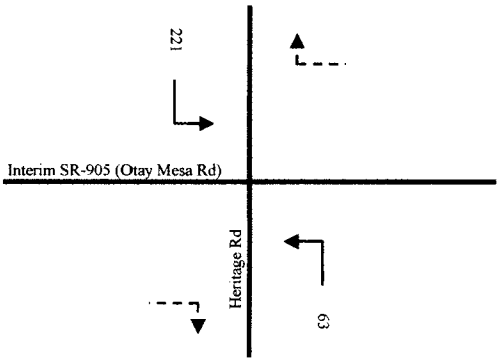
Phase 1 Critical ILV: 53

PHASE 2



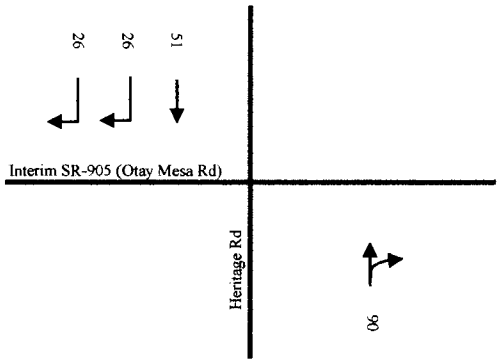
Phase 2 Critical ILV: 804

PHASE 3



Phase 3 Critical ILV: 221

PHASE 4



Phase 4 Critical ILV: 90

GRAND TOTAL ILV: **1,168**

OPERATING CONDITION **STABLE**

LEGEND

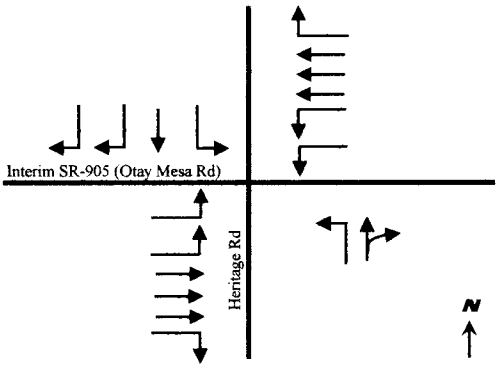
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

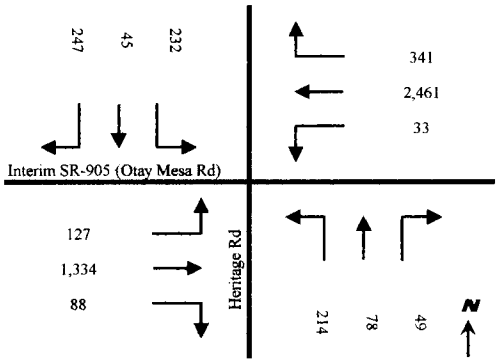
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Heritage Rd
Analyst:	DJH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

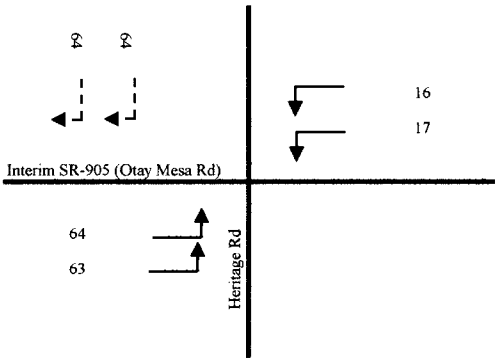
LANE GEOMETRY



TRAFFIC VOLUMES

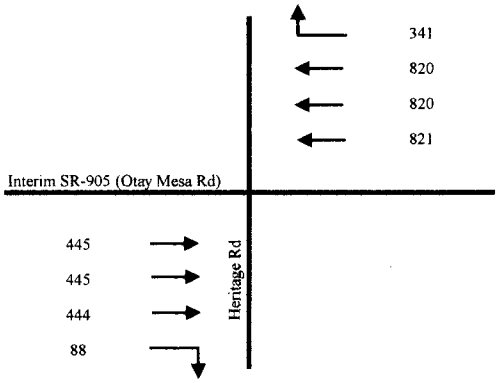


PHASE 1



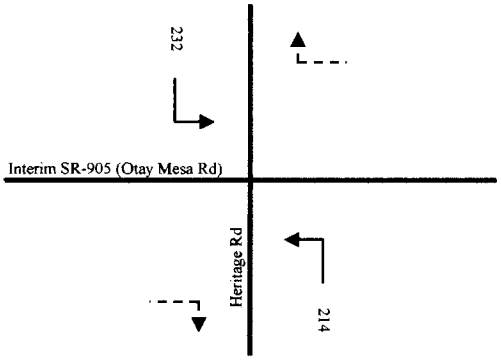
Phase 1 Critical ILV: 64

PHASE 2



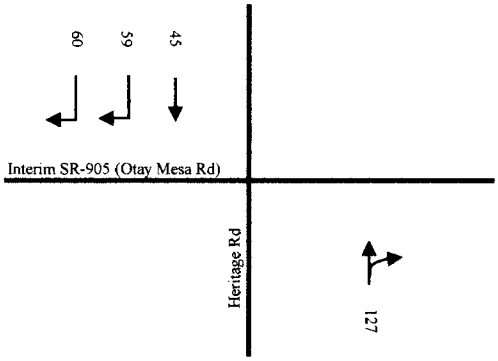
Phase 2 Critical ILV: 821

PHASE 3



Phase 3 Critical ILV: 232

PHASE 4



Phase 4 Critical ILV: 127

GRAND TOTAL ILV: **1,244**

OPERATING CONDITION **UNSTABLE**

LEGEND

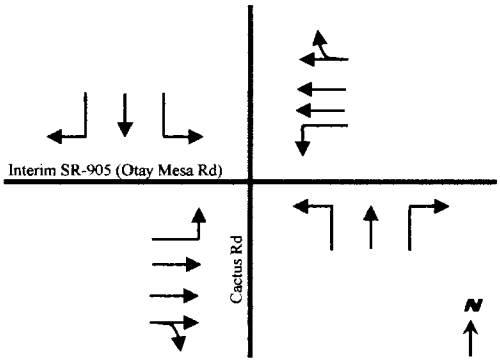
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

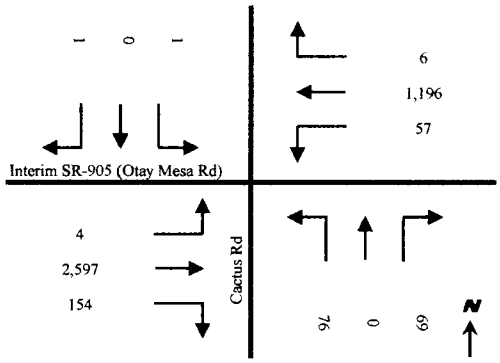
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Cactus Rd
Analyst:	USJC	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

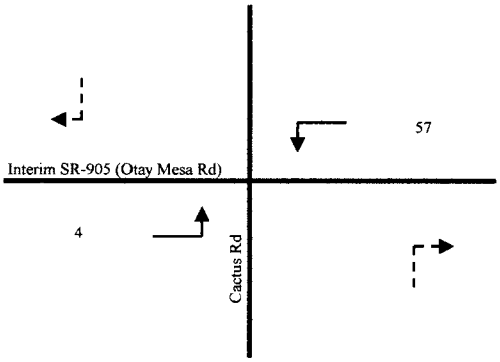
LANE GEOMETRY



TRAFFIC VOLUMES

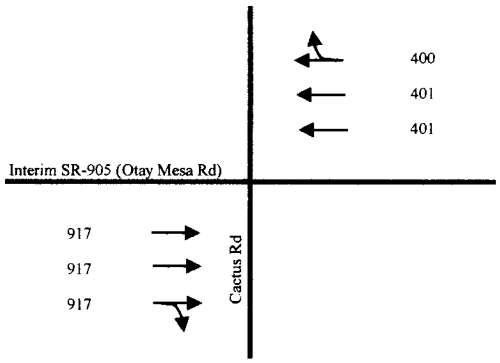


PHASE 1



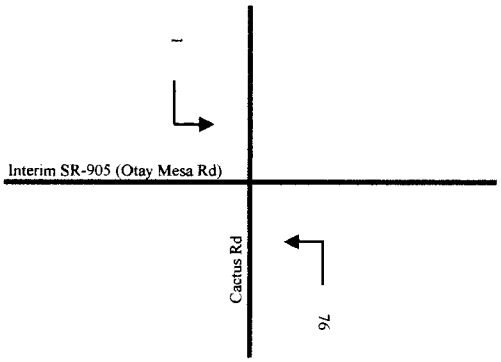
Phase 1 Critical ILV: 57

PHASE 2



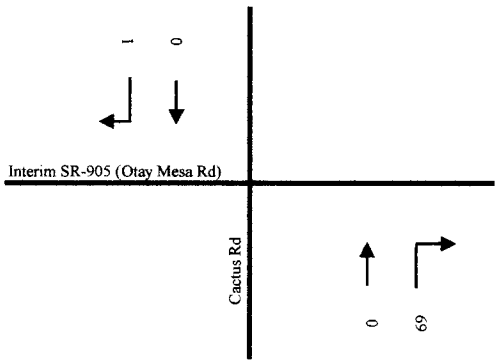
Phase 2 Critical ILV: 917

PHASE 3



Phase 3 Critical ILV: 76

PHASE 4



Phase 4 Critical ILV: 69

GRAND TOTAL ILV: 1,119

OPERATING CONDITION STABLE

LEGEND

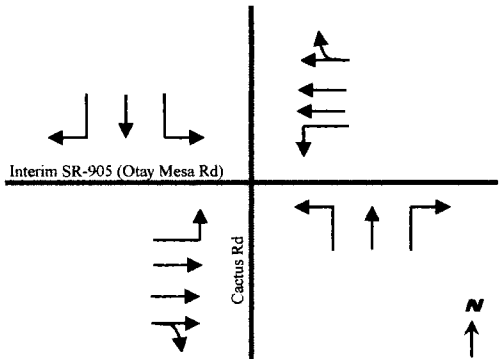
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

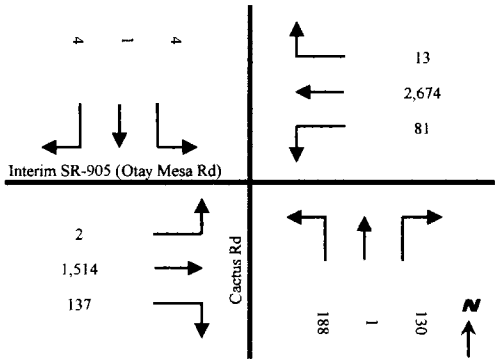
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Cactus Rd
Analyst:	USJ	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

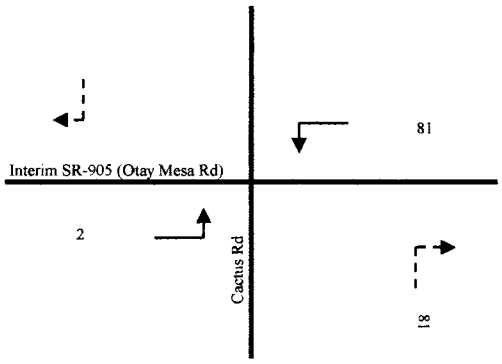
LANE GEOMETRY



TRAFFIC VOLUMES

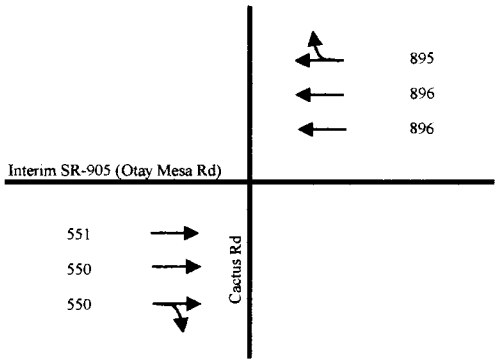


PHASE 1



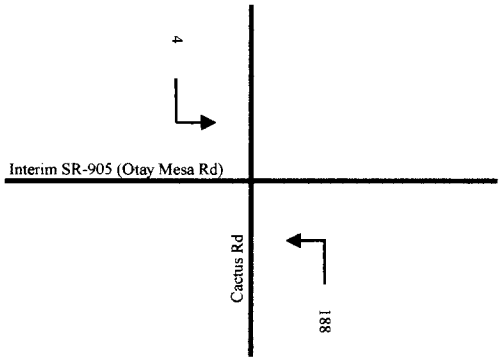
Phase 1 Critical ILV: 81

PHASE 2



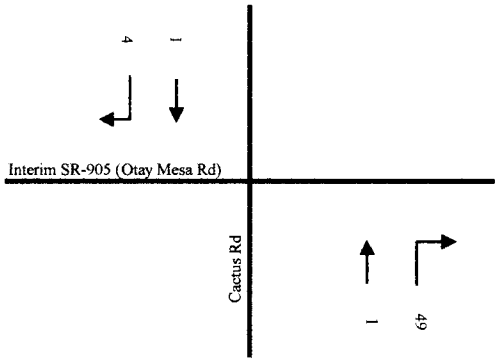
Phase 2 Critical ILV: 896

PHASE 3



Phase 3 Critical ILV: 188

PHASE 4



Phase 4 Critical ILV: 49

GRAND TOTAL ILV: 1,214

OPERATING CONDITION UNSTABLE

LEGEND

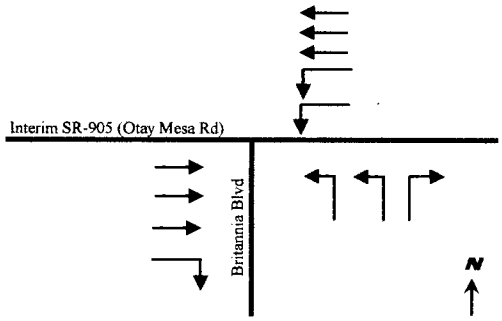
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

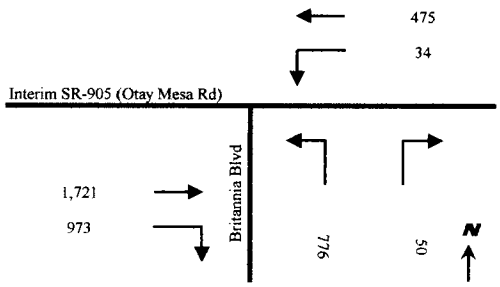
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Britannia Blvd
Analyst:	DJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

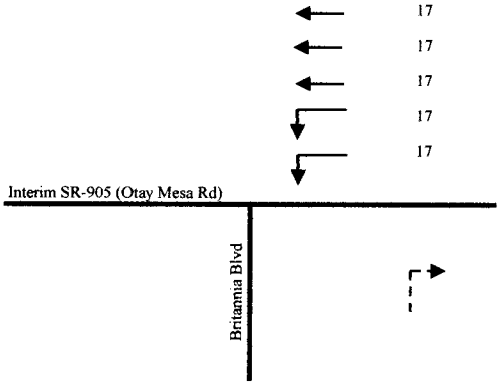
LANE GEOMETRY



TRAFFIC VOLUMES

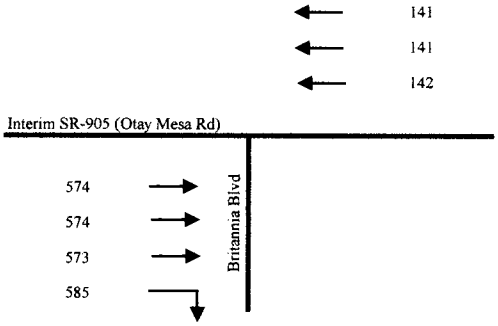


PHASE 1



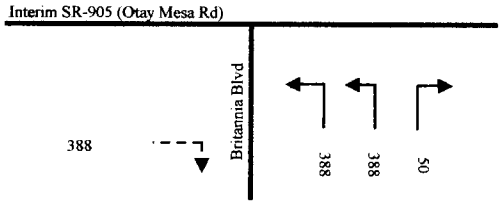
Phase 1 Critical ILV: 17

PHASE 2



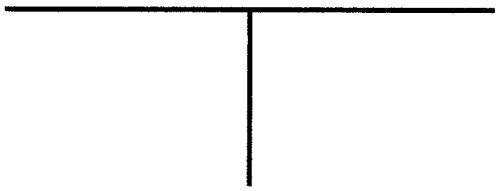
Phase 2 Critical ILV: 585

PHASE 3



Phase 3 Critical ILV: 388

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 990

OPERATING CONDITION STABLE

LEGEND

<1200 ILV = STABLE FLOW

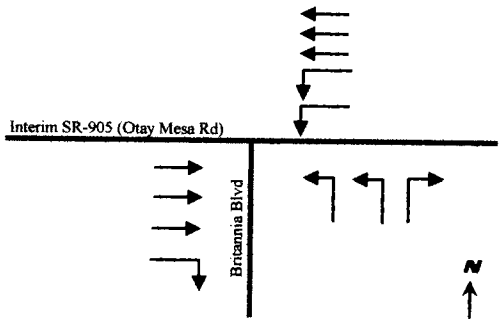
1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

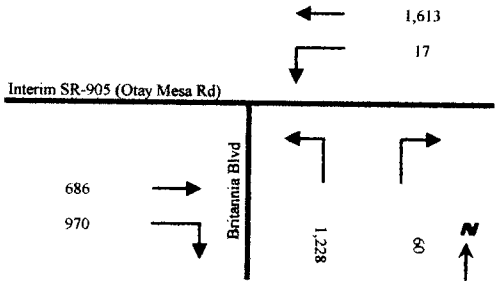
Date of Analysis:	March 19, 2011
Analyst:	VFH
Condition Analyzed:	Existing + Phase 1

Intersection:	Otay Mesa Rd @ Britannia Blvd
Peak Hour Analyzed:	PM Peak Hour

LANE GEOMETRY



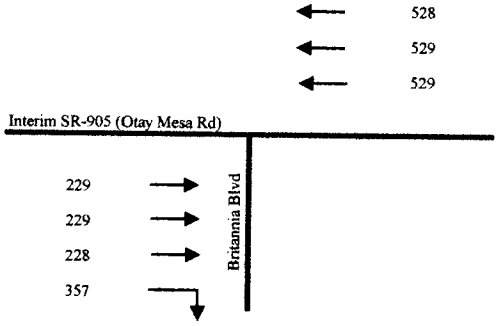
TRAFFIC VOLUMES



PHASE 1

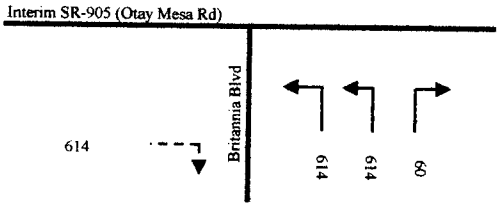
Phase 1 Critical ILV: 9

PHASE 2



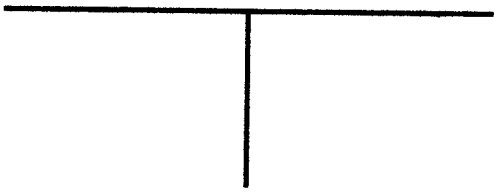
Phase 2 Critical ILV: 529

PHASE 3



Phase 3 Critical ILV: 614

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 1,152

OPERATING CONDITION STABLE

LEGEND

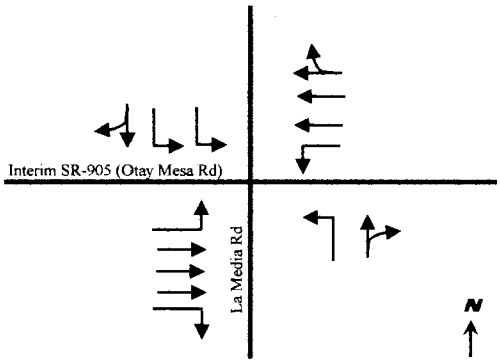
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

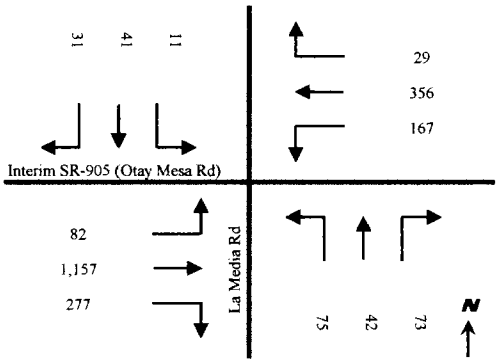
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ La Media Rd
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

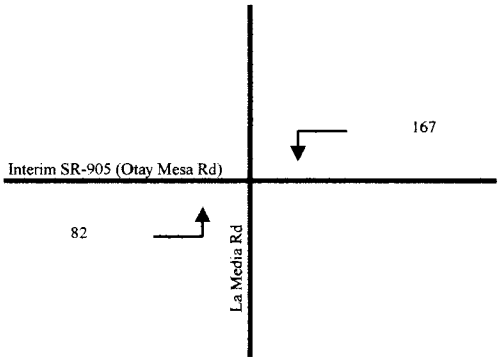
LANE GEOMETRY



TRAFFIC VOLUMES

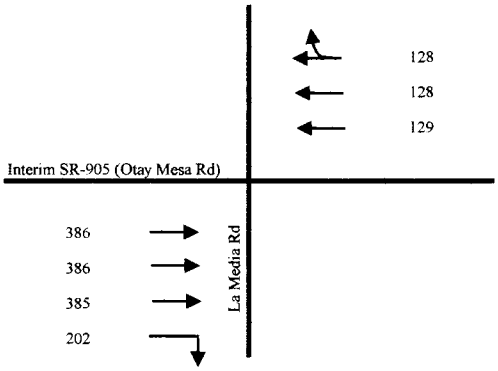


PHASE 1



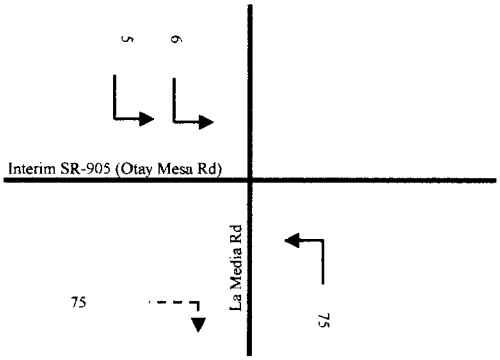
Phase 1 Critical ILV: 167

PHASE 2



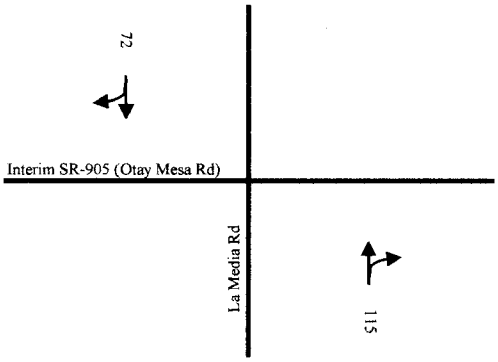
Phase 2 Critical ILV: 386

PHASE 3



Phase 3 Critical ILV: 75

PHASE 4



Phase 4 Critical ILV: 115

GRAND TOTAL ILV:	**743**
OPERATING CONDITION	**STABLE**

LEGEND

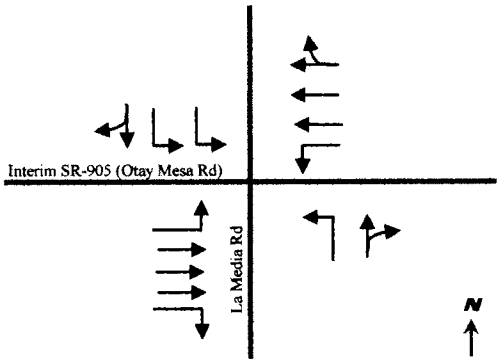
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

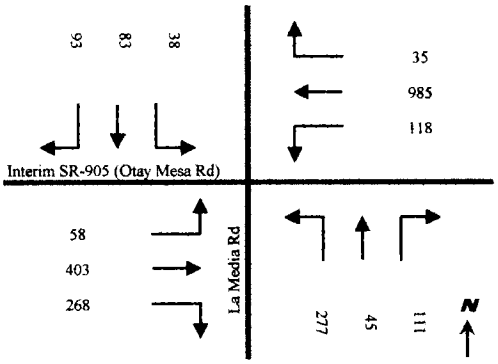
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ La Media Rd
Analyst:	VJH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

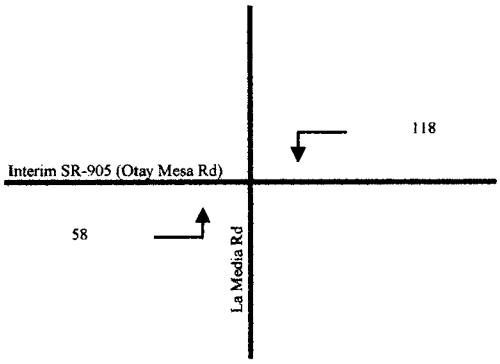
LANE GEOMETRY



TRAFFIC VOLUMES

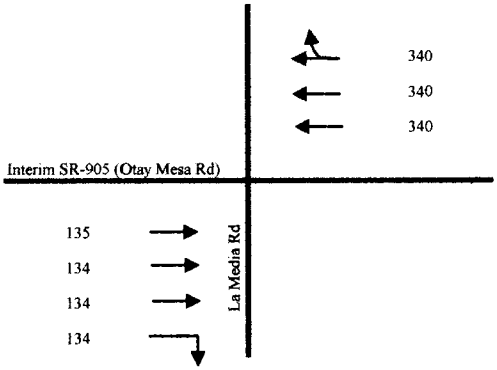


PHASE 1



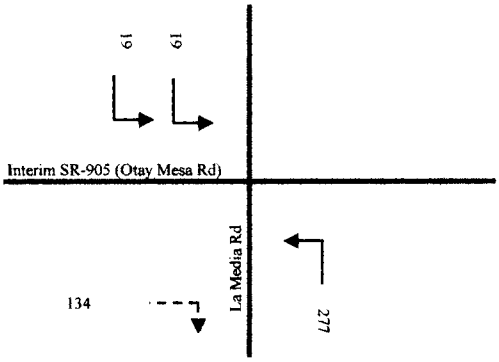
Phase 1 Critical ILV: 118

PHASE 2



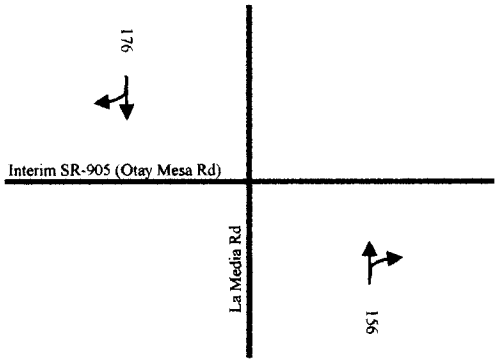
Phase 2 Critical ILV: 340

PHASE 3



Phase 3 Critical ILV: 277

PHASE 4



Phase 4 Critical ILV: 176

GRAND TOTAL ILV:	**911**
OPERATING CONDITION	**STABLE**

LEGEND

<1200 ILV = STABLE FLOW

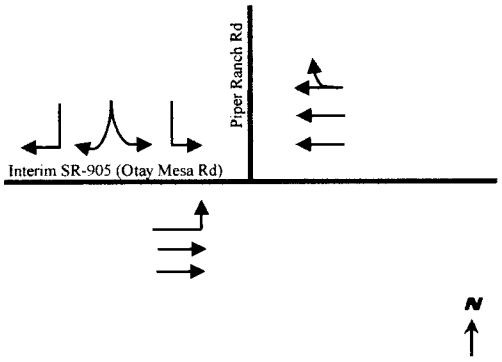
1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

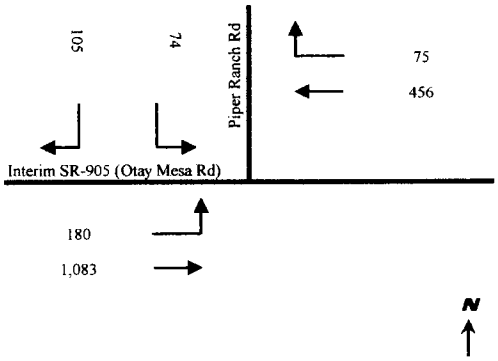
Date of Analysis:	March 19, 2011
Analyst:	DJK
Condition Analyzed:	Existing + Phase 1

Intersection:	Otay Mesa Rd @ Piper Ranch Rd
Peak Hour Analyzed:	AM Peak Hour

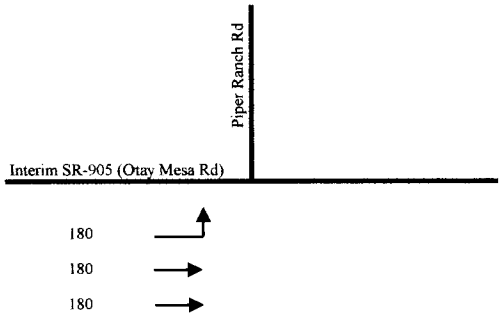
LANE GEOMETRY



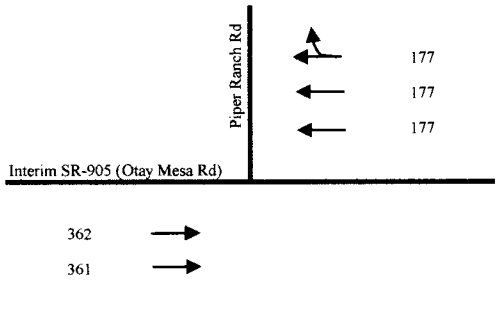
TRAFFIC VOLUMES



PHASE 1



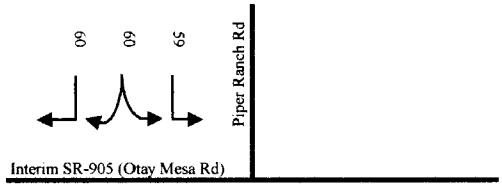
PHASE 2



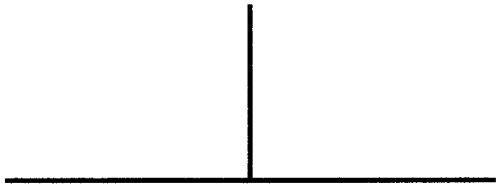
Phase 1 Critical ILV:	180

Phase 2 Critical ILV:	362

PHASE 3



PHASE 4



Phase 3 Critical ILV:	60

Phase 4 Critical ILV:	

GRAND TOTAL ILV:	**602**
OPERATING CONDITION	**STABLE**

LEGEND

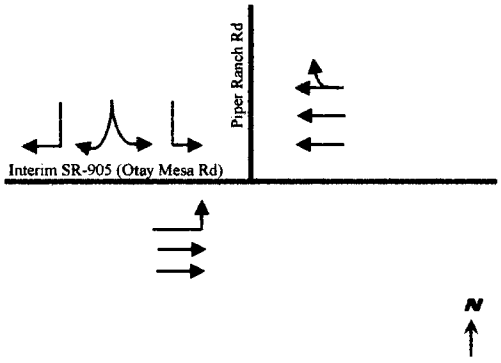
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

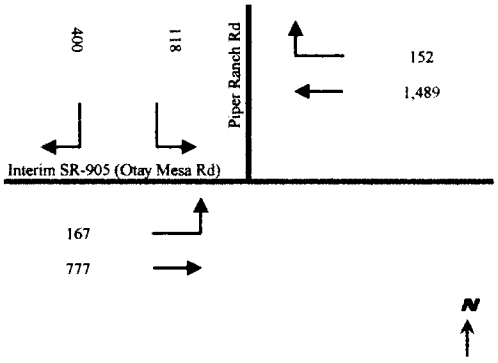
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Piper Ranch Rd
Analyst:	BSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

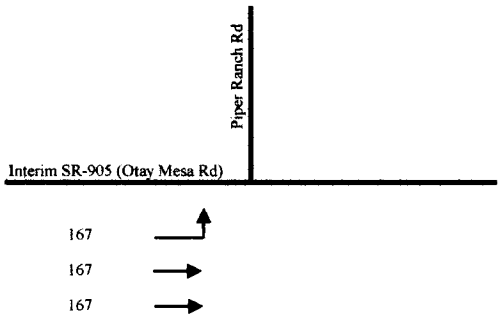
LANE GEOMETRY



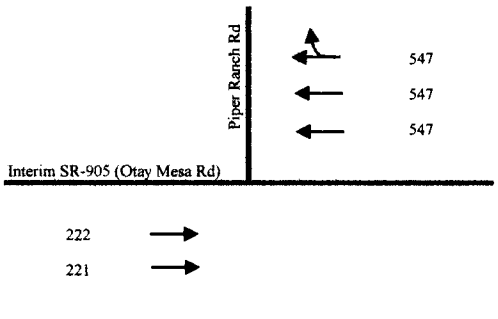
TRAFFIC VOLUMES



PHASE 1

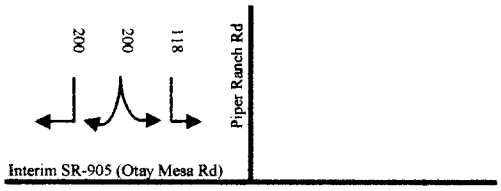


PHASE 2

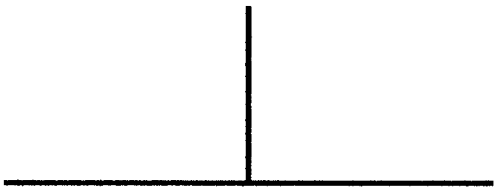


Phase 1 Critical ILV:	167	Phase 2 Critical ILV:	547

PHASE 3



PHASE 4



Phase 3 Critical ILV:	200	Phase 4 Critical ILV:	

GRAND TOTAL ILV:	**914**
OPERATING CONDITION	**STABLE**

LEGEND

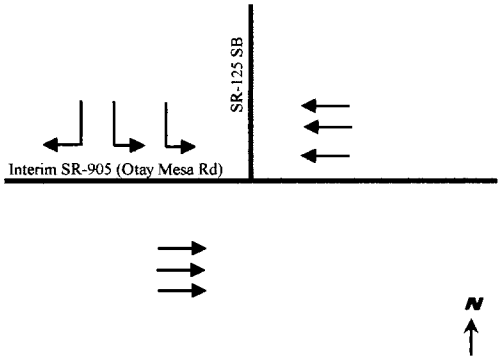
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

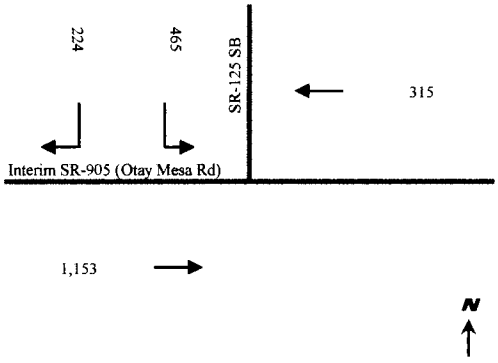
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	USJC	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

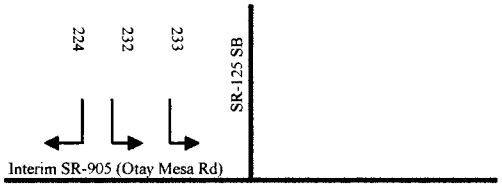
LANE GEOMETRY



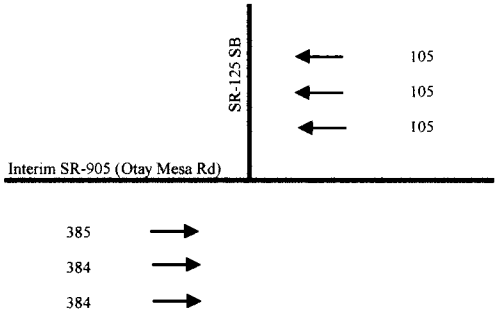
TRAFFIC VOLUMES



PHASE 1



PHASE 2

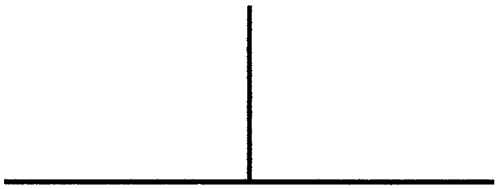


Phase 1 Critical ILV: 233

Phase 2 Critical ILV: 385

PHASE 3

PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 618

OPERATING CONDITION STABLE

LEGEND

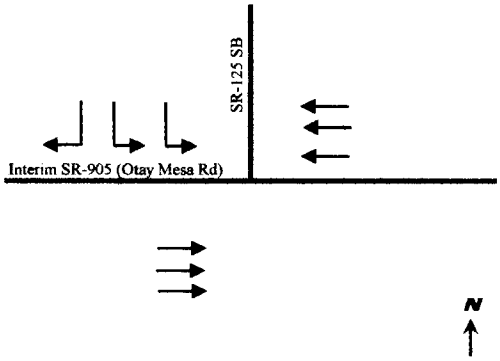
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

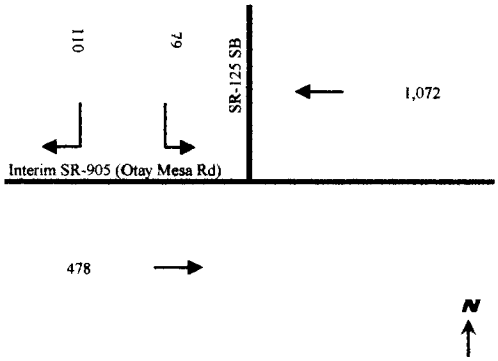
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	BSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

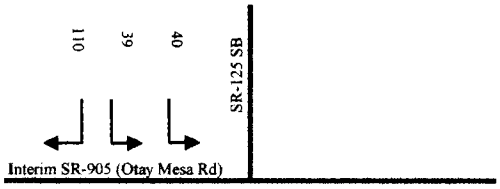
LANE GEOMETRY



TRAFFIC VOLUMES



PHASE 1



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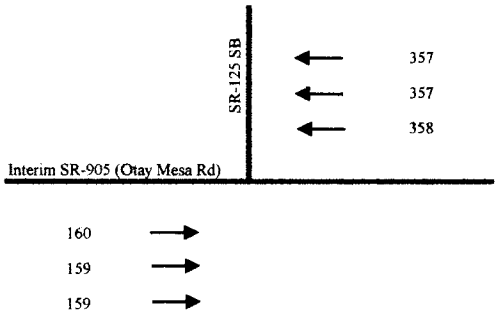
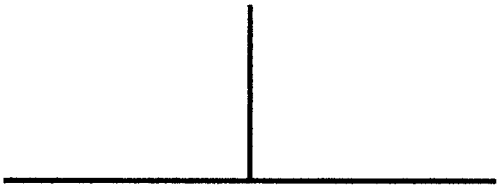


Phase 1 Critical ILV: 110

Phase 2 Critical ILV: 358

PHASE 3



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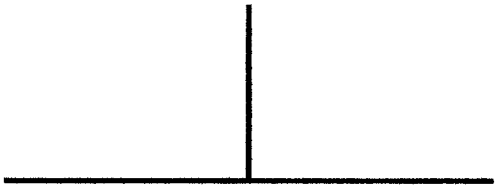


Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 468

OPERATING CONDITION STABLE

LEGEND

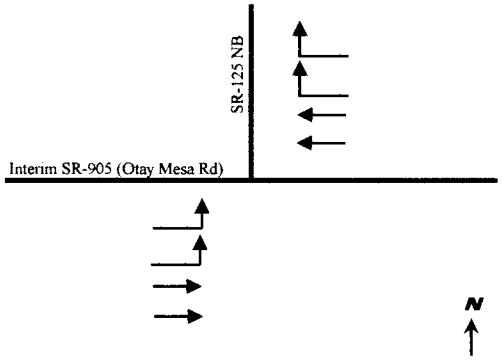
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

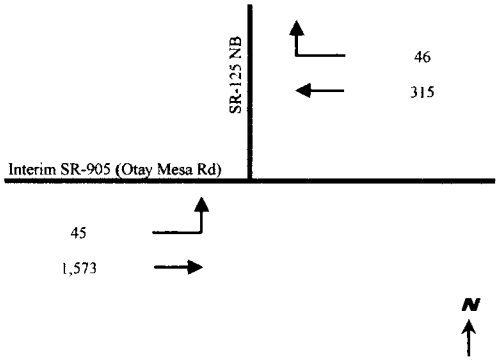
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	USH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

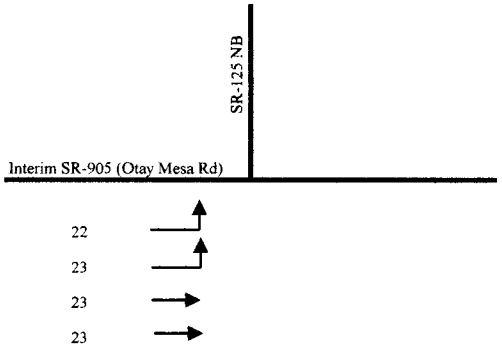
LANE GEOMETRY



TRAFFIC VOLUMES



PHASE 1



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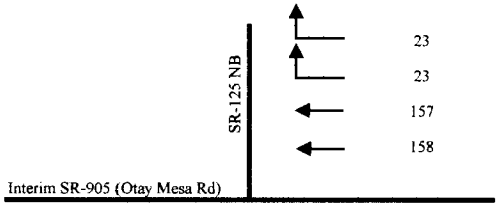
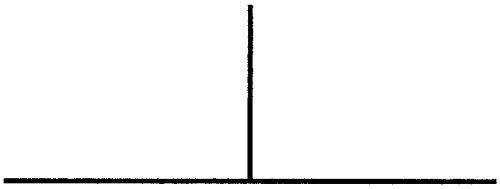


Phase 1 Critical ILV: 23

Phase 2 Critical ILV: 764

PHASE 3



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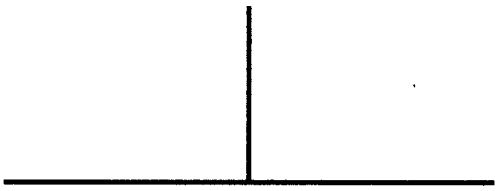


Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 787

OPERATING CONDITION STABLE

LEGEND

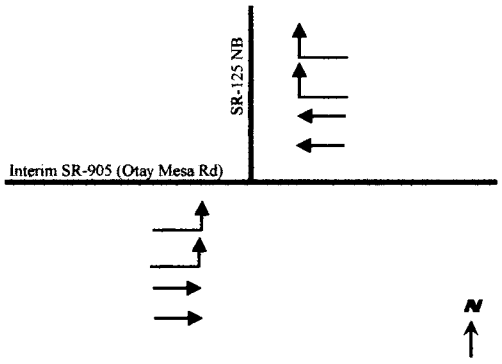
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

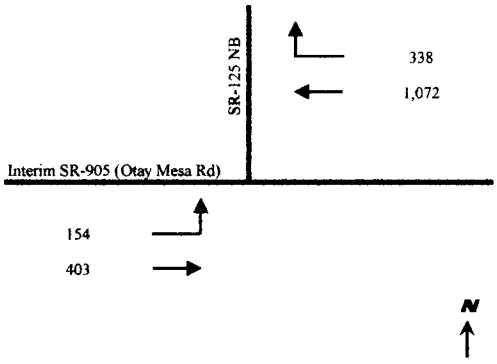
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

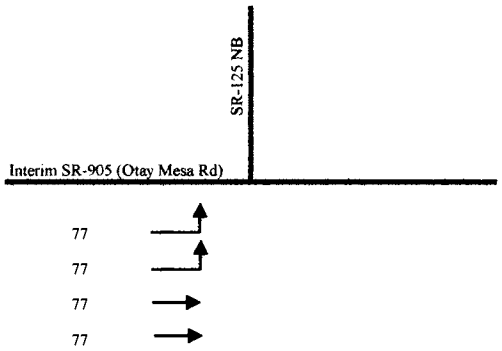
LANE GEOMETRY



TRAFFIC VOLUMES



PHASE 1



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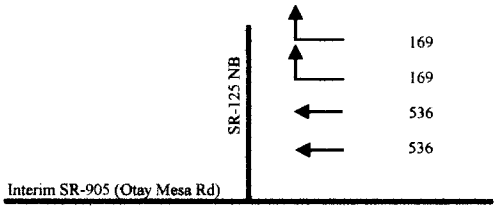
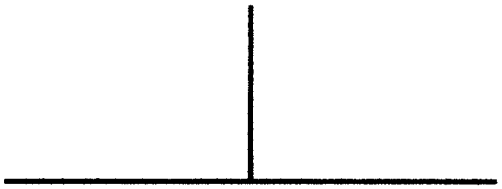


Phase 1 Critical ILV: 77

Phase 2 Critical ILV: 536

PHASE 3



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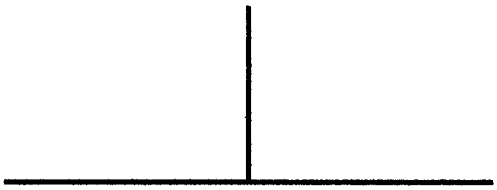


Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 613

OPERATING CONDITION STABLE

LEGEND

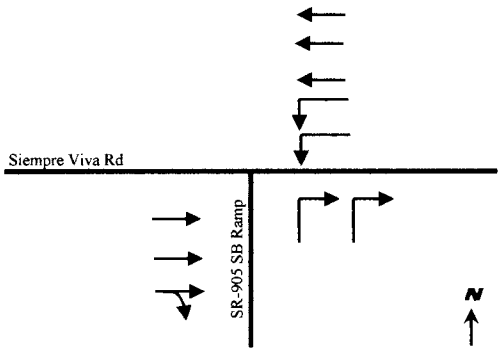
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

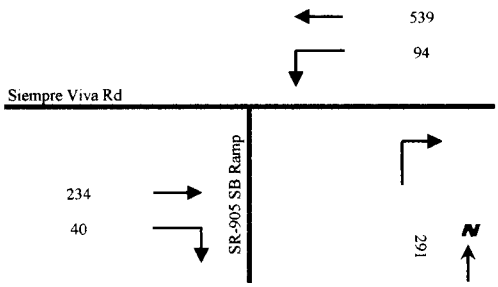
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	*VSM*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

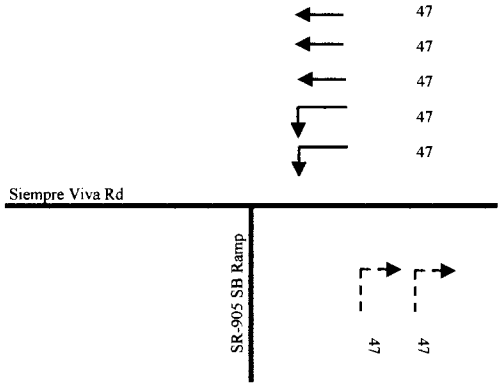
LANE GEOMETRY



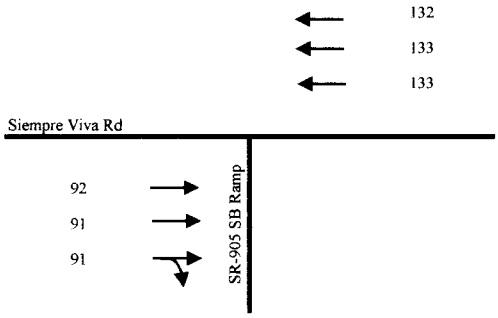
TRAFFIC VOLUMES



PHASE 1



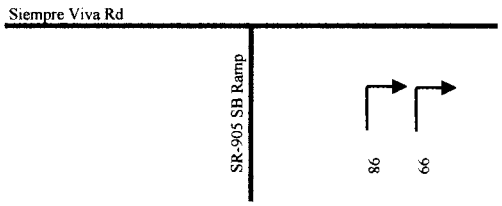
PHASE 2



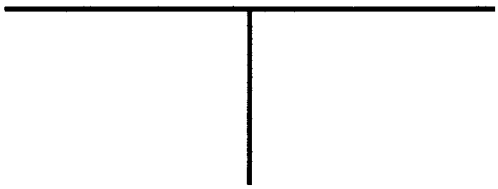
Phase 1 Critical ILV: 47

Phase 2 Critical ILV: 133

PHASE 3



PHASE 4



Phase 3 Critical ILV: 99

Phase 4 Critical ILV:

GRAND TOTAL ILV: 279

OPERATING CONDITION STABLE

LEGEND

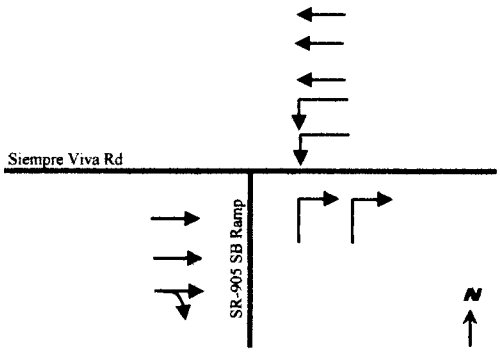
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

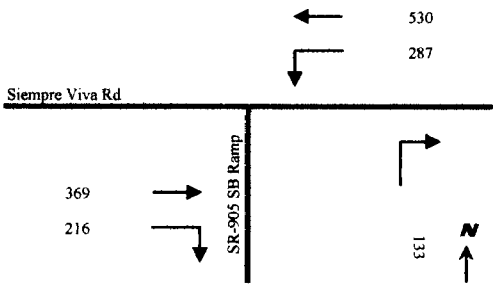
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

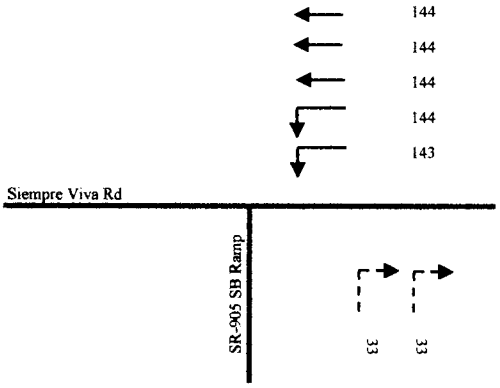
LANE GEOMETRY



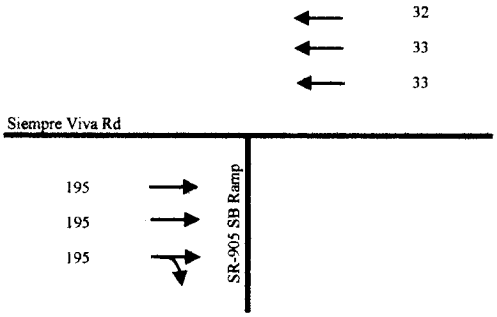
TRAFFIC VOLUMES



PHASE 1



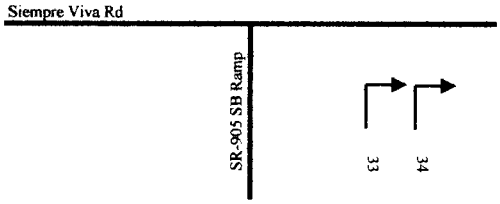
PHASE 2



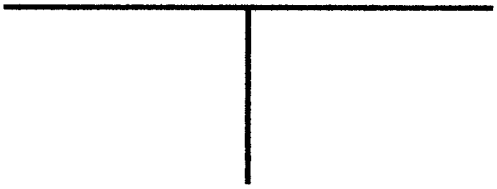
Phase 1 Critical ILV: 144

Phase 2 Critical ILV: 195

PHASE 3



PHASE 4



Phase 3 Critical ILV: 34

Phase 4 Critical ILV:

GRAND TOTAL ILV: **373**

OPERATING CONDITION **STABLE**

LEGEND

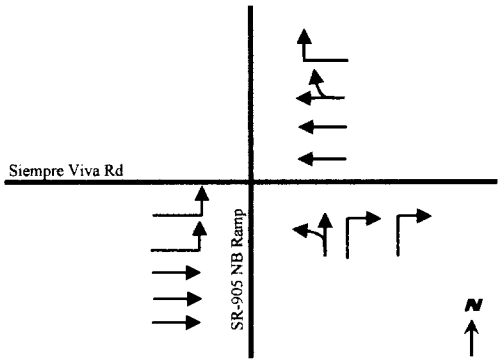
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

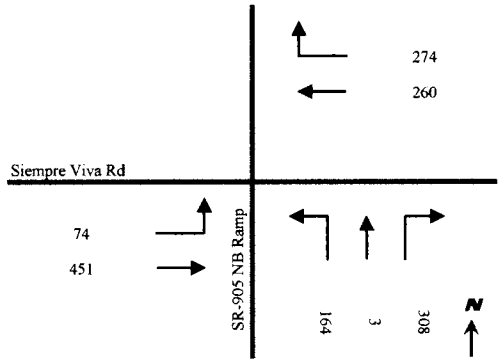
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	TGW	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phase 1		

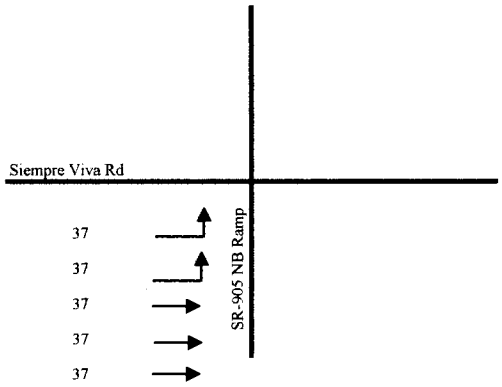
LANE GEOMETRY



TRAFFIC VOLUMES

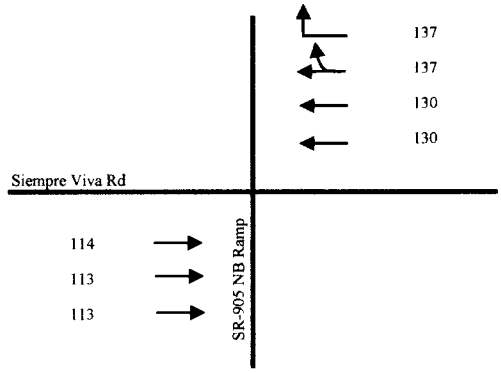


PHASE 1



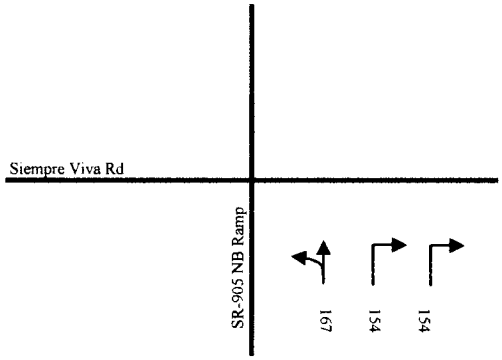
Phase 1 Critical ILV: 37

PHASE 2



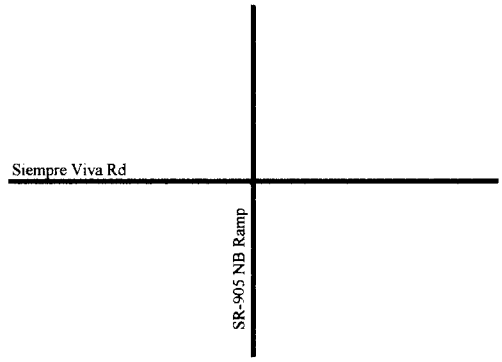
Phase 2 Critical ILV: 137

PHASE 3



Phase 3 Critical ILV: 167

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **341**

OPERATING CONDITION **STABLE**

LEGEND

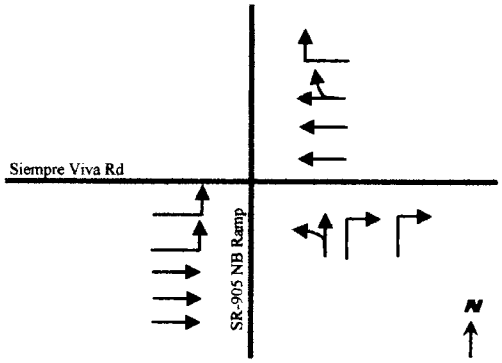
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

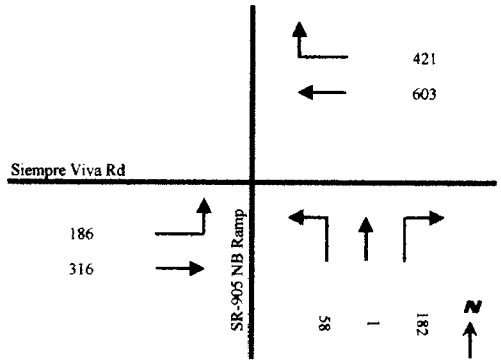
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	VJH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phase 1		

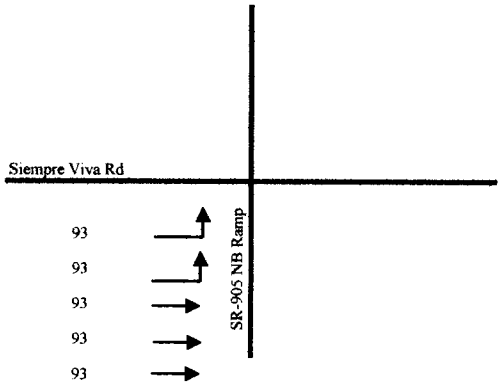
LANE GEOMETRY



TRAFFIC VOLUMES

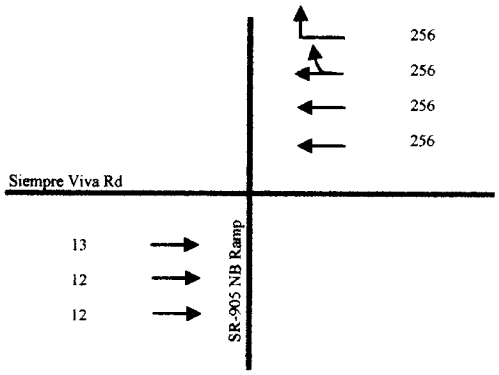


PHASE 1



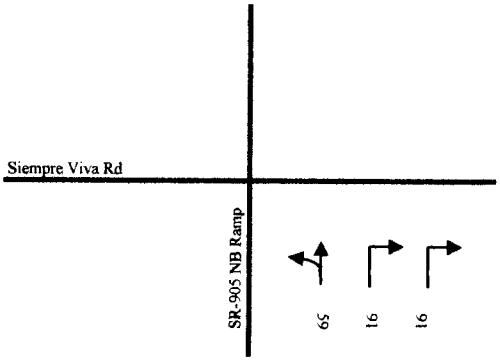
Phase 1 Critical ILV: 93

PHASE 2



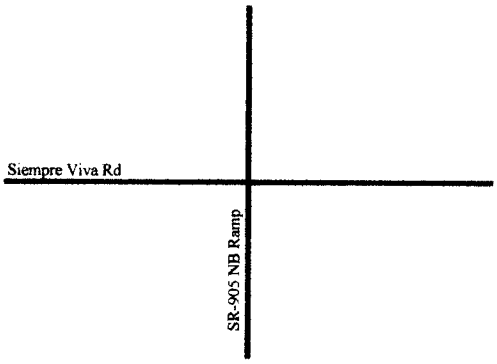
Phase 2 Critical ILV: 256

PHASE 3



Phase 3 Critical ILV: 91

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **440**

OPERATING CONDITION **STABLE**

LEGEND

<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

Existing + Project Phase 1 – Queuing Summaries

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	129	2941	228	38	1359	121	77	110	270	62	63
v/c Ratio	0.57	0.88	0.17	0.37	0.43	0.09	0.41	0.92	1.15	0.47	0.25
Control Delay	79.2	22.2	0.6	69.9	8.2	1.0	71.6	103.6	160.8	79.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	22.2	0.6	69.9	8.2	1.0	71.6	103.6	160.8	79.2	16.6
Queue Length 50th (ft)	64	799	0	18	182	8	73	62	~313	60	0
Queue Length 95th (ft)	92	688	10	m34	223	14	120	#157	#437	100	21
Internal Link Dist (ft)		1361			2600			2637		1263	
Turn Bay Length (ft)	550		510	550		550	200		440		440
Base Capacity (vph)	235	3359	1356	102	3132	1307	189	119	235	169	310
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.88	0.17	0.37	0.43	0.09	0.41	0.92	1.15	0.37	0.20

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	135	1419	94	35	2618	363	228	135	247	48	263
v/c Ratio	0.61	0.49	0.10	0.15	0.92	0.28	0.68	0.71	0.93	0.43	0.67
Control Delay	85.8	21.4	3.3	60.5	29.6	2.5	73.7	84.5	109.6	87.2	43.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.8	21.4	3.3	60.5	29.6	2.5	73.7	84.5	109.6	87.2	43.9
Queue Length 50th (ft)	76	337	0	18	647	45	235	130	272	52	92
Queue Length 95th (ft)	#176	407	29	m18	769	m69	332	203	#443	99	135
Internal Link Dist (ft)		1361			2600			2637		1263	
Turn Bay Length (ft)	550		510	550		550	200		440		440
Base Capacity (vph)	223	2870	984	266	2832	1298	337	246	271	258	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.49	0.10	0.13	0.92	0.28	0.68	0.55	0.91	0.19	0.67

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	5	3396	70	1484	94	85	1	1
v/c Ratio	0.06	0.95	0.59	0.38	0.59	0.27	0.01	0.00
Control Delay	58.2	10.6	77.9	3.1	80.6	2.0	64.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	10.6	77.9	3.1	80.6	2.0	64.0	0.0
Queue Length 50th (ft)	4	138	72	19	91	0	1	0
Queue Length 95th (ft)	m6	m738	m83	253	133	0	6	0
Internal Link Dist (ft)		2600		2650				
Turn Bay Length (ft)	550		550		250	120	25	25
Base Capacity (vph)	89	3591	128	3944	239	398	202	306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.95	0.55	0.38	0.39	0.21	0.00	0.00

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	2	1757	86	2859	200	1	138	4	1	4
v/c Ratio	0.02	0.64	0.53	0.89	0.60	0.00	0.34	0.03	0.01	0.03
Control Delay	31.5	15.4	42.9	16.7	37.8	24.0	7.2	36.5	36.0	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	15.4	42.9	16.7	37.8	24.0	7.2	36.5	36.0	24.5
Queue Length 50th (ft)	1	157	45	199	97	0	0	2	1	0
Queue Length 95th (ft)	m2	#410	m59	#880	150	4	42	12	6	10
Internal Link Dist (ft)		2600		2650		2628			1880	
Turn Bay Length (ft)	550		550		250		120	25		25
Base Capacity (vph)	105	2751	169	3207	351	470	502	190	366	314
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.64	0.51	0.89	0.57	0.00	0.27	0.02	0.00	0.01

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2099	1187	41	579	946	61
v/c Ratio	0.82	0.81	0.35	0.20	0.95	0.12
Control Delay	19.6	10.4	40.6	3.0	47.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	10.4	40.6	3.0	47.2	6.7
Queue Length 50th (ft)	386	509	21	25	224	0
Queue Length 95th (ft)	406	688	48	15	#291	21
Internal Link Dist (ft)	2650			5401	660	
Turn Bay Length (ft)		540	550			
Base Capacity (vph)	2566	1471	116	2907	994	502
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.81	0.35	0.20	0.95	0.12

Intersection Summary

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	707	1000	18	1663	1266	62
v/c Ratio	0.37	0.65	0.19	0.79	0.79	0.08
Control Delay	9.9	10.8	24.7	11.3	22.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	10.8	24.7	11.3	22.7	3.2
Queue Length 50th (ft)	82	642	9	113	250	0
Queue Length 95th (ft)	43	312	m12	#139	325	18
Internal Link Dist (ft)	2650			5401	660	
Turn Bay Length (ft)		540	550			
Base Capacity (vph)	1904	1531	95	2098	1766	844
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.65	0.19	0.79	0.72	0.07

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	94	1330	318	192	442	86	132	13	83
v/c Ratio	0.45	0.72	0.33	0.64	0.20	0.38	0.26	0.07	0.39
Control Delay	19.0	9.1	2.3	30.6	5.5	34.6	10.5	35.2	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	9.1	2.3	30.6	5.5	34.6	10.5	35.2	24.8
Queue Length 50th (ft)	38	69	11	71	10	38	17	3	21
Queue Length 95th (ft)	m43	#278	m46	152	82	72	54	11	55
Internal Link Dist (ft)		5401			908		520		2547
Turn Bay Length (ft)	550		500	550				150	
Base Capacity (vph)	224	1855	973	337	2225	233	526	181	394
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.72	0.33	0.57	0.20	0.37	0.25	0.07	0.21

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	448	298	131	1133	308	173	42	195
v/c Ratio	0.43	0.30	0.29	0.56	0.62	0.78	0.26	0.24	0.66
Control Delay	42.9	9.8	1.0	29.8	14.8	44.1	6.9	42.1	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	9.8	1.0	29.8	14.8	44.1	6.9	42.1	33.9
Queue Length 50th (ft)	47	45	4	63	138	151	18	11	67
Queue Length 95th (ft)	66	87	4	m108	#275	233	54	27	129
Internal Link Dist (ft)		5401			908		520		2547
Turn Bay Length (ft)	550		500	550				150	
Base Capacity (vph)	154	1479	1038	253	1823	470	744	175	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.30	0.29	0.52	0.62	0.66	0.23	0.24	0.52

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	207	1245	610	142	64
v/c Ratio	0.42	0.44	0.26	0.36	0.31
Control Delay	8.9	2.6	12.2	22.1	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	2.6	12.2	22.1	13.2
Queue Length 50th (ft)	62	27	66	19	0
Queue Length 95th (ft)	17	60	98	41	34
Internal Link Dist (ft)		1591	1489	1149	
Turn Bay Length (ft)	600				125
Base Capacity (vph)	498	2803	2302	974	454
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.44	0.26	0.15	0.14

Intersection Summary

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	169	785	1658	321	202
v/c Ratio	0.41	0.28	0.65	0.59	0.59
Control Delay	36.2	2.4	12.0	17.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	2.4	12.0	17.5	12.5
Queue Length 50th (ft)	99	17	122	30	0
Queue Length 95th (ft)	122	30	186	64	62
Internal Link Dist (ft)		1591	1489	1149	
Turn Bay Length (ft)	600				125
Base Capacity (vph)	411	2796	2570	937	504
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.28	0.65	0.34	0.40

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1373	375	554	267
v/c Ratio	0.41	0.11	0.69	0.47
Control Delay	2.0	8.8	30.9	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.0	8.8	30.9	5.8
Queue Length 50th (ft)	10	25	124	0
Queue Length 95th (ft)	49	50	143	39
Internal Link Dist (ft)	1489	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	3363	3363	1563	866
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.11	0.35	0.31

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	537	1204	89	124
v/c Ratio	0.13	0.29	0.21	0.57
Control Delay	1.4	3.2	33.3	35.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.4	3.2	33.3	35.6
Queue Length 50th (ft)	12	100	22	47
Queue Length 95th (ft)	19	117	40	94
Internal Link Dist (ft)	1489	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	4159	4159	1533	724
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.29	0.06	0.17

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	56	1942	389	57
v/c Ratio	0.18	0.55	0.13	0.02
Control Delay	32.8	1.0	0.5	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.8	1.0	0.5	0.0
Queue Length 50th (ft)	11	4	4	0
Queue Length 95th (ft)	m22	0	5	0
Internal Link Dist (ft)		570	460	
Turn Bay Length (ft)	430			400
Base Capacity (vph)	926	3539	3106	2453
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.55	0.13	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	171	448	1191	376
v/c Ratio	0.46	0.13	0.42	0.16
Control Delay	30.0	0.1	3.5	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.0	0.1	3.5	0.5
Queue Length 50th (ft)	41	0	85	2
Queue Length 95th (ft)	54	1	111	m4
Internal Link Dist (ft)		570	460	
Turn Bay Length (ft)	430			400
Base Capacity (vph)	1206	3539	2816	2294
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.13	0.42	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1941	5	333	113
v/c Ratio	0.71	0.03	0.22	0.30
Control Delay	6.8	24.5	9.1	31.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.8	24.5	9.1	31.8
Queue Length 50th (ft)	55	2	115	24
Queue Length 95th (ft)	228	m5	151	41
Internal Link Dist (ft)	1003		1623	2621
Turn Bay Length (ft)		180		
Base Capacity (vph)	2717	221	1535	491
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.02	0.22	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	441	15	1147	403
v/c Ratio	0.20	0.05	0.81	0.81
Control Delay	5.3	21.4	6.6	48.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.3	21.4	6.6	48.9
Queue Length 50th (ft)	27	7	76	107
Queue Length 95th (ft)	42	m4	m80	#178
Internal Link Dist (ft)	1003		1623	2621
Turn Bay Length (ft)		180		
Base Capacity (vph)	2487	287	1420	499
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.05	0.81	0.81

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1130	58	141	266	33
v/c Ratio	1.06	0.35	0.11	0.70	0.09
Control Delay	64.8	38.0	5.1	34.3	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	38.0	5.1	34.3	8.5
Queue Length 50th (ft)	~599	26	20	127	0
Queue Length 95th (ft)	#650	48	34	155	20
Internal Link Dist (ft)	1250		2512	2644	
Turn Bay Length (ft)		90		175	
Base Capacity (vph)	1063	179	1269	454	431
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.06	0.32	0.11	0.59	0.08

Intersection Summary

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

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

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	252	23	490	603	52
v/c Ratio	0.27	0.12	0.44	1.12	0.10
Control Delay	3.7	33.1	10.6	110.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	33.1	10.6	110.8	14.9
Queue Length 50th (ft)	2	12	127	~304	0
Queue Length 95th (ft)	1	25	142	#420	33
Internal Link Dist (ft)	1250		2512	2644	
Turn Bay Length (ft)		90		175	
Base Capacity (vph)	942	284	1120	537	517
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.08	0.44	1.12	0.10

Intersection Summary

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	50	42	8	5	43	88	270	301	432
v/c Ratio	0.06	0.27	0.21	0.05	0.03	0.21	0.39	0.23	0.42	0.19
Control Delay	32.6	34.3	13.0	32.7	29.5	12.9	44.4	23.5	15.5	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	34.3	13.0	32.7	29.5	12.9	44.4	23.5	15.5	10.9
Queue Length 50th (ft)	4	23	0	4	2	0	42	50	68	41
Queue Length 95th (ft)	14	44	18	13	9	19	68	67	m150	m105
Internal Link Dist (ft)		1210			1186			501		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	175	454	417	175	478	438	283	1188	716	2274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.11	0.10	0.05	0.01	0.10	0.31	0.23	0.42	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	13	12	7	13	141	115	550	73	151
v/c Ratio	0.07	0.08	0.08	0.05	0.08	0.52	0.34	0.24	0.37	0.07
Control Delay	36.7	34.5	18.5	36.7	34.5	13.9	27.5	6.4	40.2	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	34.5	18.5	36.7	34.5	13.9	27.5	6.4	40.2	15.0
Queue Length 50th (ft)	5	7	0	4	7	0	56	42	39	16
Queue Length 95th (ft)	17	21	13	15	20	39	78	104	74	58
Internal Link Dist (ft)		1210			1186			501		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	200	453	394	200	477	510	374	2299	219	2018
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.03	0.03	0.04	0.03	0.28	0.31	0.24	0.33	0.07

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	20	146	58	288	14	8	66
v/c Ratio	0.12	0.05	0.35	0.10	0.09	0.05	0.33
Control Delay	33.0	8.2	38.8	7.5	32.8	20.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	8.2	38.8	7.5	32.8	20.9	24.8
Queue Length 50th (ft)	9	9	27	19	6	0	17
Queue Length 95th (ft)	28	21	63	36	22	13	51
Internal Link Dist (ft)		3989		1156		1019	1012
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	160	2794	172	2941	408	378	417
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	0.13	0.05	0.34	0.10	0.03	0.02	0.16

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	48	266	100	341	29	21	108
v/c Ratio	0.28	0.11	0.46	0.12	0.19	0.13	0.48
Control Delay	38.6	12.2	44.1	2.9	37.8	18.7	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	12.2	44.1	2.9	37.8	18.7	37.2
Queue Length 50th (ft)	24	23	48	14	15	1	48
Queue Length 95th (ft)	55	49	90	25	39	22	93
Internal Link Dist (ft)		3989		1156		1019	1012
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	208	2517	246	2742	411	388	421
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	0.23	0.11	0.41	0.12	0.07	0.05	0.26

Intersection Summary

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	297	102	586	316
v/c Ratio	0.10	0.18	0.14	0.25
Control Delay	4.2	27.2	1.7	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.2	27.2	1.7	0.5
Queue Length 50th (ft)	13	20	10	0
Queue Length 95th (ft)	21	m44	34	0
Internal Link Dist (ft)	1279		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3126	637	4148	1691
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.16	0.14	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	597	293	541	136
v/c Ratio	0.18	0.63	0.12	0.12
Control Delay	2.1	38.1	1.7	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.1	38.1	1.7	0.2
Queue Length 50th (ft)	10	75	20	0
Queue Length 95th (ft)	23	107	21	0
Internal Link Dist (ft)	1279		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3294	813	4407	1599
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.36	0.12	0.09

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	77	470	413	143	174	321
v/c Ratio	0.23	0.13	0.14	0.16	0.57	0.43
Control Delay	34.4	2.4	3.1	2.1	35.9	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	2.4	3.1	2.1	35.9	5.2
Queue Length 50th (ft)	16	11	3	0	77	0
Queue Length 95th (ft)	31	21	40	m0	125	32
Internal Link Dist (ft)		653	439		1142	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	637	3683	2919	910	596	1148
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.13	0.14	0.16	0.29	0.28

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	198	336	775	314	63	194
v/c Ratio	0.46	0.08	0.26	0.32	0.35	0.42
Control Delay	37.8	1.0	2.5	0.9	39.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	1.0	2.5	0.9	39.7	8.5
Queue Length 50th (ft)	53	4	17	0	32	0
Queue Length 95th (ft)	87	7	35	0	66	31
Internal Link Dist (ft)		653	439		1142	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	756	4080	2968	974	539	981
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.08	0.26	0.32	0.12	0.20

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	406	231	121	10	181	94	33	12	57	283
v/c Ratio	0.78	0.07	0.12	0.10	0.17	0.59	0.05	0.04	0.44	0.54
Control Delay	34.0	6.1	1.6	36.0	23.5	49.5	25.8	14.2	45.2	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	6.1	1.6	36.0	23.5	49.5	25.8	14.2	45.2	26.4
Queue Length 50th (ft)	154	9	0	5	41	43	7	0	26	50
Queue Length 95th (ft)	#307	28	16	18	65	#103	18	13	62	82
Internal Link Dist (ft)		493			1124		842			1095
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	539	3156	1028	105	1040	163	853	391	130	789
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.07	0.12	0.10	0.17	0.58	0.04	0.03	0.44	0.36

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	365	89	98	24	402	271	137	7	5	182
v/c Ratio	0.87	0.04	0.12	0.20	0.46	0.67	0.11	0.01	0.05	0.45
Control Delay	52.5	13.5	3.9	48.2	42.6	38.1	18.4	10.9	36.4	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	13.5	3.9	48.2	42.6	38.1	18.4	10.9	36.4	19.1
Queue Length 50th (ft)	186	8	0	13	108	127	23	0	2	21
Queue Length 95th (ft)	#341	19	28	m30	160	208	47	9	m13	52
Internal Link Dist (ft)		493			1124		842			1095
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	421	2507	830	120	876	409	1262	569	105	718
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.04	0.12	0.20	0.46	0.66	0.11	0.01	0.05	0.25

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	152	12	182	107	146	289	41
v/c Ratio	0.17	0.17	0.11	0.13	0.24	0.36	0.68	0.10
Control Delay	44.3	10.9	37.1	8.3	22.2	24.9	42.9	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	10.9	37.1	8.3	22.2	24.9	42.9	36.0
Queue Length 50th (ft)	14	35	5	6	39	24	83	7
Queue Length 95th (ft)	31	56	m18	33	66	45	202	13
Internal Link Dist (ft)		1204		311		851		533
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	328	873	105	1351	461	768	512	1251
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.17	0.11	0.13	0.23	0.19	0.56	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	34	26	612	204	139	69	66
v/c Ratio	0.12	0.03	0.17	0.33	0.65	0.23	0.36	0.22
Control Delay	42.3	14.8	37.0	6.0	41.5	29.5	36.4	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	14.8	37.0	6.0	41.5	29.5	36.4	36.1
Queue Length 50th (ft)	9	9	13	35	101	32	38	11
Queue Length 95th (ft)	23	35	m37	77	159	56	81	33
Internal Link Dist (ft)		1204		311		851		533
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	266	984	167	1858	417	1007	301	739
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.03	0.16	0.33	0.49	0.14	0.23	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	10	2	527	110
v/c Ratio	0.10	0.02	0.29	0.06
Control Delay	17.9	12.5	1.0	0.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	17.9	12.5	1.0	0.6
Queue Length 50th (ft)	8	0	0	0
Queue Length 95th (ft)	21	7	71	14
Internal Link Dist (ft)	670		520	1210
Turn Bay Length (ft)				
Base Capacity (vph)	253	228	1791	1797
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.29	0.06

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	11	1	94	2	370
v/c Ratio	0.08	0.01	0.05	0.02	0.21
Control Delay	37.0	28.0	1.6	36.5	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	28.0	1.6	36.5	0.8
Queue Length 50th (ft)	6	0	0	1	0
Queue Length 95th (ft)	21	5	26	8	47
Internal Link Dist (ft)	670		520		1210
Turn Bay Length (ft)				150	
Base Capacity (vph)	579	519	1712	327	1794
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.02	0.00	0.05	0.01	0.21

Intersection Summary

APPENDIX F

- Existing + Project Phases 1-2 - Arterial Analysis
- Existing + Project Phases 1-2 - Synchro Analysis
- Existing + Project Phases 1-2 - ILV Analysis
- Existing + Project Phases 1-2 – Queuing Summaries

Existing + Project Phases 1-2 - Arterial Analysis

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	40.9	69.3	0.27	14.2	E
Cactus Rd	II	45	44.7	44.8	89.5	0.51	20.4	D
Brittania Blvd	II	45	45.5	27.5	73.0	0.52	25.5	C
La Media	II	45	83.0	17.6	100.6	1.04	37.1	A
Piper Ranch Rd	II	45	44.3	7.0	51.3	0.50	35.3	A
SR125 SB	II	45	29.4	4.7	34.1	0.30	31.4	B
SR125 NB Ramp	II	45	13.4	3.3	16.7	0.12	26.5	C
Sanyo Ave	II	45	35.1	13.8	48.9	0.37	27.0	C
Enrico Fermi Dr	II	45	62.8	337.1	399.9	0.78	7.1	F
Total	II		386.6	496.7	883.3	4.41	18.0	D

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	5.7	48.9	0.49	36.1	A
Sanyo Ave	II	45	62.8	10.8	73.6	0.78	38.4	A
SR125 NB Ramp	II	45	35.1	0.4	35.5	0.37	37.1	A
SR125 SB	II	45	13.4	11.5	24.9	0.12	17.8	D
Piper Ranch Rd	II	45	29.4	11.6	41.0	0.30	26.1	C
La Media	II	45	44.3	5.3	49.6	0.50	36.6	A
Brittania Blvd	II	45	83.0	2.7	85.7	1.04	43.6	A
Cactus Rd	II	45	45.5	3.4	48.9	0.52	38.1	A
Heritage Road	II	45	44.7	9.4	54.1	0.51	33.8	B
Total	II		401.4	60.8	462.2	4.63	36.0	A

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	22.2	50.6	0.27	19.4	D
Cactus Rd	II	45	44.7	16.2	60.9	0.51	30.0	B
Brittania Blvd	II	45	45.5	10.1	55.6	0.52	33.5	B
La Media	II	45	83.0	9.9	92.9	1.04	40.2	A
Piper Ranch Rd	II	45	44.3	2.6	46.9	0.50	38.7	A
SR125 SB	II	45	29.4	1.4	30.8	0.30	34.7	B
SR125 NB Ramp	II	45	13.4	0.1	13.5	0.12	32.8	B
Sanyo Ave	II	45	35.1	5.6	40.7	0.37	32.4	B
Enrico Fermi Dr	II	45	62.8	4.0	66.8	0.78	42.3	A
Total	II		386.6	72.1	458.7	4.41	34.6	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	10.6	53.8	0.49	32.8	B
Sanyo Ave	II	45	62.8	70.7	133.5	0.78	21.1	D
SR125 NB Ramp	II	45	35.1	4.0	39.1	0.37	33.7	B
SR125 SB	II	45	13.4	3.2	16.6	0.12	26.7	C
Piper Ranch Rd	II	45	29.4	13.8	43.2	0.30	24.8	C
La Media	II	45	44.3	22.4	66.7	0.50	27.2	C
Brittania Blvd	II	45	83.0	25.8	108.8	1.04	34.3	B
Cactus Rd	II	45	45.5	29.9	75.4	0.52	24.7	C
Heritage Road	II	45	44.7	60.1	104.8	0.51	17.4	D
Total	II		401.4	240.5	641.9	4.63	26.0	C

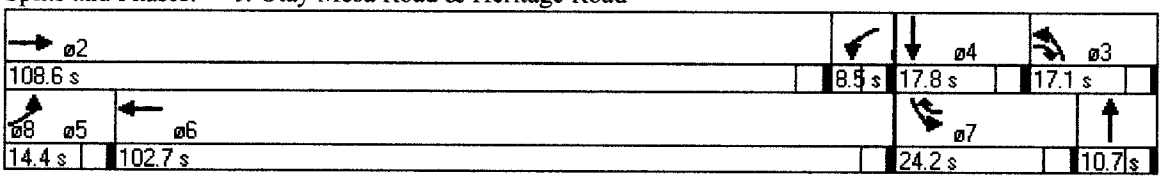
Existing + Project Phases 1-2 - Synchro Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.895				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1667	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.000		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1667	0	0	1863	2787
Satd. Flow (RTOR)			228			126		46				63
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	106	2780	187	31	1205	103	63	27	63	234	51	52
Adj. Flow (vph)	129	3390	228	38	1470	126	77	33	77	285	62	63
Lane Group Flow (vph)	129	3390	228	38	1470	126	77	110	0	285	62	63
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot			pm+pt		Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		4
Total Split (s)	14.4	108.6	17.1	8.5	102.7	24.2	17.1	10.7	0.0	24.2	17.8	17.8
Act Effct Green (s)	10.0	106.3	126.5	4.5	99.1	123.3	16.2	6.7		20.2	10.7	10.7
Actuated g/C Ratio	0.07	0.70	0.83	0.03	0.65	0.81	0.11	0.04		0.13	0.07	0.07
v/c Ratio	0.57	1.01	0.17	0.37	0.47	0.10	0.41	0.94		1.21	0.47	0.25
Control Delay	79.2	40.9	0.6	71.7	9.4	0.9	71.6	108.8		181.4	79.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.2	40.9	0.6	71.7	9.4	0.9	71.6	108.8		181.4	79.2	16.6
LOS	E	D	A	E	A	A	E	F		F	E	B
Approach Delay		39.8			10.2			93.5			140.6	
Approach LOS		D			B			F			F	

Intersection Summary

Cycle Length: 152
Actuated Cycle Length: 152
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.21
Intersection Signal Delay: 40.3 — Intersection LOS: D
Intersection Capacity Utilization 80.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

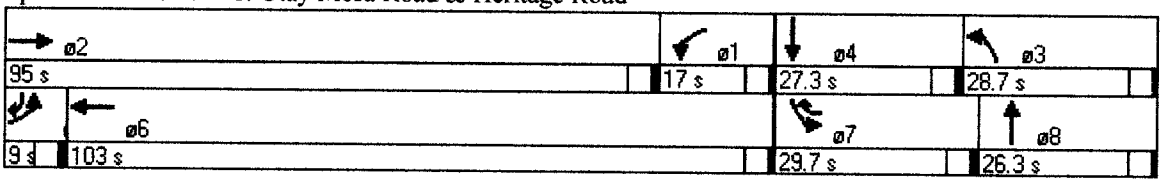


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt			0.850			0.850		0.942				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4803	1583	3433	4803	1583	1770	1755	0	1770	1863	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4803	1583	3433	4803	1583	1770	1755	0	1770	1863	2787
Satd. Flow (RTOR)			94			377		15				48
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	127	1425	88	33	2829	354	214	78	49	236	45	247
Adj. Flow (vph)	135	1516	94	35	3010	377	228	83	52	251	48	263
Lane Group Flow (vph)	135	1516	94	35	3010	377	228	135	0	251	48	263
Turn Type	Prot		Perm	Prot		pm+ov	Prot			Prot		pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Total Split (s)	9.0	95.0	95.0	17.0	103.0	29.7	28.7	26.3	0.0	29.7	27.3	9.0
Act Effct Green (s)	10.8	100.2	100.2	11.6	99.0	128.3	32.2	16.9		25.3	10.0	20.8
Actuated g/C Ratio	0.06	0.60	0.60	0.07	0.59	0.76	0.19	0.10		0.15	0.06	0.12
v/c Ratio	0.61	0.53	0.10	0.15	1.06	0.29	0.67	0.71		0.94	0.43	0.68
Control Delay	86.3	22.2	3.3	60.7	60.1	1.9	73.4	84.5		110.7	87.2	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	86.3	22.2	3.3	60.7	60.1	1.9	73.4	84.5		110.7	87.2	44.6
LOS	F	C	A	E	E	A	E	F		F	F	D
Approach Delay		26.1			53.7			77.5			77.7	
Approach LOS		C			D			E			E	

Intersection Summary

Cycle Length: 168
Actuated Cycle Length: 168
Offset: 5 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 49.4 — Intersection LOS: D
Intersection Capacity Utilization 85.2% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Otay Mesa Road & Heritage Road

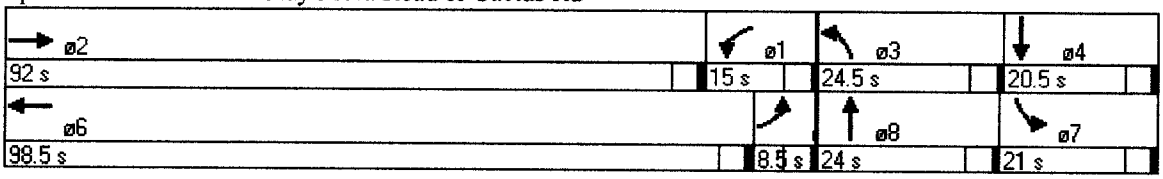


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4782	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4782	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		9			1				217			143
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	4	2978	154	57	1291	6	76	0	69	1	0	1
Adj. Flow (vph)	5	3677	190	70	1594	7	94	0	85	1	0	1
Lane Group Flow (vph)	5	3867	0	70	1601	0	94	0	85	1	0	1
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Total Split (s)	8.5	92.0	0.0	15.0	98.5	0.0	24.5	24.0	24.0	21.0	20.5	20.5
Act Effct Green (s)	7.4	114.2		10.1	125.1		13.7		11.2	8.6		6.0
Actuated g/C Ratio	0.05	0.75		0.07	0.82		0.09		0.07	0.06		0.04
v/c Ratio	0.06	1.08		0.59	0.41		0.59		0.27	0.01		0.01
Control Delay	59.5	44.8		77.5	3.4		80.6		2.1	64.0		0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Total Delay	59.5	44.8		77.5	3.4		80.6		2.1	64.0		0.0
LOS	E	D		E	A		F		A	E		A
Approach Delay		44.9			6.5							
Approach LOS		D			A							

Intersection Summary

Cycle Length: 152
Actuated Cycle Length: 152
Offset: 42 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 33.6 — Intersection LOS: C
Intersection Capacity Utilization 78.6% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

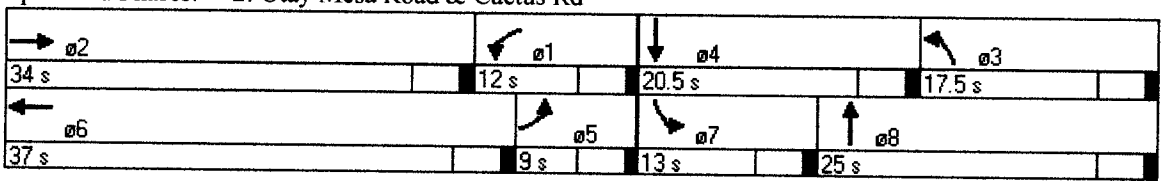


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4766	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4766	0	1770	4799	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		18			1				138			4
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2	1609	137	81	3055	13	188	1	130	4	1	4
Adj. Flow (vph)	2	1712	146	86	3250	14	200	1	138	4	1	4
Lane Group Flow (vph)	2	1858	0	86	3264	0	200	1	138	4	1	4
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Total Split (s)	9.0	34.0	0.0	12.0	37.0	0.0	17.5	25.0	25.0	13.0	20.5	20.5
Act Effct Green (s)	5.0	48.3		7.7	56.1		15.9	15.9	15.9	6.2	6.2	6.2
Actuated g/C Ratio	0.06	0.58		0.09	0.67		0.19	0.19	0.19	0.07	0.07	0.07
v/c Ratio	0.02	0.68		0.53	1.02		0.60	0.00	0.34	0.03	0.01	0.03
Control Delay	31.5	16.2		39.2	29.9		37.8	24.0	7.2	36.5	36.0	24.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	16.2		39.2	29.9		37.8	24.0	7.2	36.5	36.0	24.5
LOS	C	B		D	C		D	C	A	D	D	C
Approach Delay		16.2			30.2			25.3			31.1	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 33 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 25.2 — Intersection LOS: C
Intersection Capacity Utilization 89.7% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Otay Mesa Road & Cactus Rd

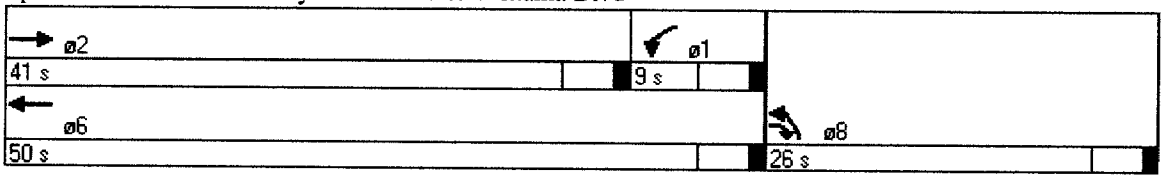


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		488				61
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2083	992	34	565	781	50
Adj. Flow (vph)	2540	1210	41	689	952	61
Lane Group Flow (vph)	2540	1210	41	689	952	61
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Total Split (s)	41.0	26.0	9.0	50.0	26.0	26.0
Act Effct Green (s)	40.6	68.2	5.0	46.0	22.0	22.0
Actuated g/C Ratio	0.53	0.90	0.07	0.61	0.29	0.29
v/c Ratio	0.99	0.82	0.35	0.24	0.96	0.12
Control Delay	27.5	9.0	39.2	2.7	48.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	9.0	39.2	2.7	48.3	6.7
LOS	C	A	D	A	D	A
Approach Delay	21.5			4.7	45.8	
Approach LOS	C			A	D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 6 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 23.7 — Intersection LOS: C
Intersection Capacity Utilization 71.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

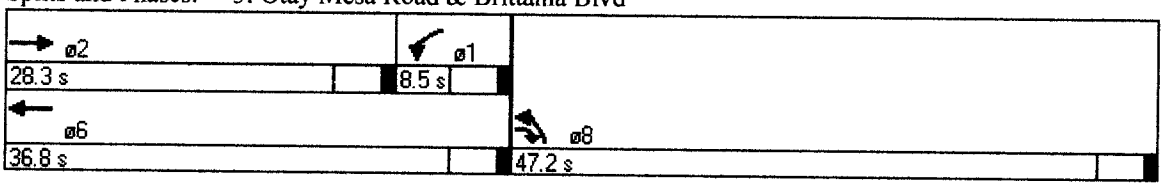


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	4803	1583	1770	4803	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4803	1583	1770	4803	3433	1583
Satd. Flow (RTOR)		712				62
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	776	975	17	1974	1248	60
Adj. Flow (vph)	800	1005	18	2035	1287	62
Lane Group Flow (vph)	800	1005	18	2035	1287	62
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Total Split (s)	28.3	47.2	8.5	36.8	47.2	47.2
Act Effct Green (s)	32.9	79.0	4.5	36.3	39.7	39.7
Actuated g/C Ratio	0.39	0.94	0.05	0.43	0.47	0.47
v/c Ratio	0.43	0.66	0.19	0.98	0.79	0.08
Control Delay	10.1	10.4	21.6	25.8	22.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	10.4	21.6	25.8	22.6	3.2
LOS	B	B	C	C	C	A
Approach Delay	10.3			25.8	21.7	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 74 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 19.3 — Intersection LOS: B
Intersection Capacity Utilization 80.4% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Otay Mesa Road & Brittania Blvd

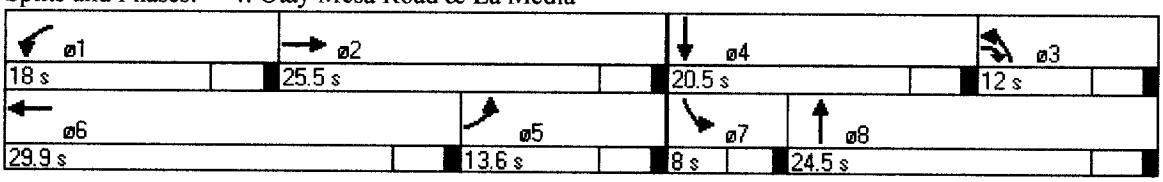


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.991			0.905			0.935	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4776	0	1770	1650	0	3433	1686	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4776	0	1770	1650	0	3433	1686	0
Satd. Flow (RTOR)			318		14			84			36	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	82	1519	277	167	446	29	75	42	73	11	41	31
Adj. Flow (vph)	94	1746	318	192	513	33	86	48	84	13	47	36
Lane Group Flow (vph)	94	1746	318	192	546	0	86	132	0	13	83	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	13.6	25.5	12.0	18.0	29.9	0.0	12.0	24.5	0.0	8.0	20.5	0.0
Act Effct Green (s)	8.9	29.0	38.6	13.2	35.3		9.6	20.2		4.0	8.2	
Actuated g/C Ratio	0.12	0.38	0.51	0.17	0.46		0.13	0.27		0.05	0.11	
v/c Ratio	0.45	0.95	0.33	0.62	0.25		0.38	0.26		0.07	0.39	
Control Delay	16.6	17.6	2.0	27.2	5.3		34.6	10.5		35.2	24.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.6	17.6	2.0	27.2	5.3		34.6	10.5		35.2	24.8	
LOS	B	B	A	C	A		C	B		D	C	
Approach Delay		15.3			11.0			20.0			26.2	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 29 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 14.9 — Intersection LOS: B
Intersection Capacity Utilization 59.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

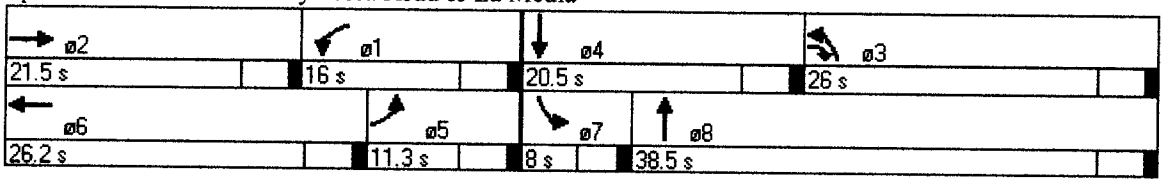


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850		0.996			0.893			0.921	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4803	1583	1770	4790	0	1770	1636	0	3433	1669	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4803	1583	1770	4790	0	1770	1636	0	3433	1669	0
Satd. Flow (RTOR)			298		4			123			60	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	58	493	268	118	1346	35	277	45	111	38	83	93
Adj. Flow (vph)	64	548	298	131	1496	39	308	50	123	42	92	103
Lane Group Flow (vph)	64	548	298	131	1535	0	308	173	0	42	195	0
Turn Type	Prot		pm+ov	Prot			Prot			Prot		
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Total Split (s)	11.3	21.5	26.0	16.0	26.2	0.0	26.0	38.5	0.0	8.0	20.5	0.0
Act Effct Green (s)	7.0	25.9	48.7	11.1	31.9		18.8	30.2		4.3	12.2	
Actuated g/C Ratio	0.08	0.31	0.58	0.13	0.38		0.22	0.36		0.05	0.15	
v/c Ratio	0.43	0.37	0.29	0.56	0.84		0.78	0.26		0.24	0.66	
Control Delay	42.4	9.9	0.7	26.4	22.4		44.1	6.9		42.1	33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.4	9.9	0.7	26.4	22.4		44.1	6.9		42.1	33.9	
LOS	D	A	A	C	C		D	A		D	C	
Approach Delay		9.2			22.7			30.7			35.3	
Approach LOS		A			C			C			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 21.1 — Intersection LOS: C
Intersection Capacity Utilization 68.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Otay Mesa Road & La Media

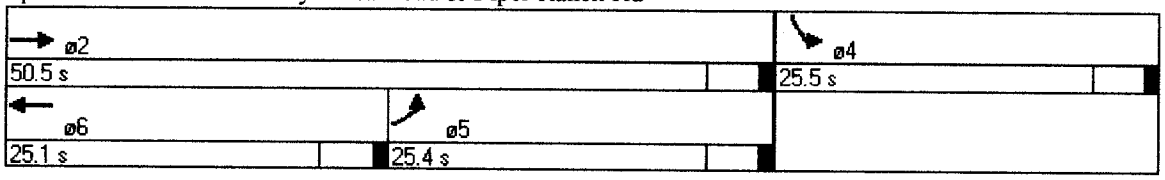


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.982		0.944	0.850
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1770	3539	4994	0	3309	1441
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1770	3539	4994	0	3309	1441
Satd. Flow (RTOR)			33		55	66
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	180	1445	546	76	80	105
Adj. Flow (vph)	207	1661	628	87	92	121
Lane Group Flow (vph)	207	1661	715	0	147	66
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	25.4	50.5	25.1	0.0	25.5	25.5
Act Effct Green (s)	21.4	60.1	34.7		7.9	7.9
Actuated g/C Ratio	0.28	0.79	0.46		0.10	0.10
v/c Ratio	0.42	0.59	0.31		0.37	0.32
Control Delay	6.9	7.0	11.6		22.7	13.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	6.9	7.0	11.6		22.7	13.0
LOS	A	A	B		C	B
Approach Delay		7.0	11.6		19.7	
Approach LOS		A	B		B	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 50 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 9.1 — Intersection LOS: A
Intersection Capacity Utilization 50.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

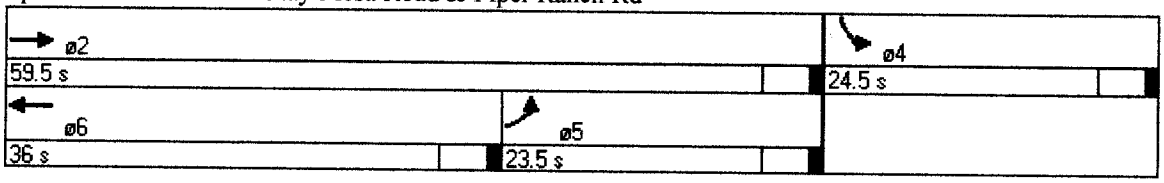


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	0.91
Frt			0.988		0.906	0.850
Flt Protected	0.950				0.982	
Satd. Flow (prot)	1770	3539	5024	0	3215	1441
Flt Permitted	0.950				0.982	
Satd. Flow (perm)	1770	3539	5024	0	3215	1441
Satd. Flow (RTOR)			19		202	202
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	167	867	1850	159	119	400
Adj. Flow (vph)	169	876	1869	161	120	404
Lane Group Flow (vph)	169	876	2030	0	322	202
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Total Split (s)	23.5	59.5	36.0	0.0	24.5	24.5
Act Effct Green (s)	19.5	66.3	42.8		9.7	9.7
Actuated g/C Ratio	0.23	0.79	0.51		0.12	0.12
v/c Ratio	0.41	0.31	0.79		0.59	0.59
Control Delay	36.7	2.6	13.8		17.5	12.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.7	2.6	13.8		17.5	12.5
LOS	D	A	B		B	B
Approach Delay		8.1	13.8		15.6	
Approach LOS		A	B		B	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 46 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 12.4 — Intersection LOS: B
Intersection Capacity Utilization 66.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: Otay Mesa Road & Piper Ranch Rd

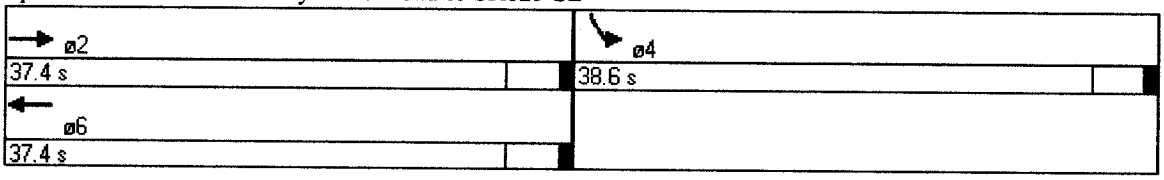


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↖↖	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						261
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1521	406	0	503	224
Adj. Flow (vph)	0	1811	483	0	599	267
Lane Group Flow (vph)	0	1811	483	0	599	267
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	37.4	37.4	0.0	38.6	38.6
Act Effct Green (s)		49.0	49.0		19.0	19.0
Actuated g/C Ratio		0.64	0.64		0.25	0.25
v/c Ratio		0.55	0.15		0.70	0.45
Control Delay		4.7	11.5		29.9	5.7
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		4.7	11.5		29.9	5.7
LOS		A	B		C	A
Approach Delay		4.7	11.5		22.4	
Approach LOS		A	B		C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 23 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 10.6 — Intersection LOS: B
Intersection Capacity Utilization 58.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

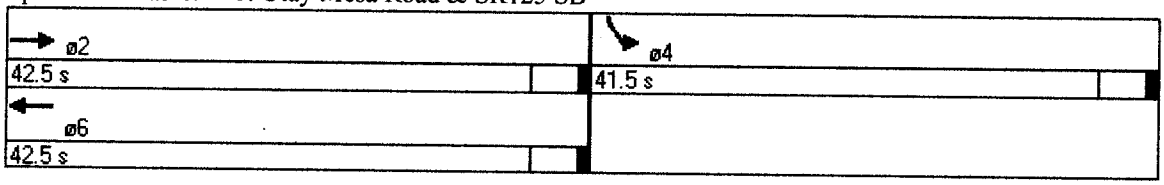


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↖↖	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						8
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	569	1440	0	89	110
Adj. Flow (vph)	0	639	1618	0	100	124
Lane Group Flow (vph)	0	639	1618	0	100	124
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	42.5	42.5	0.0	41.5	41.5
Act Effct Green (s)		67.9	67.9		11.0	11.0
Actuated g/C Ratio		0.81	0.81		0.13	0.13
v/c Ratio		0.16	0.39		0.22	0.58
Control Delay		1.4	3.2		32.6	42.3
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		1.4	3.2		32.6	42.3
LOS		A	A		C	D
Approach Delay		1.4	3.2		37.9	
Approach LOS		A	A		D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 56 (67%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 5.9 — Intersection LOS: A
Intersection Capacity Utilization 50.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

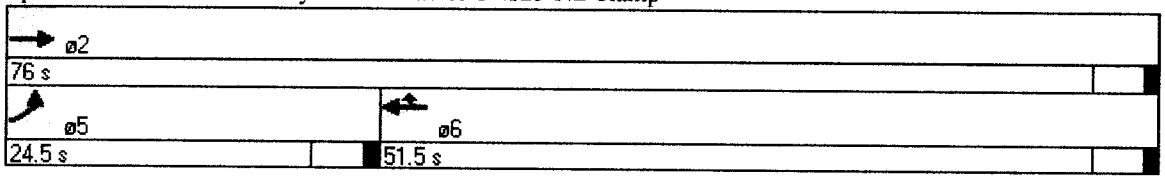


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				69		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1979	406	56	0	0
Adj. Flow (vph)	56	2443	501	69	0	0
Lane Group Flow (vph)	56	2443	501	69	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	24.5	76.0	51.5	51.5	0.0	0.0
Act Effct Green (s)	7.0	76.0	66.7	66.7		
Actuated g/C Ratio	0.09	1.00	0.88	0.88		
v/c Ratio	0.18	0.69	0.16	0.03		
Control Delay	33.6	3.3	0.4	0.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	33.6	3.3	0.4	0.0		
LOS	C	A	A	A		
Approach Delay		4.0	0.4			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 22 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 3.3 — Intersection LOS: A
Intersection Capacity Utilization 58.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

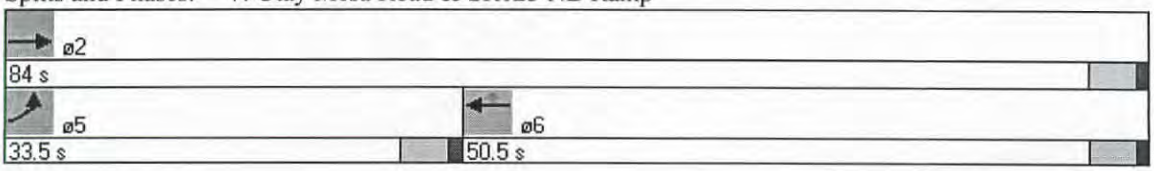


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				419		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	504	1440	377	0	0
Adj. Flow (vph)	171	560	1600	419	0	0
Lane Group Flow (vph)	171	560	1600	419	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	33.5	84.0	50.5	50.5	0.0	0.0
Act Effct Green (s)	9.3	84.0	66.7	66.7		
Actuated g/C Ratio	0.11	1.00	0.79	0.79		
v/c Ratio	0.45	0.16	0.57	0.18		
Control Delay	27.8	0.1	4.0	0.4		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	27.8	0.1	4.0	0.4		
LOS	C	A	A	A		
Approach Delay		6.6	3.3			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 31 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 4.2 — Intersection LOS: A
Intersection Capacity Utilization 50.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

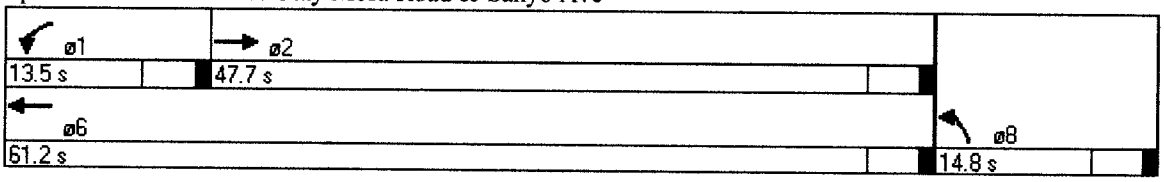


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.963				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3408	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3408	0	1770	1863	3430	0
Satd. Flow (RTOR)	98				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1491	487	4	371	88	3
Adj. Flow (vph)	1841	601	5	458	109	4
Lane Group Flow (vph)	2442	0	5	458	113	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	47.7	0.0	13.5	61.2	14.8	0.0
Act Effct Green (s)	60.4		6.3	62.6	8.2	
Actuated g/C Ratio	0.79		0.08	0.82	0.11	
v/c Ratio	0.89		0.03	0.30	0.30	
Control Delay	13.8		18.8	10.8	31.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	13.8		18.8	10.8	31.8	
LOS	B		B	B	C	
Approach Delay	13.8			10.9	31.8	
Approach LOS	B			B	C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 28 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 66.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

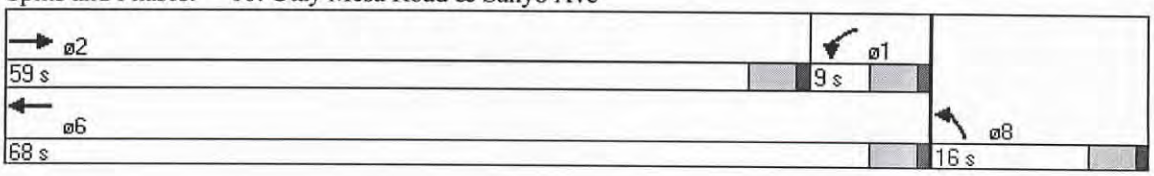


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.945				0.999	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3345	0	1770	1863	3440	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3345	0	1770	1863	3440	0
Satd. Flow (RTOR)	204				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	317	186	14	1451	363	4
Adj. Flow (vph)	348	204	15	1595	399	4
Lane Group Flow (vph)	552	0	15	1595	403	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	59.0	0.0	9.0	68.0	16.0	0.0
Act Effct Green (s)	55.5		12.9	64.0	12.0	
Actuated g/C Ratio	0.66		0.15	0.76	0.14	
v/c Ratio	0.24		0.05	1.12	0.82	
Control Delay	5.6		18.6	71.4	50.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.6		18.6	71.4	50.2	
LOS	A		B	E	D	
Approach Delay	5.6			70.9	50.2	
Approach LOS	A			E	D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 24 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 53.6 — Intersection LOS: D
Intersection Capacity Utilization 93.5% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

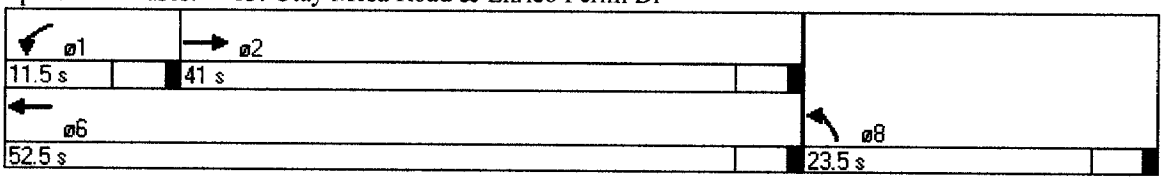


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.902					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1680	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1680	0	1770	1863	1770	1583
Satd. Flow (RTOR)	241					47
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	341	890	81	103	295	34
Adj. Flow (vph)	467	1219	111	141	404	47
Lane Group Flow (vph)	1686	0	111	141	404	47
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	41.0	0.0	11.5	52.5	23.5	23.5
Act Effct Green (s)	39.7		7.3	48.9	19.1	19.1
Actuated g/C Ratio	0.52		0.10	0.64	0.25	0.25
v/c Ratio	1.70		0.65	0.12	0.91	0.11
Control Delay	337.1		52.3	5.7	50.2	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	337.1		52.3	5.7	50.2	7.5
LOS	F		D	A	D	A
Approach Delay	337.1			26.2	45.7	
Approach LOS	F			C	D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 45 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.70
Intersection Signal Delay: 249.3 — Intersection LOS: F
Intersection Capacity Utilization 95.7% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

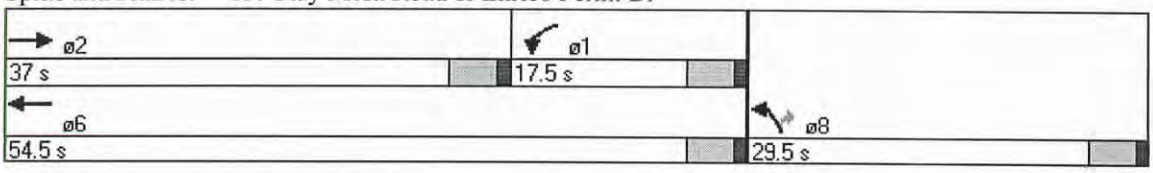


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.898					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1673	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1673	0	1770	1863	1770	1583
Satd. Flow (RTOR)	218					61
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	78	242	30	426	931	84
Adj. Flow (vph)	90	278	35	490	1071	97
Lane Group Flow (vph)	368	0	35	490	1071	97
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	37.0	0.0	17.5	54.5	29.5	29.5
Act Effct Green (s)	40.0		10.6	50.5	25.5	25.5
Actuated g/C Ratio	0.48		0.13	0.60	0.30	0.30
v/c Ratio	0.40		0.16	0.44	1.99	0.19
Control Delay	5.4		32.7	10.6	475.7	11.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	5.4		32.7	10.6	475.7	11.8
LOS	A		C	B	F	B
Approach Delay	5.4			12.1	437.2	
Approach LOS	A			B	F	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.99
Intersection Signal Delay: 251.8 — Intersection LOS: F
Intersection Capacity Utilization 70.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	487	1	0	0	0	0	0	0	1	0	0	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	529	1	0	0	0	0	0	0	1	0	0	145

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	530	0	1	145
Volume Left (vph)	529	0	0	0
Volume Right (vph)	0	0	1	145
Hadj (s)	0.23	0.00	-0.57	-0.57
Departure Headway (s)	4.5	4.9	4.8	4.6
Degree Utilization, x	0.66	0.00	0.00	0.19
Capacity (veh/h)	782	702	655	705
Control Delay (s)	15.8	7.9	7.8	8.7
Approach Delay (s)	15.8	0.0	7.8	8.7
Approach LOS	C	A	A	A

Intersection Summary			
Delay	14.3		
HCM Level of Service	B		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	112	0	0	0	0	0	2	0	0	0	0	356
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	0	0	0	0	0	2	0	0	0	0	387

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	122	0	2	387
Volume Left (vph)	122	0	2	0
Volume Right (vph)	0	0	0	387
Hadj (s)	0.23	0.00	0.23	-0.57
Departure Headway (s)	4.9	4.8	4.8	3.7
Degree Utilization, x	0.17	0.00	0.00	0.39
Capacity (veh/h)	682	685	707	961
Control Delay (s)	8.9	7.8	7.8	9.0
Approach Delay (s)	8.9	0.0	7.8	9.0
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.0		
HCM Level of Service	A		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	79	28	4	89	84	23	41	3	101	272	72
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	8	87	31	4	98	92	25	45	3	111	299	79

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	125	102	92	25	48	410	79
Volume Left (vph)	8	4	0	25	0	111	0
Volume Right (vph)	31	0	92	0	3	0	79
Hadj (s)	-0.10	0.06	-0.67	0.53	-0.01	0.17	-0.67
Departure Headway (s)	6.2	6.3	5.5	6.6	6.1	5.7	4.9
Degree Utilization, x	0.21	0.18	0.14	0.05	0.08	0.65	0.11
Capacity (veh/h)	542	532	598	506	549	613	709
Control Delay (s)	10.8	9.4	8.3	8.7	8.4	17.6	7.3
Approach Delay (s)	10.8	8.9		8.5		15.9	
Approach LOS	B	A		A		C	

Intersection Summary			
Delay	13.0		
HCM Level of Service	B		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	70	15	8	121	142	36	175	1	43	131	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	80	17	9	138	161	41	199	1	49	149	43

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	153	147	161	41	200	198	43
Volume Left (vph)	57	9	0	41	0	49	0
Volume Right (vph)	17	0	161	0	1	0	43
Hadj (s)	0.04	0.07	-0.67	0.53	0.03	0.16	-0.67
Departure Headway (s)	6.4	6.2	5.5	6.8	6.2	6.4	5.5
Degree Utilization, x	0.27	0.25	0.25	0.08	0.35	0.35	0.07
Capacity (veh/h)	523	541	611	500	543	531	602
Control Delay (s)	11.8	10.1	9.1	9.1	11.3	11.6	7.7
Approach Delay (s)	11.8	9.6		10.9		10.9	
Approach LOS	B	A		B		B	

Intersection Summary			
Delay	10.6		
HCM Level of Service	B		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	138	28	9	81	2	33	4	22	2	0	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	153	31	10	90	2	37	4	24	2	0	70
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	92			184			342	319	92	252	333	46
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	92			184			342	319	92	252	333	46
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			93	99	97	100	100	93
cM capacity (veh/h)	1500			1388			539	585	947	649	574	1013

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	19	102	82	10	60	32	41	24	72
Volume Left	19	0	0	10	0	0	37	0	2
Volume Right	0	0	31	0	0	2	0	24	70
cSH	1500	1700	1700	1388	1700	1700	544	947	996
Volume to Capacity	0.01	0.06	0.05	0.01	0.04	0.02	0.08	0.03	0.07
Queue Length 95th (ft)	1	0	0	1	0	0	6	2	6
Control Delay (s)	7.4	0.0	0.0	7.6	0.0	0.0	12.2	8.9	8.9
Lane LOS	A			A			B	A	A
Approach Delay (s)	0.7			0.7			10.9		8.9
Approach LOS							B		A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	21	69	24	39	179	1	82	3	13	0	2	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	24	79	28	45	206	1	94	3	15	0	2	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	207			107			347	438	53	401	451	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	207			107			347	438	53	401	451	103
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			83	99	99	100	100	99
cM capacity (veh/h)	1362			1482			553	487	1002	504	478	931

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	24	53	54	45	137	70	98	15	14
Volume Left	24	0	0	45	0	0	94	0	0
Volume Right	0	0	28	0	0	1	0	15	11
cSH	1362	1700	1700	1482	1700	1700	551	1002	804
Volume to Capacity	0.02	0.03	0.03	0.03	0.08	0.04	0.18	0.01	0.02
Queue Length 95th (ft)	1	0	0	2	0	0	16	1	1
Control Delay (s)	7.7	0.0	0.0	7.5	0.0	0.0	12.9	8.6	9.6
Lane LOS	A			A			B	A	A
Approach Delay (s)	1.4			1.3			12.4		9.6
Approach LOS							B		A

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	96	37	4	79	23	11
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	123	47	5	101	29	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			171		258	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			171		258	85
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1404		706	957

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	82	88	5	101	29	14
Volume Left	0	0	5	0	29	0
Volume Right	0	47	0	0	0	14
cSH	1700	1700	1404	1700	706	957
Volume to Capacity	0.05	0.05	0.00	0.06	0.04	0.01
Queue Length 95th (ft)	0	0	0	0	3	1
Control Delay (s)	0.0	0.0	7.6	0.0	10.3	8.8
Lane LOS			A		B	A
Approach Delay (s)	0.0		0.4		9.8	
Approach LOS					A	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	35	36	1	140	55	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	42	43	1	167	65	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				1290		
pX, platoon unblocked						
vC, conflicting volume			85		232	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			85		232	42
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	100
cM capacity (veh/h)			1510		735	1019

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	28	57	1	167	65	1
Volume Left	0	0	1	0	65	0
Volume Right	0	43	0	0	0	1
cSH	1700	1700	1510	1700	735	1019
Volume to Capacity	0.02	0.03	0.00	0.10	0.09	0.00
Queue Length 95th (ft)	0	0	0	0	7	0
Control Delay (s)	0.0	0.0	7.4	0.0	10.4	8.5
Lane LOS			A		B	A
Approach Delay (s)	0.0		0.1		10.3	
Approach LOS					B	

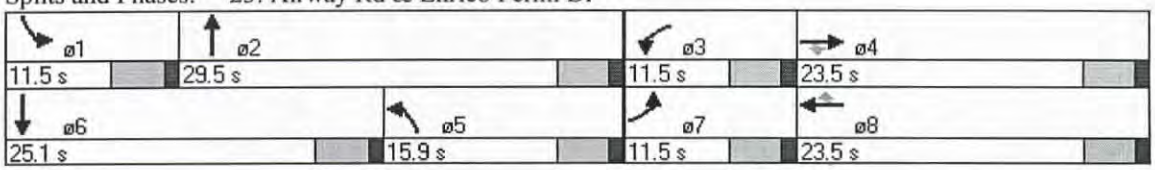
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.968			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3426	0	1770	3529	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3426	0	1770	3529	0
Satd. Flow (RTOR)			42			195		48			2	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	70	31	6	12	144	65	156	42	658	324	6
Adj. Flow (vph)	9	95	42	8	16	195	88	211	57	889	438	8
Lane Group Flow (vph)	9	95	42	8	16	195	88	268	0	889	446	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	11.5	23.5	23.5	11.5	23.5	23.5	15.9	29.5	0.0	11.5	25.1	0.0
Act Effct Green (s)	6.4	9.6	9.6	6.3	9.6	9.6	9.6	16.9		35.3	44.5	
Actuated g/C Ratio	0.08	0.13	0.13	0.08	0.13	0.13	0.13	0.22		0.46	0.59	
v/c Ratio	0.06	0.42	0.19	0.05	0.07	0.53	0.39	0.34		1.08	0.22	
Control Delay	32.6	35.7	11.5	32.7	28.2	10.4	43.0	26.8		63.7	11.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	32.6	35.7	11.5	32.7	28.2	10.4	43.0	26.8		63.7	11.8	
LOS	C	D	B	C	C	B	D	C		E	B	
Approach Delay		28.6			12.5			30.8			46.4	
Approach LOS		C			B			C			D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 10 (13%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 38.8 — Intersection LOS: D
Intersection Capacity Utilization 57.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

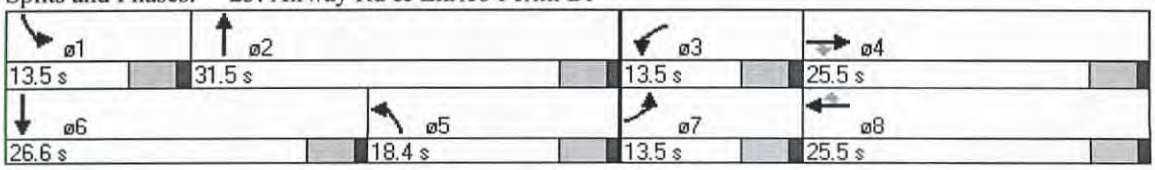


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.994			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3518	0	1770	3522	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3518	0	1770	3522	0
Satd. Flow (RTOR)			12			535		5			4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	19	10	6	44	567	93	430	16	169	122	4
Adj. Flow (vph)	9	23	12	7	54	691	113	524	20	206	149	5
Lane Group Flow (vph)	9	23	12	7	54	691	113	544	0	206	154	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	13.5	25.5	25.5	13.5	25.5	25.5	18.4	31.5	0.0	13.5	26.6	0.0
Act Effct Green (s)	6.4	20.4	20.4	6.3	20.4	20.4	16.3	32.4		17.0	35.2	
Actuated g/C Ratio	0.08	0.24	0.24	0.08	0.24	0.24	0.19	0.39		0.20	0.42	
v/c Ratio	0.07	0.05	0.03	0.05	0.12	0.88	0.33	0.40		0.58	0.10	
Control Delay	36.7	20.2	10.0	36.7	21.7	19.8	24.5	17.4		42.4	27.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	36.7	20.2	10.0	36.7	21.7	19.8	24.5	17.4		42.4	27.2	
LOS	D	C	A	D	C	B	C	B		D	C	
Approach Delay		20.8			20.1			18.6			35.9	
Approach LOS		C			C			B			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 53 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 22.7 — Intersection LOS: C
Intersection Capacity Utilization 60.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

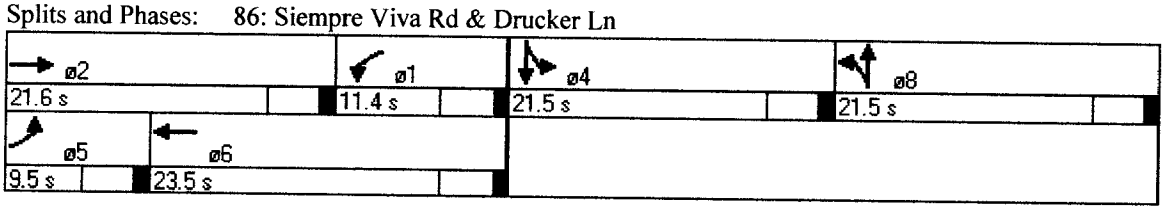


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.976			0.869			0.943	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	4958	0	1770	4963	0	1770	1619	0	0	1718	0
Flt Permitted	0.950			0.950			0.950				0.978	
Satd. Flow (perm)	1770	4958	0	1770	4963	0	1770	1619	0	0	1718	0
Satd. Flow (RTOR)		25			47			7			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	18	117	23	61	223	43	13	1	6	28	7	26
Adj. Flow (vph)	20	127	25	66	242	47	14	1	7	30	8	28
Lane Group Flow (vph)	20	152	0	66	289	0	14	8	0	0	66	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	9.5	21.6	0.0	11.4	23.5	0.0	21.5	21.5	0.0	21.5	21.5	0.0
Act Effct Green (s)	6.9	40.4		7.1	44.7		6.7	6.7			7.8	
Actuated g/C Ratio	0.09	0.53		0.09	0.59		0.09	0.09			0.10	
v/c Ratio	0.12	0.06		0.40	0.10		0.09	0.05			0.33	
Control Delay	33.0	8.7		39.2	7.5		32.8	20.9			24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	33.0	8.7		39.2	7.5		32.8	20.9			24.8	
LOS	C	A		D	A		C	C			C	
Approach Delay		11.5			13.4			28.4			24.8	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 48 (63%), Referenced to phase 2:EBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 14.6 — Intersection LOS: B
Intersection Capacity Utilization 28.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

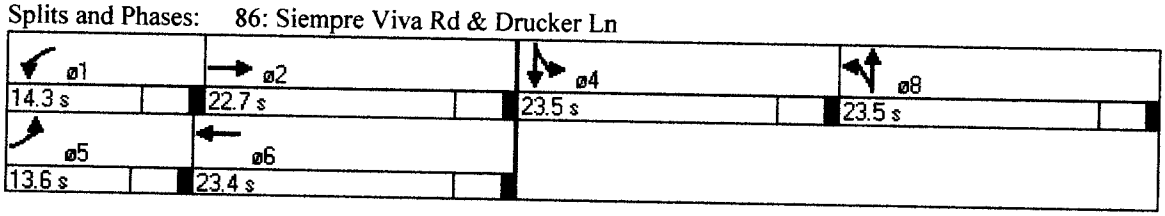


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.962			0.864			0.978	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	4984	0	1770	4892	0	1770	1609	0	0	1778	0
Flt Permitted	0.950			0.950			0.950				0.976	
Satd. Flow (perm)	1770	4984	0	1770	4892	0	1770	1609	0	0	1778	0
Satd. Flow (RTOR)		31			87			19			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	44	211	32	124	237	79	26	2	17	49	33	16
Adj. Flow (vph)	48	232	35	136	260	87	29	2	19	54	36	18
Lane Group Flow (vph)	48	267	0	136	347	0	29	21	0	0	108	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	13.6	22.7	0.0	14.3	23.4	0.0	23.5	23.5	0.0	23.5	23.5	0.0
Act Effct Green (s)	8.2	37.7		12.8	46.4		7.3	7.3			10.2	
Actuated g/C Ratio	0.10	0.45		0.15	0.55		0.09	0.09			0.12	
v/c Ratio	0.28	0.12		0.50	0.13		0.19	0.13			0.48	
Control Delay	38.6	14.0		44.0	2.6		37.8	18.7			37.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	38.6	14.0		44.0	2.6		37.8	18.7			37.2	
LOS	D	B		D	A		D	B			D	
Approach Delay		17.8			14.3			29.8			37.2	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 47 (56%), Referenced to phase 2:EBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 18.8 — Intersection LOS: B
Intersection Capacity Utilization 33.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

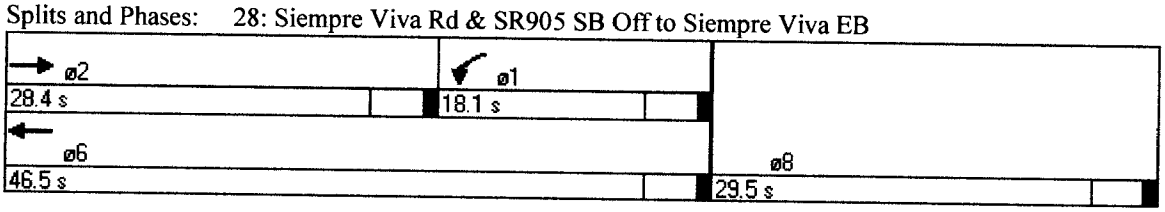


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.979					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4979	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4979	0	3433	5085	0	2787
Satd. Flow (RTOR)	42					1112
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	247	40	113	550	0	310
Adj. Flow (vph)	268	43	123	598	0	337
Lane Group Flow (vph)	311	0	123	598	0	337
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	28.4	0.0	18.1	46.5	0.0	29.5
Act Effct Green (s)	47.5		12.6	62.0		6.0
Actuated g/C Ratio	0.62		0.17	0.82		0.08
v/c Ratio	0.10		0.22	0.14		0.27
Control Delay	4.1		28.0	1.9		0.5
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	4.1		28.0	1.9		0.5
LOS	A		C	A		A
Approach Delay	4.1			6.4		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 22 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 4.4 — Intersection LOS: A
Intersection Capacity Utilization 23.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

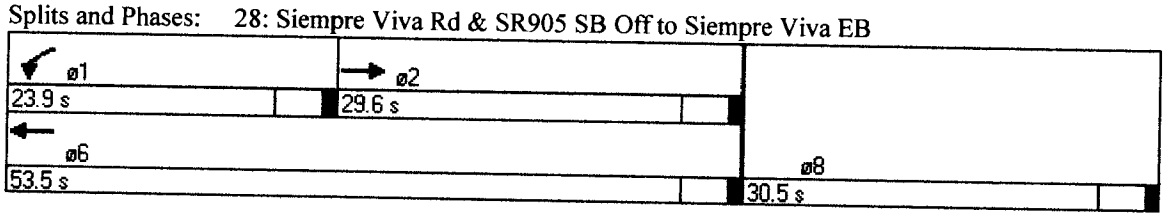


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.945					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4806	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4806	0	3433	5085	0	2787
Satd. Flow (RTOR)	178					1049
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	372	216	364	576	0	138
Adj. Flow (vph)	380	220	371	588	0	141
Lane Group Flow (vph)	600	0	371	588	0	141
Turn Type			Prot			custom
Protected Phases	2		1	6		
Permitted Phases						8
Total Split (s)	29.6	0.0	23.9	53.5	0.0	30.5
Act Effct Green (s)	55.0		13.0	72.8		6.0
Actuated g/C Ratio	0.65		0.15	0.87		0.07
v/c Ratio	0.19		0.70	0.13		0.12
Control Delay	2.3		38.7	1.5		0.2
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	2.3		38.7	1.5		0.2
LOS	A		D	A		A
Approach Delay	2.3			15.9		
Approach LOS	A			B		

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 26 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 9.8 — Intersection LOS: A
Intersection Capacity Utilization 29.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	557	454	0	0	209
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	593	483	0	0	222
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked						
vC, conflicting volume	483				680	161
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	483				680	161
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	74
cM capacity (veh/h)	1076				384	855

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	198	198	198	161	161	161	222
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	222
cSH	1700	1700	1700	1700	1700	1700	855
Volume to Capacity	0.12	0.12	0.12	0.09	0.09	0.09	0.26
Queue Length 95th (ft)	0	0	0	0	0	0	26
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.7
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.7
Approach LOS							B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	510	784	0	0	156
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	520	800	0	0	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked						
vC, conflicting volume	800				973	267
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	800				973	267
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	78
cM capacity (veh/h)	819				249	731

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	173	173	173	267	267	267	159
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	159
cSH	1700	1700	1700	1700	1700	1700	731
Volume to Capacity	0.10	0.10	0.10	0.16	0.16	0.16	0.22
Queue Length 95th (ft)	0	0	0	0	0	0	21
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.3
Lane LOS							B
Approach Delay (s)	0.0			0.0			11.3
Approach LOS							B

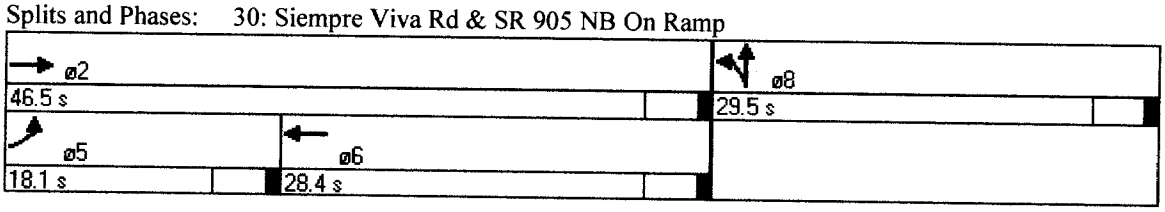
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.951	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4570	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4570	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					145	146			402			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	74	483	0	0	290	279	164	3	386	0	0	0
Adj. Flow (vph)	77	503	0	0	302	291	171	3	402	0	0	0
Lane Group Flow (vph)	77	503	0	0	447	146	0	174	402	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	18.1	46.5	0.0	0.0	28.4	28.4	29.5	29.5	29.5	0.0	0.0	0.0
Act Effct Green (s)	7.3	54.9			45.5	45.5		13.1	13.1			
Actuated g/C Ratio	0.10	0.72			0.60	0.60		0.17	0.17			
v/c Ratio	0.23	0.14			0.16	0.17		0.57	0.49			
Control Delay	35.0	2.5			3.7	2.5		35.3	5.1			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	35.0	2.5			3.7	2.5		35.3	5.1			
LOS	C	A			A	A		D	A			
Approach Delay		6.8			3.4			14.2				
Approach LOS		A			A			B				

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 53 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 8.1 — Intersection LOS: A
Intersection Capacity Utilization 34.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

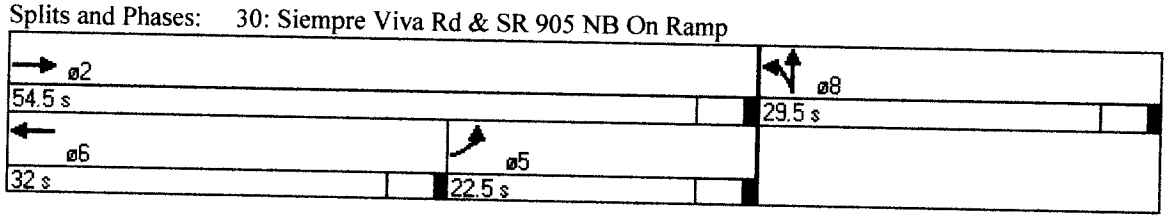


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.984	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4729	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4729	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					25	376			215			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	186	324	0	0	726	441	58	1	202	0	0	0
Adj. Flow (vph)	198	345	0	0	772	469	62	1	215	0	0	0
Lane Group Flow (vph)	198	345	0	0	865	376	0	63	215	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	22.5	54.5	0.0	0.0	32.0	32.0	29.5	29.5	29.5	0.0	0.0	0.0
Act Effct Green (s)	10.5	67.4			52.9	52.9		8.6	8.6			
Actuated g/C Ratio	0.12	0.80			0.63	0.63		0.10	0.10			
v/c Ratio	0.46	0.08			0.29	0.38		0.35	0.45			
Control Delay	37.2	1.0			2.9	1.1		39.7	8.4			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	37.2	1.0			2.9	1.1		39.7	8.4			
LOS	D	A			A	A		D	A			
Approach Delay		14.2			2.3			15.5				
Approach LOS		B			A			B				

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 40 (48%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 7.2 — Intersection LOS: A
Intersection Capacity Utilization 36.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

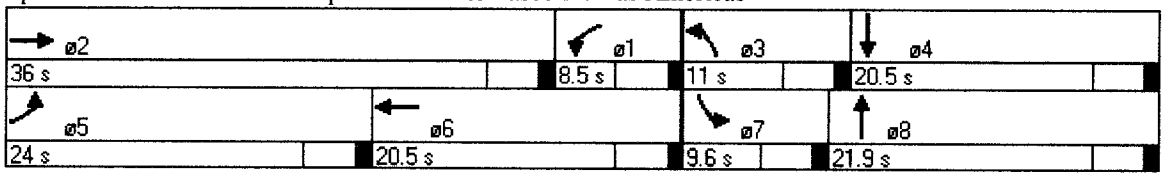


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.995				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3391	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3391	0
Satd. Flow (RTOR)			121		4				18		68	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	382	327	114	11	199	7	88	31	17	54	192	74
Adj. Flow (vph)	406	348	121	12	212	7	94	33	18	57	204	79
Lane Group Flow (vph)	406	348	121	12	219	0	94	33	18	57	283	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	24.0	36.0	36.0	8.5	20.5	0.0	11.0	21.9	21.9	9.6	20.5	0.0
Act Effct Green (s)	22.5	47.2	47.2	4.5	22.4		6.9	13.4	13.4	5.6	10.3	
Actuated g/C Ratio	0.30	0.62	0.62	0.06	0.29		0.09	0.18	0.18	0.07	0.14	
v/c Ratio	0.78	0.11	0.12	0.11	0.21		0.59	0.05	0.06	0.44	0.54	
Control Delay	33.8	6.1	1.6	35.7	23.0		49.5	25.8	12.5	45.0	26.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.8	6.1	1.6	35.7	23.0		49.5	25.8	12.5	45.0	26.3	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		18.3			23.6			39.5			29.5	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 23.4 — Intersection LOS: C
Intersection Capacity Utilization 52.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

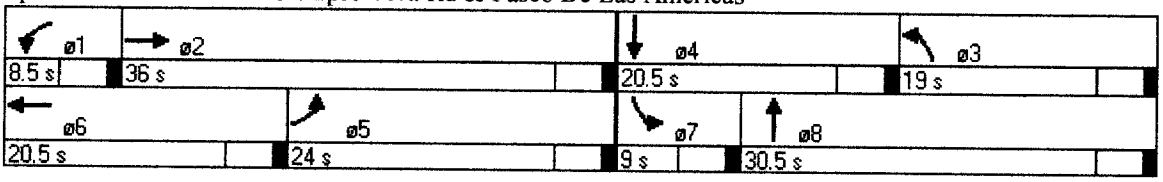


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.997				0.850		0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3529	0	1770	3539	1583	1770	3253	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3529	0	1770	3539	1583	1770	3253	0
Satd. Flow (RTOR)			98		2				8		98	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	358	115	96	30	525	12	266	134	8	5	82	96
Adj. Flow (vph)	365	117	98	31	536	12	271	137	8	5	84	98
Lane Group Flow (vph)	365	117	98	31	548	0	271	137	8	5	182	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	24.0	36.0	36.0	8.5	20.5	0.0	19.0	30.5	30.5	9.0	20.5	0.0
Act Effct Green (s)	20.0	39.2	39.2	5.8	20.9		19.1	29.3	29.3	5.0	8.0	
Actuated g/C Ratio	0.24	0.47	0.47	0.07	0.25		0.23	0.35	0.35	0.06	0.10	
v/c Ratio	0.87	0.05	0.12	0.26	0.62		0.67	0.11	0.01	0.05	0.46	
Control Delay	52.3	14.4	3.8	45.3	41.9		38.2	18.4	10.8	36.8	18.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	52.3	14.4	3.8	45.3	41.9		38.2	18.4	10.8	36.8	18.8	
LOS	D	B	A	D	D		D	B	B	D	B	
Approach Delay		36.5			42.1			31.1			19.3	
Approach LOS		D			D			C			B	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 37 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 35.2 — Intersection LOS: D
Intersection Capacity Utilization 68.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	278	11	12	178	11	29	10	0	16	5	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	20	352	14	15	225	14	37	13	0	20	6	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1284							
pX, platoon unblocked												
vC, conflicting volume	239			366			568	669	183	485	669	120
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	239			366			568	669	183	485	669	120
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			90	97	100	95	98	97
cM capacity (veh/h)	1325			1189			382	367	828	443	367	909

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	20	235	131	15	150	89	49	27	23
Volume Left	20	0	0	15	0	0	37	20	0
Volume Right	0	0	14	0	0	14	0	0	23
cSH	1325	1700	1700	1189	1700	1700	378	422	909
Volume to Capacity	0.02	0.14	0.08	0.01	0.09	0.05	0.13	0.06	0.03
Queue Length 95th (ft)	1	0	0	1	0	0	11	5	2
Control Delay (s)	7.8	0.0	0.0	8.1	0.0	0.0	16.0	14.1	9.1
Lane LOS	A			A			C	B	A
Approach Delay (s)	0.4			0.5			16.0	11.8	
Approach LOS							C	B	

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	40	100	28	9	511	14	55	9	3	4	10	46
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	47	116	33	10	594	16	64	10	3	5	12	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1284							
pX, platoon unblocked												
vC, conflicting volume	610			149			603	857	74	783	865	305
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	610			149			603	857	74	783	865	305
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			80	96	100	98	96	92
cM capacity (veh/h)	964			1430			327	277	972	263	274	691

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	47	78	71	10	396	214	78	16	53
Volume Left	47	0	0	10	0	0	64	5	0
Volume Right	0	0	33	0	0	16	3	0	53
cSH	964	1700	1700	1430	1700	1700	329	271	691
Volume to Capacity	0.05	0.05	0.04	0.01	0.23	0.13	0.24	0.06	0.08
Queue Length 95th (ft)	4	0	0	1	0	0	23	5	6
Control Delay (s)	8.9	0.0	0.0	7.5	0.0	0.0	19.3	19.1	10.6
Lane LOS	A			A			C	C	B
Approach Delay (s)	2.1			0.1			19.3	12.6	
Approach LOS							C	B	

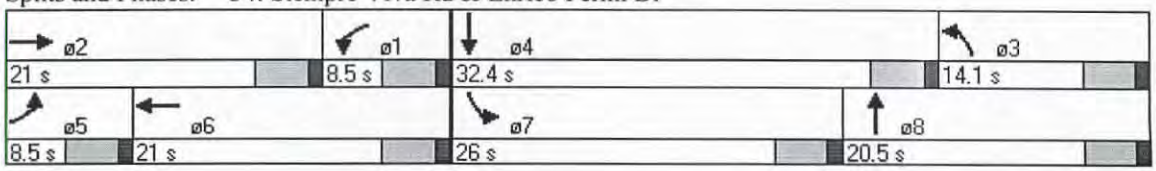
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.994			0.919			0.930			0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1852	0	1770	3253	0	1770	3291	0	1770	3320	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1852	0	1770	3253	0	1770	3291	0	1770	3320	0
Satd. Flow (RTOR)		3			122			94			17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	239	10	14	87	101	89	88	78	250	20	14
Adj. Flow (vph)	55	288	12	17	105	122	107	106	94	301	24	17
Lane Group Flow (vph)	55	300	0	17	227	0	107	200	0	301	41	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	8.5	21.0	0.0	8.5	21.0	0.0	14.1	20.5	0.0	26.0	32.4	0.0
Act Effct Green (s)	7.2	34.7		4.5	29.3		20.0	8.3		19.2	9.6	
Actuated g/C Ratio	0.09	0.46		0.06	0.39		0.26	0.11		0.25	0.13	
v/c Ratio	0.17	0.35		0.16	0.17		0.23	0.45		0.67	0.09	
Control Delay	47.3	12.7		41.3	12.5		21.0	20.1		42.5	33.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.3	12.7		41.3	12.5		21.0	20.1		42.5	33.9	
LOS	D	B		D	B		C	C		D	C	
Approach Delay		18.1			14.5			20.4			41.5	
Approach LOS		B			B			C			D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 36 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 24.4 — Intersection LOS: C
Intersection Capacity Utilization 48.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

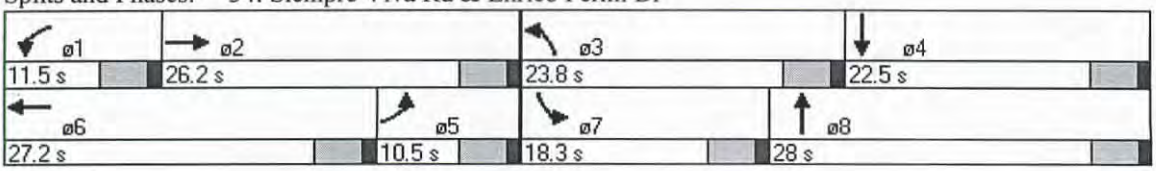


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991			0.920			0.978			0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1846	0	1770	3256	0	1770	3461	0	1770	3210	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1846	0	1770	3256	0	1770	3461	0	1770	3210	0
Satd. Flow (RTOR)		4			339			22			41	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	29	57	4	37	330	375	186	118	20	65	23	37
Adj. Flow (vph)	32	63	4	41	363	412	204	130	22	71	25	41
Lane Group Flow (vph)	32	67	0	41	775	0	204	152	0	71	66	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	10.5	26.2	0.0	11.5	27.2	0.0	23.8	28.0	0.0	18.3	22.5	0.0
Act Effct Green (s)	6.3	42.2		8.0	43.7		14.9	14.6		9.3	7.1	
Actuated g/C Ratio	0.08	0.50		0.10	0.52		0.18	0.17		0.11	0.08	
v/c Ratio	0.12	0.07		0.24	0.42		0.65	0.24		0.36	0.21	
Control Delay	42.0	16.8		35.5	9.1		41.5	27.0		24.6	27.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.0	16.8		35.5	9.1		41.5	27.0		24.6	27.4	
LOS	D	B		D	A		D	C		C	C	
Approach Delay		24.9			10.4			35.3			25.9	
Approach LOS		C			B			D			C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 46 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 19.3 — Intersection LOS: B
Intersection Capacity Utilization 44.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

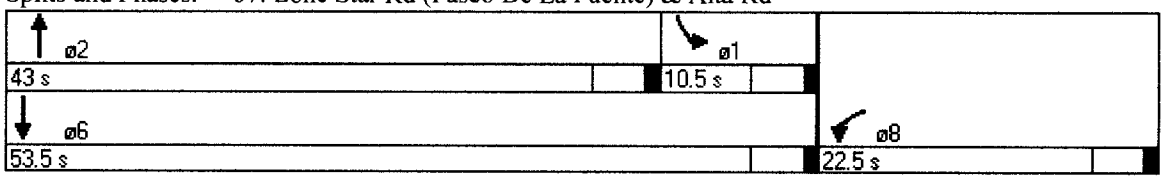


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.997			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1857	0	1863	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1857	0	1863	1863
Satd. Flow (RTOR)		2	2			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	15	2	480	11	0	120
Adj. Flow (vph)	16	2	522	12	0	130
Lane Group Flow (vph)	16	2	534	0	0	130
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	22.5	22.5	43.0	0.0	10.5	53.5
Act Effct Green (s)	7.1	7.1	101.9			101.9
Actuated g/C Ratio	0.06	0.06	0.96			0.96
v/c Ratio	0.15	0.02	0.30			0.07
Control Delay	18.6	12.5	1.1			0.7
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	18.6	12.5	1.1			0.7
LOS	B	B	A			A
Approach Delay	17.9		1.1			0.7
Approach LOS	B		A			A

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 106.2
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.30
Intersection Signal Delay: 1.5 — Intersection LOS: A
Intersection Capacity Utilization 35.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd

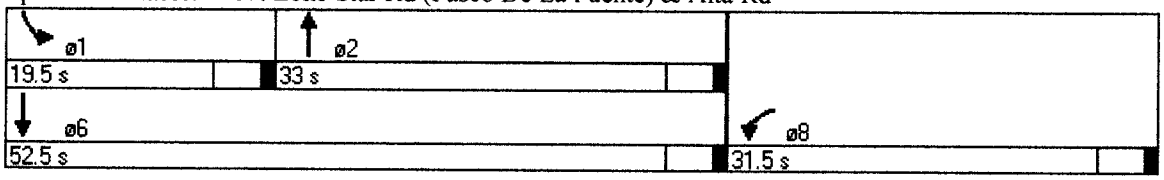


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.977			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1820	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1820	0	1770	1863
Satd. Flow (RTOR)		1	14			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	11	1	93	19	2	345
Adj. Flow (vph)	12	1	101	21	2	375
Lane Group Flow (vph)	12	1	122	0	2	375
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Total Split (s)	31.5	31.5	33.0	0.0	19.5	52.5
Act Effct Green (s)	6.5	6.5	78.8		6.1	80.9
Actuated g/C Ratio	0.08	0.08	0.94		0.07	0.96
v/c Ratio	0.09	0.01	0.07		0.02	0.21
Control Delay	37.1	28.0	1.6		36.5	0.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	37.1	28.0	1.6		36.5	0.8
LOS	D	C	A		D	A
Approach Delay	36.4		1.6			1.0
Approach LOS	D		A			A

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.21
Intersection Signal Delay: 2.1 — Intersection LOS: A
Intersection Capacity Utilization 28.2% — ICU Level of Service A
Analysis Period (min) 15

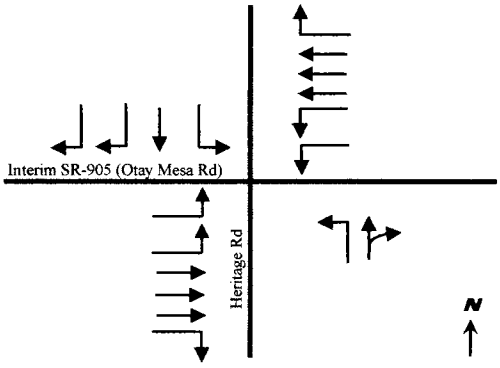
Splits and Phases: 67: Lone Star Rd (Paseo De La Fuente) & Alta Rd



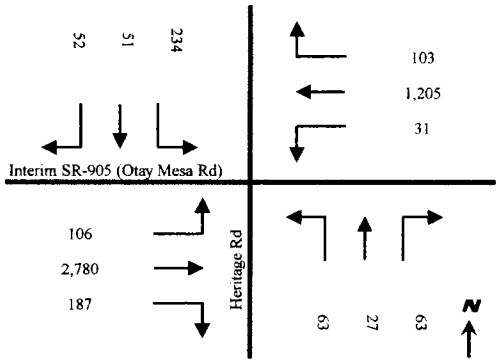
Existing + Project Phases 1-2 - ILV Analysis

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Heritage Rd
Analyst:	USW	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

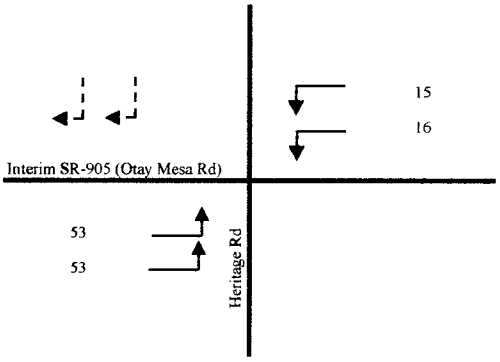
LANE GEOMETRY



TRAFFIC VOLUMES

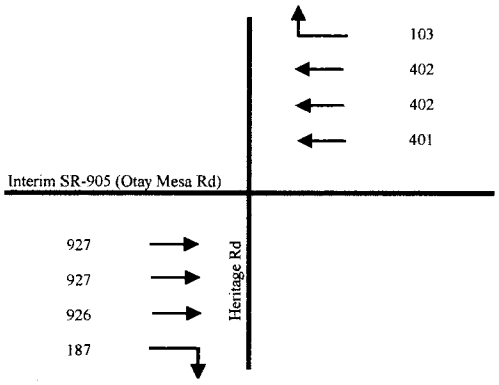


PHASE 1



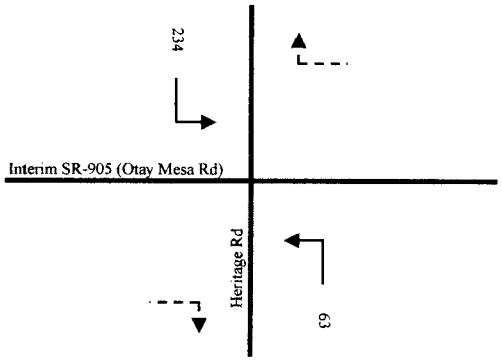
Phase 1 Critical ILV: 53

PHASE 2



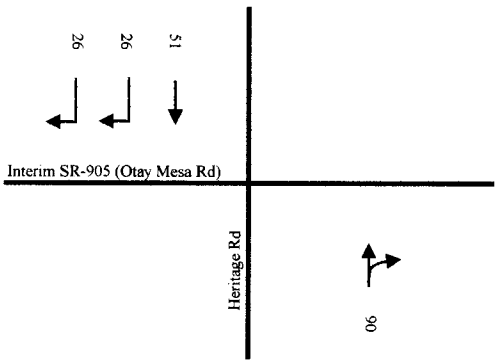
Phase 2 Critical ILV: 927

PHASE 3



Phase 3 Critical ILV: 234

PHASE 4



Phase 4 Critical ILV: 90

GRAND TOTAL ILV: 1,304

OPERATING CONDITION UNSTABLE

LEGEND

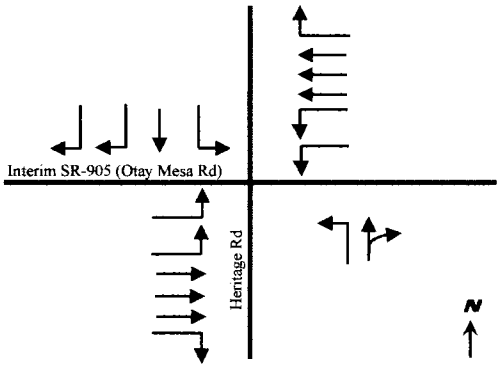
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

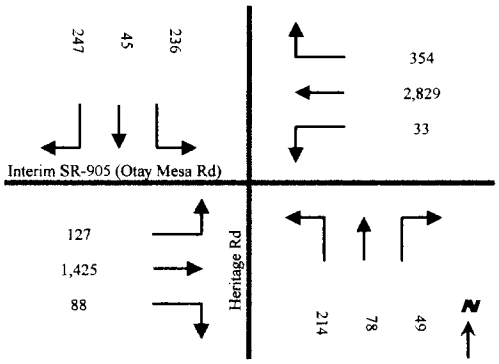
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Heritage Rd
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

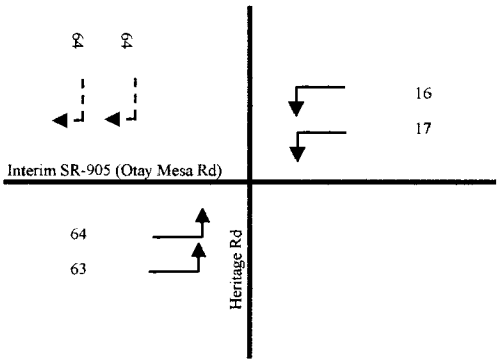
LANE GEOMETRY



TRAFFIC VOLUMES

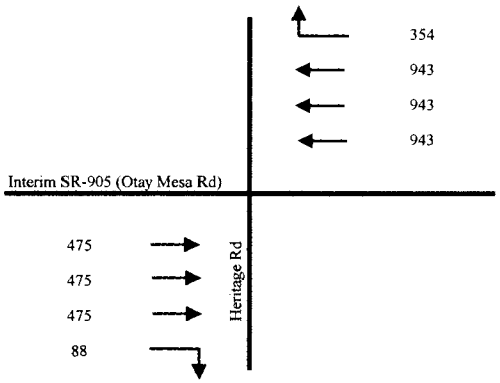


PHASE 1



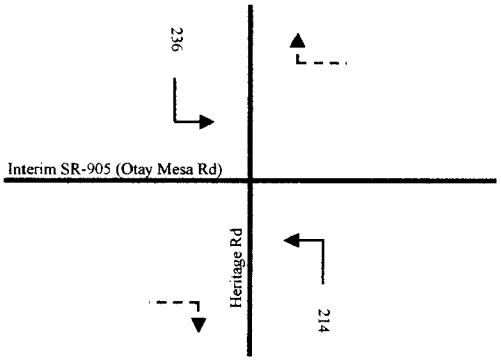
Phase 1 Critical ILV: 64

PHASE 2



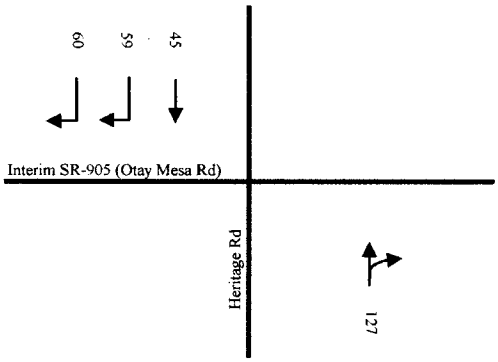
Phase 2 Critical ILV: 943

PHASE 3



Phase 3 Critical ILV: 236

PHASE 4



Phase 4 Critical ILV: 127

GRAND TOTAL ILV: 1,370

OPERATING CONDITION UNSTABLE

LEGEND

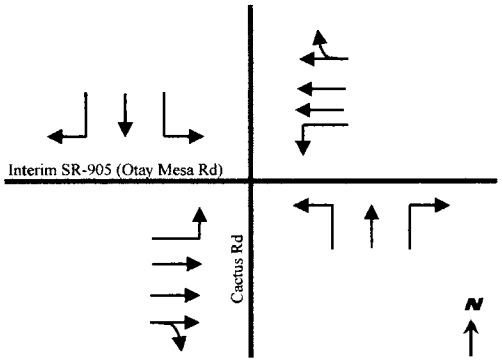
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

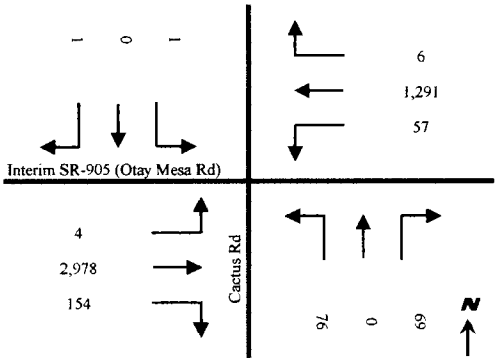
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Cactus Rd
Analyst:	VSH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

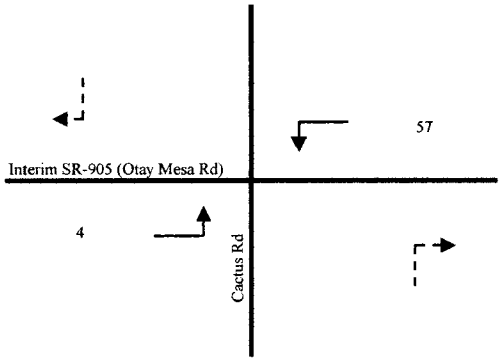
LANE GEOMETRY



TRAFFIC VOLUMES

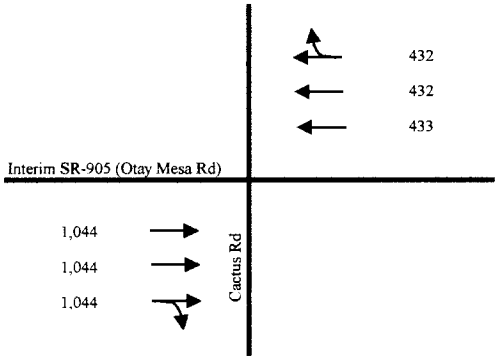


PHASE 1



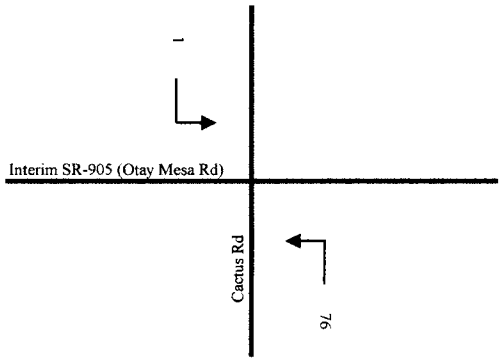
Phase 1 Critical ILV: 57

PHASE 2



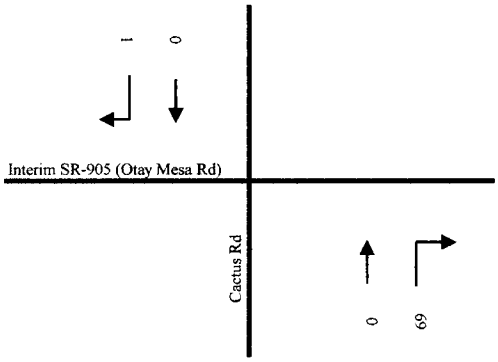
Phase 2 Critical ILV: 1,044

PHASE 3



Phase 3 Critical ILV: 76

PHASE 4



Phase 4 Critical ILV: 69

GRAND TOTAL ILV:	**1,246**
OPERATING CONDITION	**UNSTABLE**

LEGEND

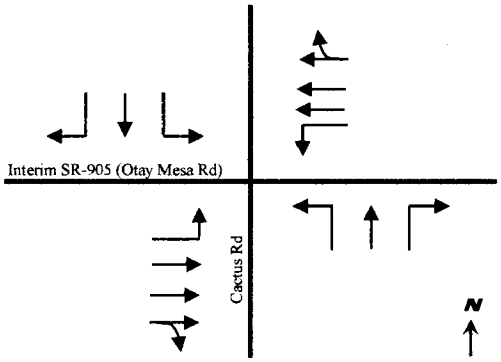
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

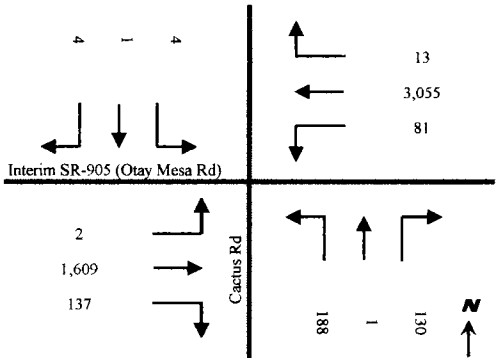
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Cactus Rd
Analyst:	[illegible]	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

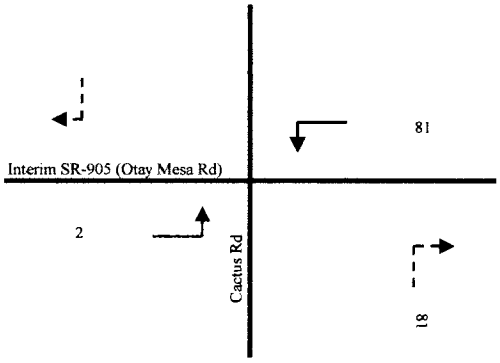
LANE GEOMETRY



TRAFFIC VOLUMES

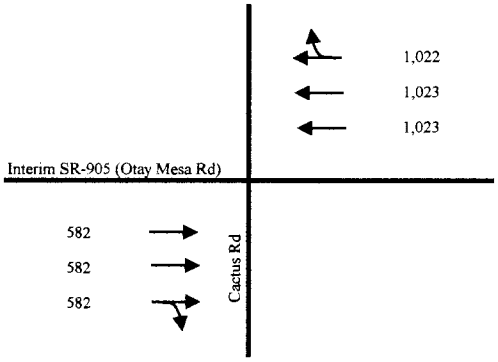


PHASE 1



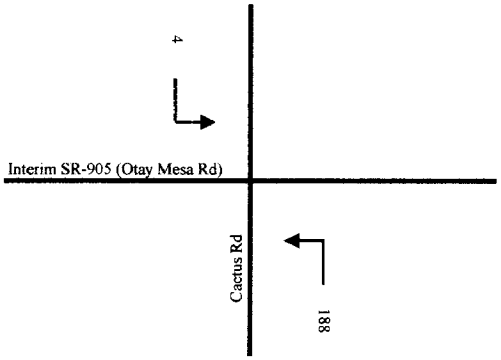
Phase 1 Critical ILV: 81

PHASE 2



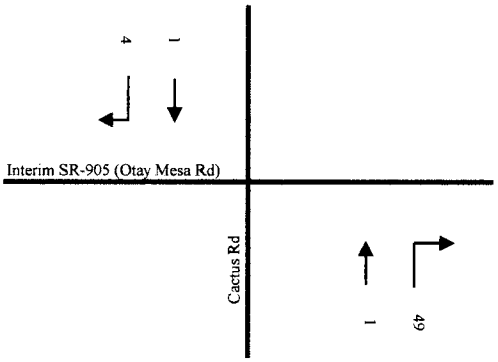
Phase 2 Critical ILV: 1,023

PHASE 3



Phase 3 Critical ILV: 188

PHASE 4



Phase 4 Critical ILV: 49

GRAND TOTAL ILV:	**1,341**
OPERATING CONDITION	**UNSTABLE**

LEGEND

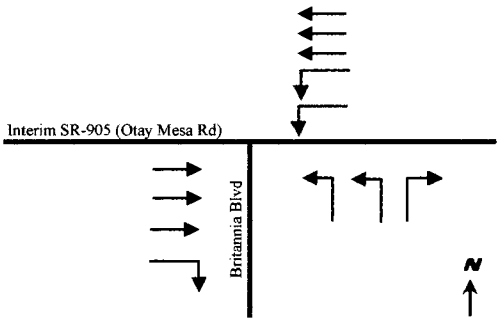
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

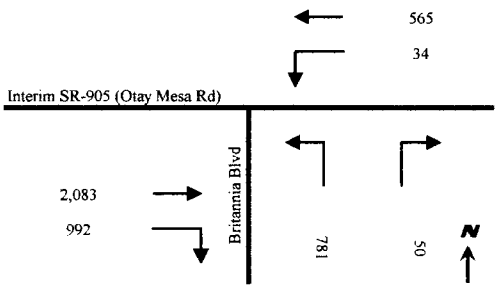
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Britannia Blvd
Analyst:	DSJ	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

LANE GEOMETRY



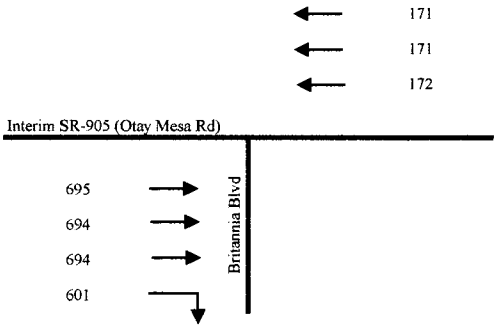
TRAFFIC VOLUMES



PHASE 1

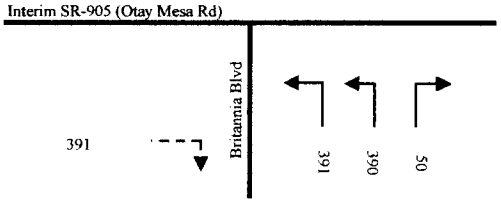
Phase 1 Critical ILV: 17

PHASE 2



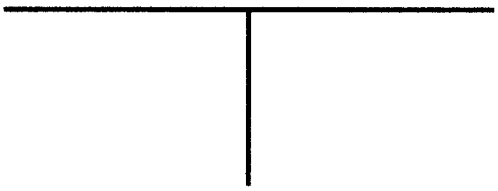
Phase 2 Critical ILV: 695

PHASE 3



Phase 3 Critical ILV: 391

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 1,103

OPERATING CONDITION STABLE

LEGEND

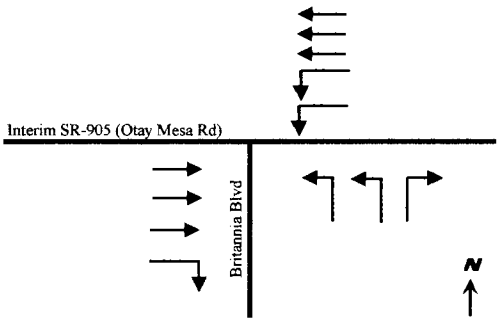
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

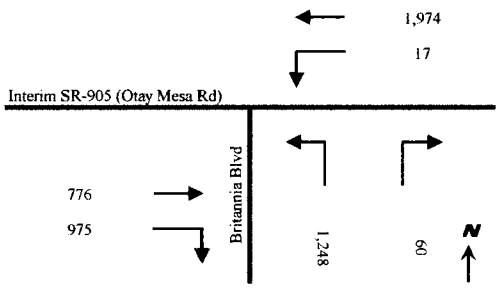
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Britannia Blvd
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

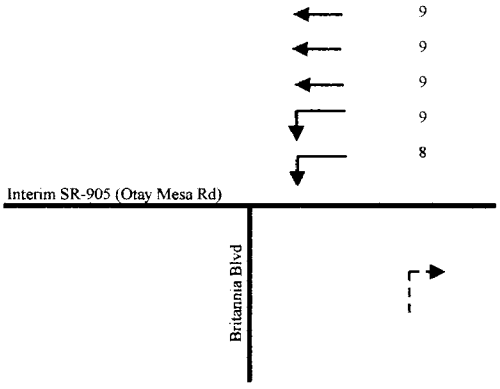
LANE GEOMETRY



TRAFFIC VOLUMES

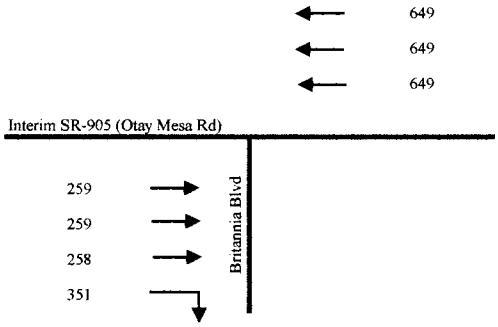


PHASE 1



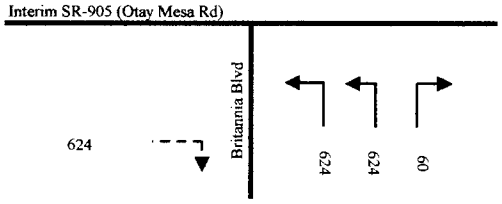
Phase 1 Critical ILV: 9

PHASE 2



Phase 2 Critical ILV: 649

PHASE 3



Phase 3 Critical ILV: 624

PHASE 4

Phase 4 Critical ILV:

GRAND TOTAL ILV: 1,282

OPERATING CONDITION UNSTABLE

LEGEND

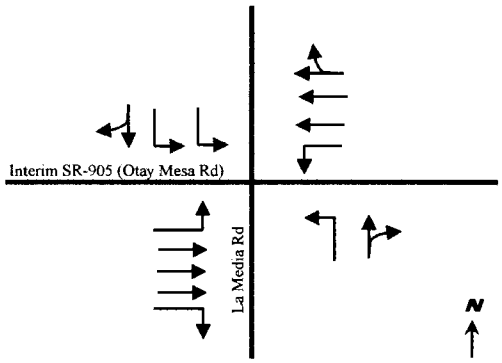
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

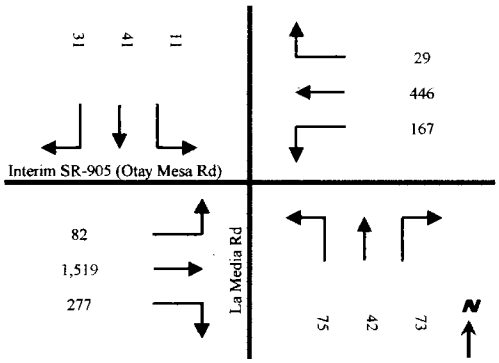
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ La Media Rd
Analyst:	USJC	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

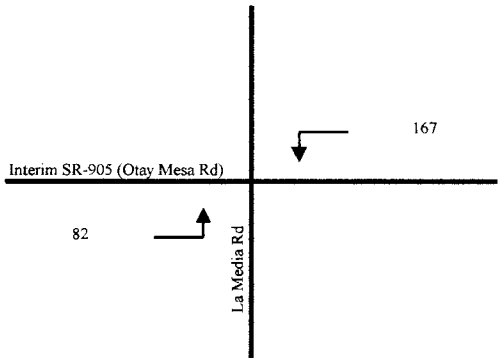
LANE GEOMETRY



TRAFFIC VOLUMES

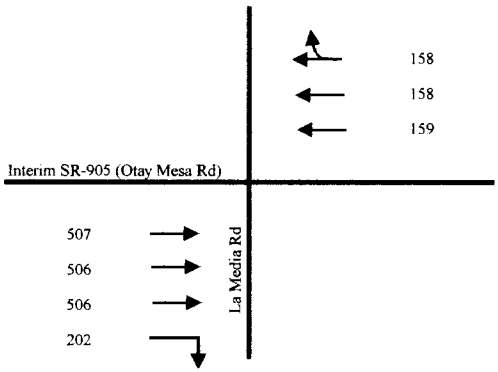


PHASE 1



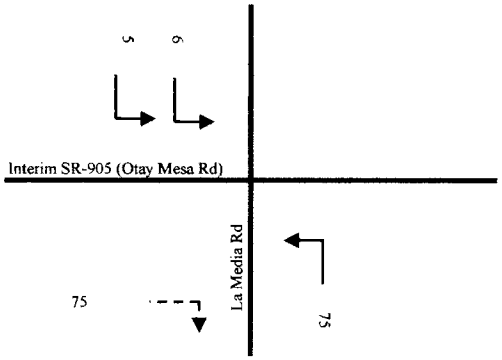
Phase 1 Critical ILV: 167

PHASE 2



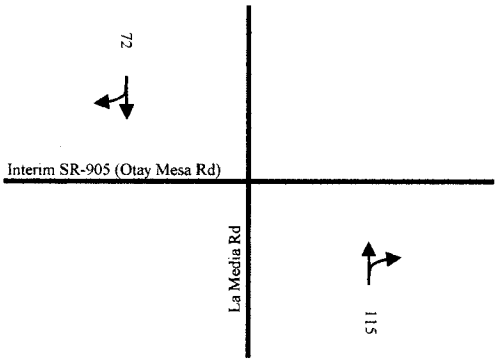
Phase 2 Critical ILV: 507

PHASE 3



Phase 3 Critical ILV: 75

PHASE 4



Phase 4 Critical ILV: 115

GRAND TOTAL ILV: **864**

OPERATING CONDITION **STABLE**

LEGEND

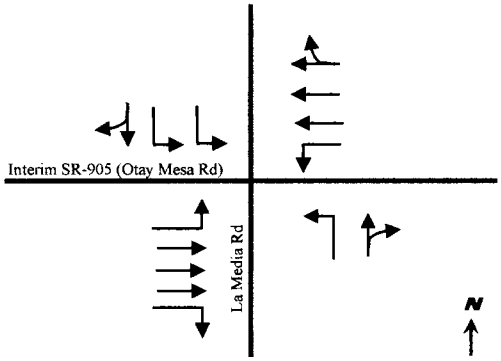
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

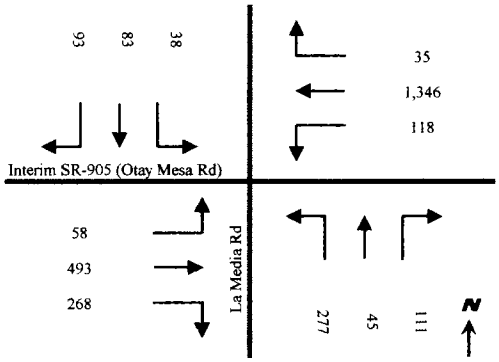
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ La Media Rd
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

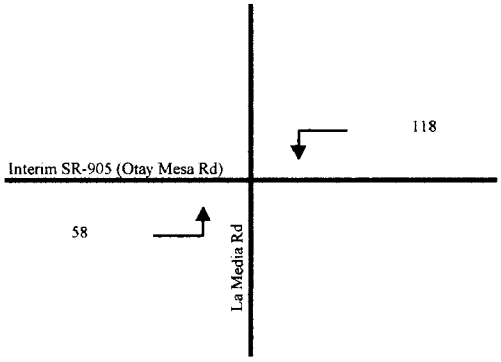
LANE GEOMETRY



TRAFFIC VOLUMES

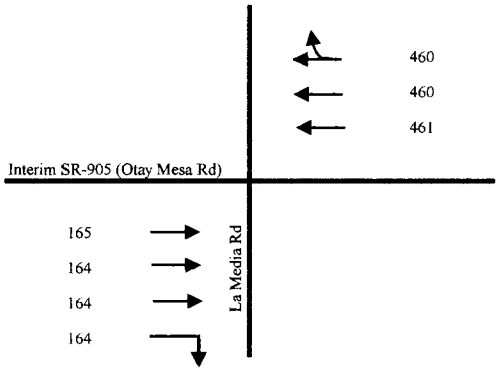


PHASE 1



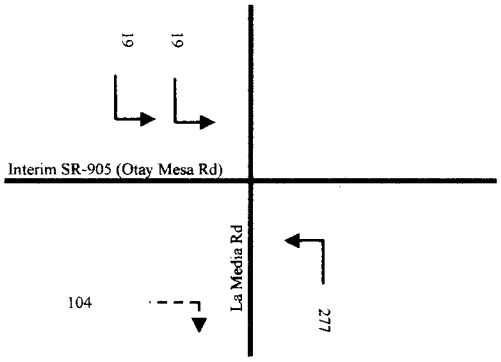
Phase 1 Critical ILV: 118

PHASE 2



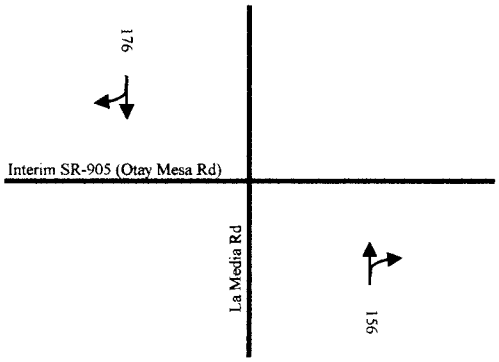
Phase 2 Critical ILV: 461

PHASE 3



Phase 3 Critical ILV: 277

PHASE 4



Phase 4 Critical ILV: 176

GRAND TOTAL ILV:	**1,032**
OPERATING CONDITION	**STABLE**

LEGEND

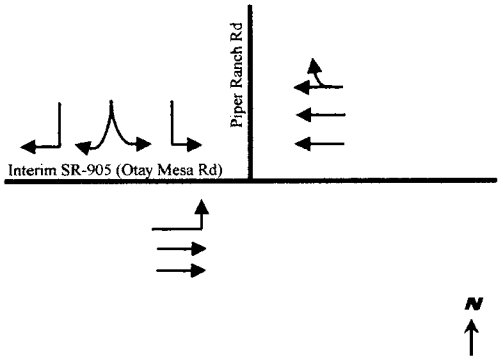
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

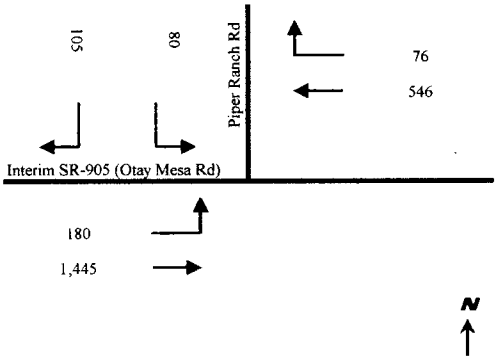
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Piper Ranch Rd
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

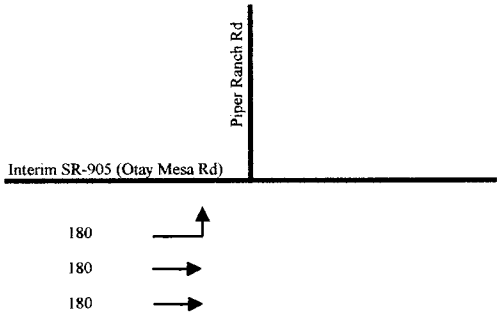
LANE GEOMETRY



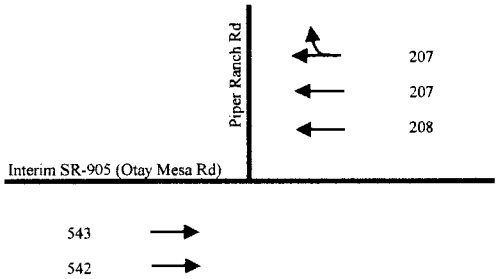
TRAFFIC VOLUMES



PHASE 1



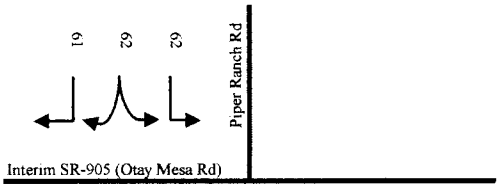
PHASE 2



Phase 1 Critical ILV: 180

Phase 2 Critical ILV: 543

PHASE 3



PHASE 4

Phase 3 Critical ILV: 62

Phase 4 Critical ILV:

GRAND TOTAL ILV: 785

OPERATING CONDITION STABLE

LEGEND

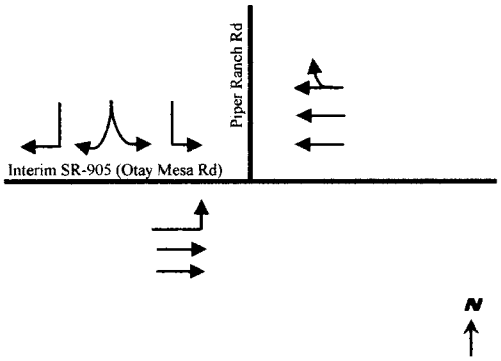
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

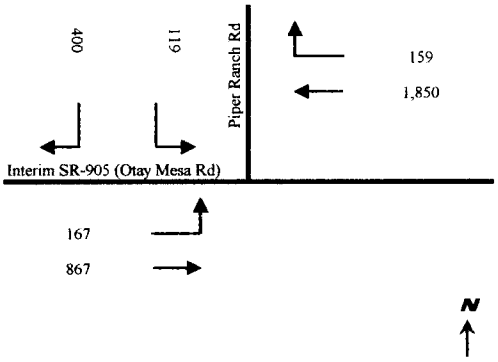
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ Piper Ranch Rd
Analyst:	VJH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

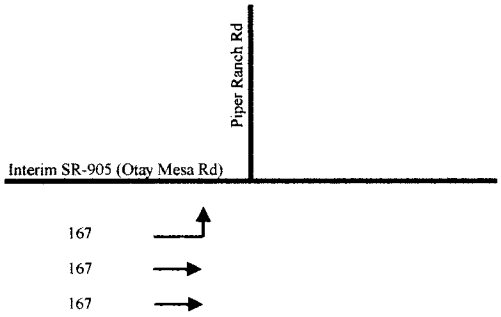
LANE GEOMETRY



TRAFFIC VOLUMES

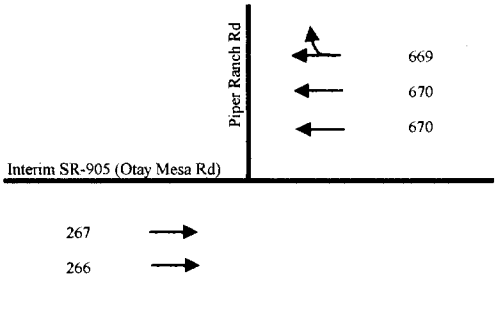


PHASE 1



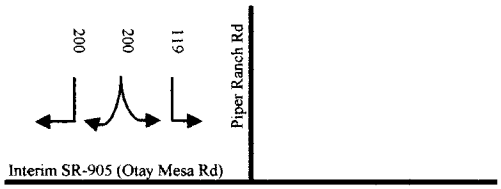
Phase 1 Critical ILV: 167

PHASE 2



Phase 2 Critical ILV: 670

PHASE 3



Phase 3 Critical ILV: 200

PHASE 4

Phase 4 Critical ILV:

GRAND TOTAL ILV: **1,037**

OPERATING CONDITION **STABLE**

LEGEND

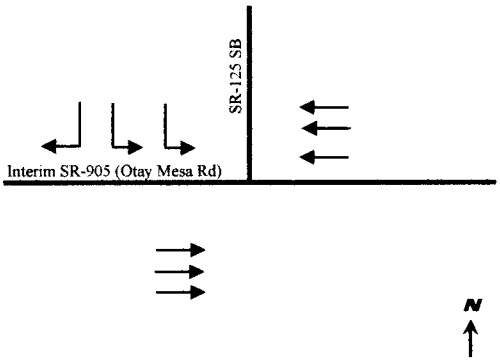
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

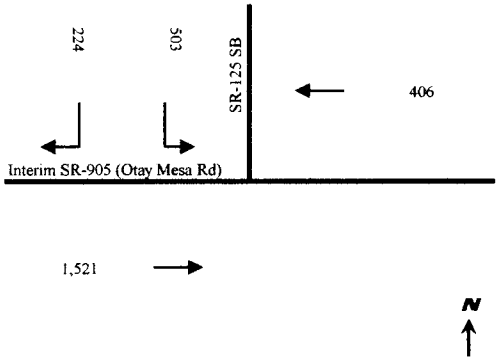
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

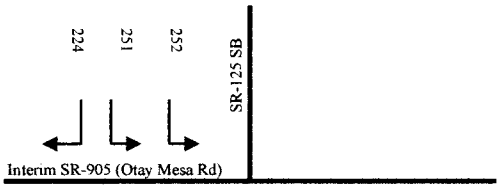
LANE GEOMETRY



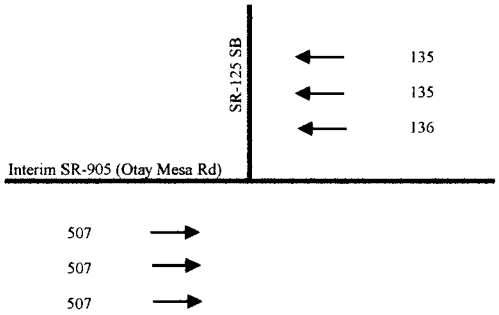
TRAFFIC VOLUMES



PHASE 1

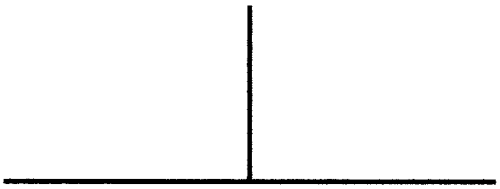


PHASE 2

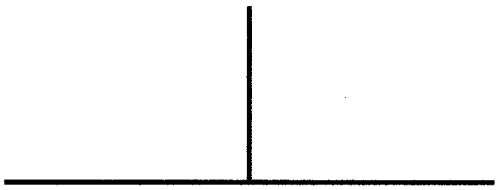


Phase 1 Critical ILV:	252	Phase 2 Critical ILV:	507

PHASE 3



PHASE 4



Phase 3 Critical ILV:		Phase 4 Critical ILV:	

GRAND TOTAL ILV:	**759**
OPERATING CONDITION	**STABLE**

LEGEND

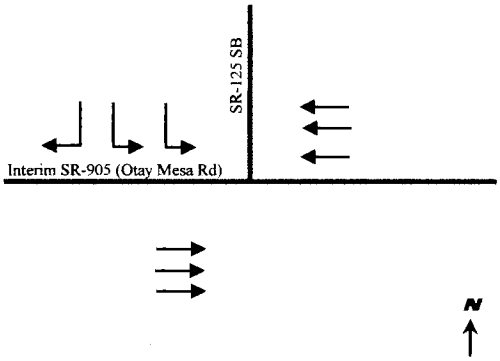
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

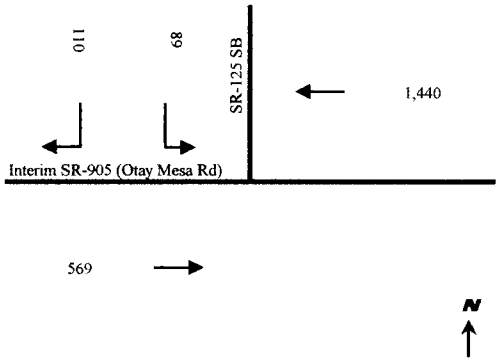
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

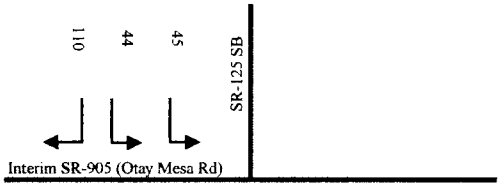
LANE GEOMETRY



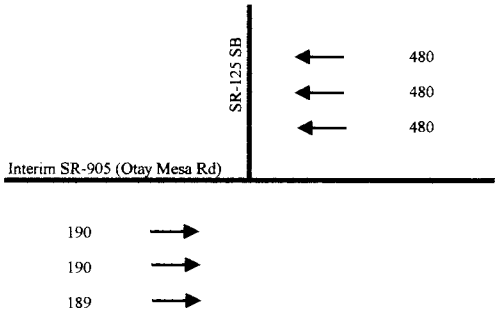
TRAFFIC VOLUMES



PHASE 1



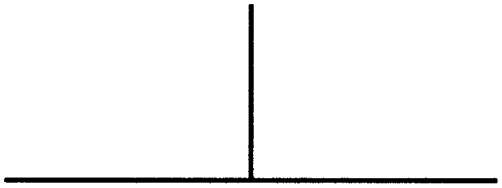
PHASE 2



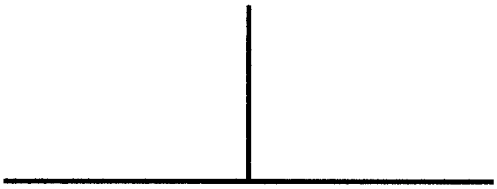
Phase 1 Critical ILV: 110

Phase 2 Critical ILV: 480

PHASE 3



PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: **590**

OPERATING CONDITION **STABLE**

LEGEND

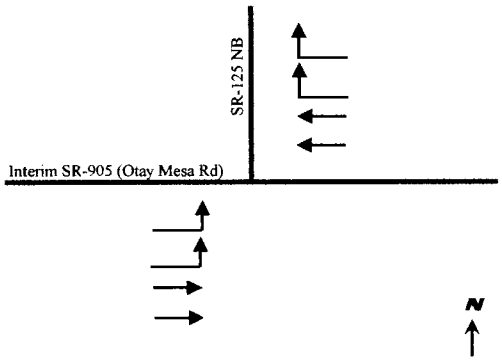
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

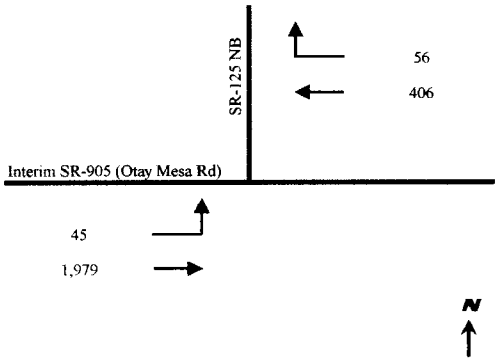
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	USH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

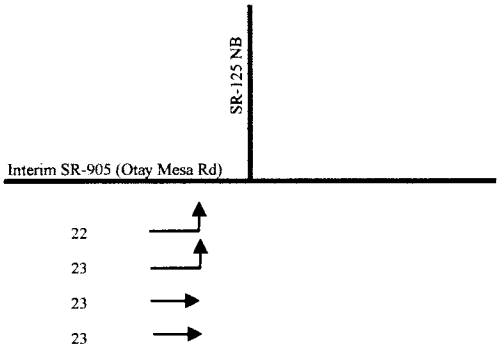
LANE GEOMETRY



TRAFFIC VOLUMES

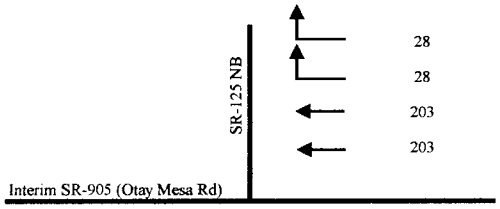


PHASE 1



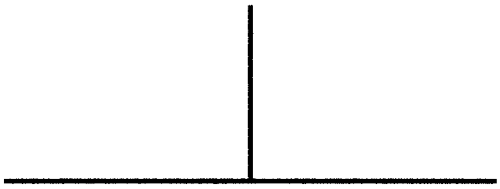
Phase 1 Critical ILV: 23

PHASE 2

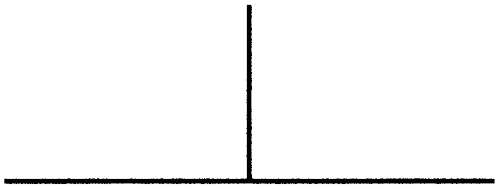


Phase 2 Critical ILV: 967

PHASE 3



PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 990

OPERATING CONDITION STABLE

LEGEND

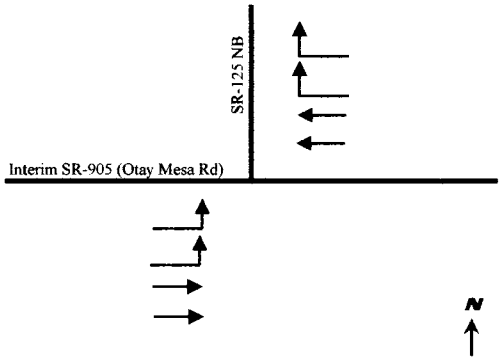
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

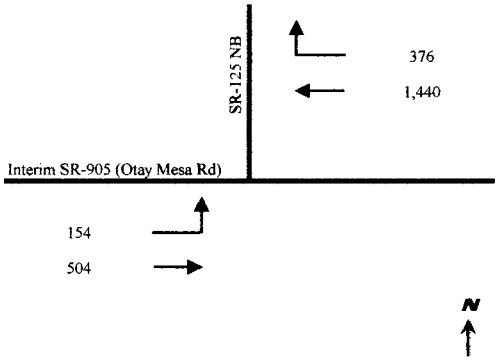
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	USH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

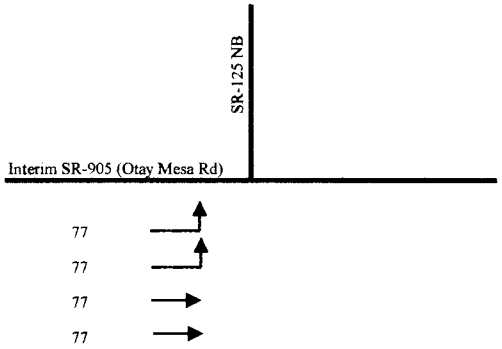
LANE GEOMETRY



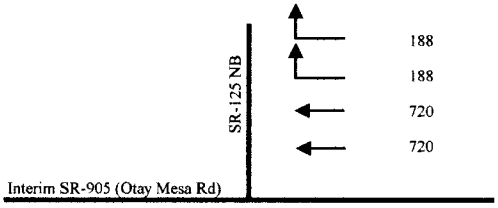
TRAFFIC VOLUMES



PHASE 1



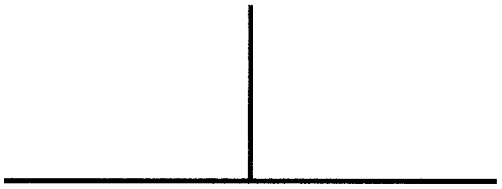
PHASE 2



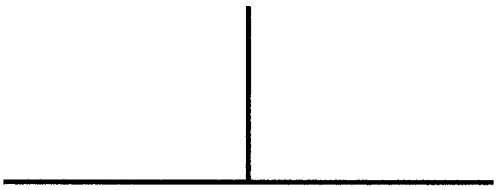
Phase 1 Critical ILV: 77

Phase 2 Critical ILV: 720

PHASE 3



PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 797

OPERATING CONDITION STABLE

LEGEND

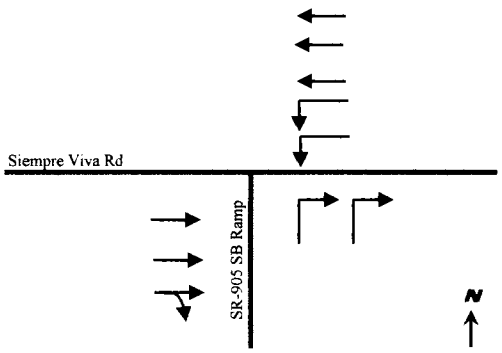
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

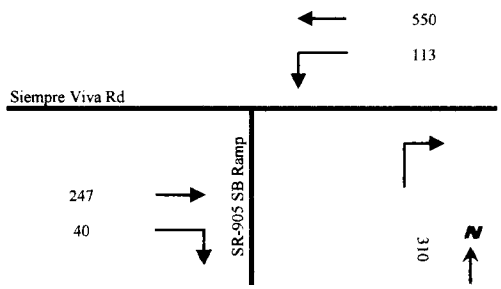
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	VSH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

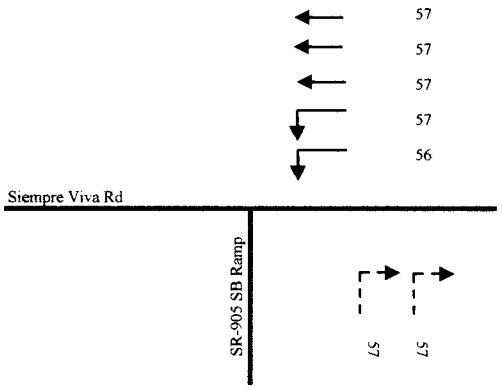
LANE GEOMETRY



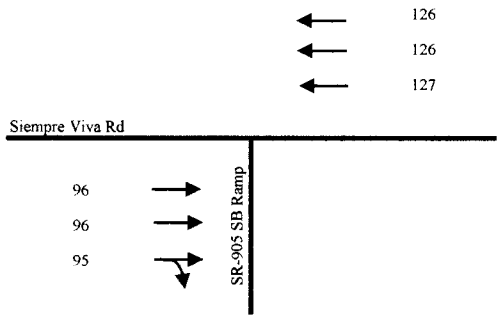
TRAFFIC VOLUMES



PHASE 1



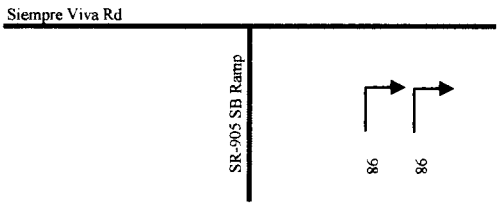
PHASE 2



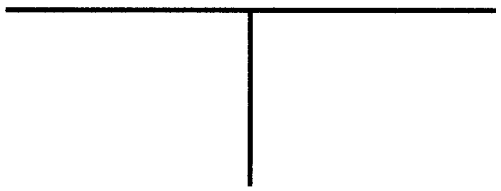
Phase 1 Critical ILV: 57

Phase 2 Critical ILV: 127

PHASE 3



PHASE 4



Phase 3 Critical ILV: 98

Phase 4 Critical ILV: -

GRAND TOTAL ILV: **282**

OPERATING CONDITION **STABLE**

LEGEND

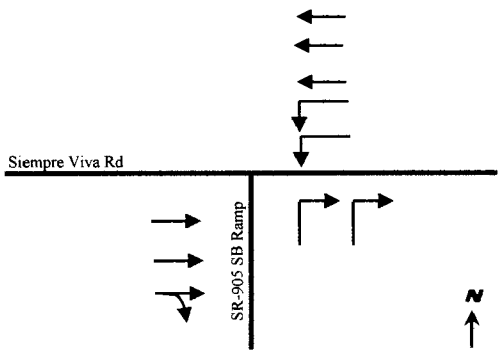
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

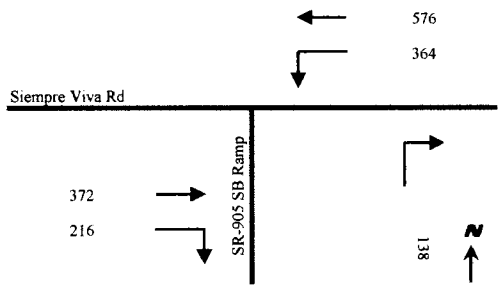
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

LANE GEOMETRY

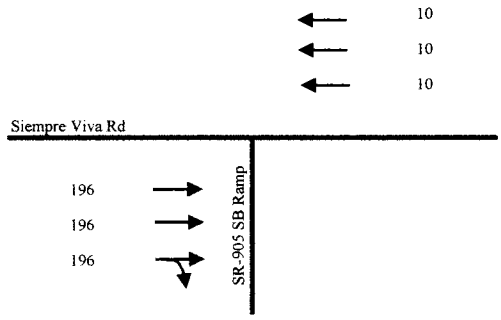


TRAFFIC VOLUMES



PHASE 1

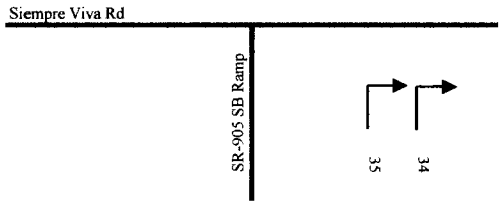
PHASE 2



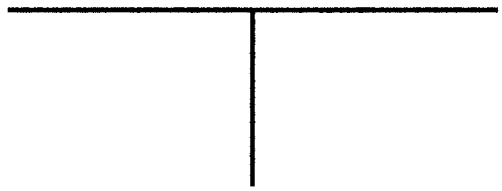
Phase 1 Critical ILV: 182

Phase 2 Critical ILV: 196

PHASE 3



PHASE 4



Phase 3 Critical ILV: 35

Phase 4 Critical ILV:

GRAND TOTAL ILV: 413

OPERATING CONDITION STABLE

LEGEND

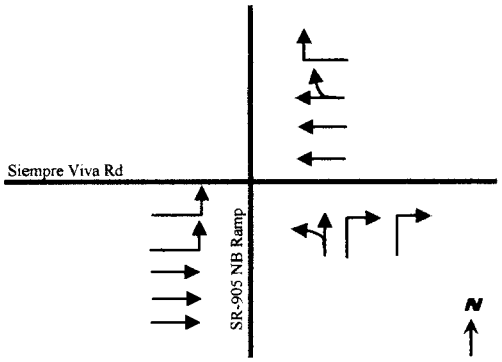
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

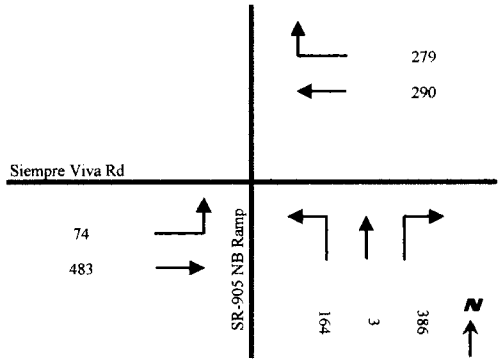
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

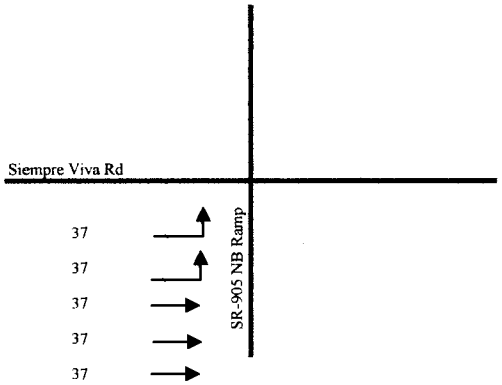
LANE GEOMETRY



TRAFFIC VOLUMES

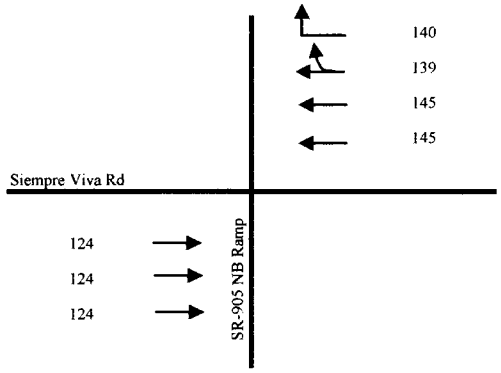


PHASE 1



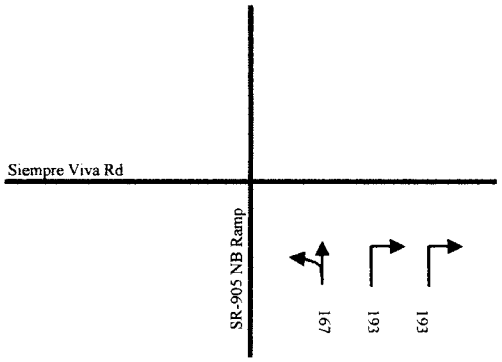
Phase 1 Critical ILV: 37

PHASE 2



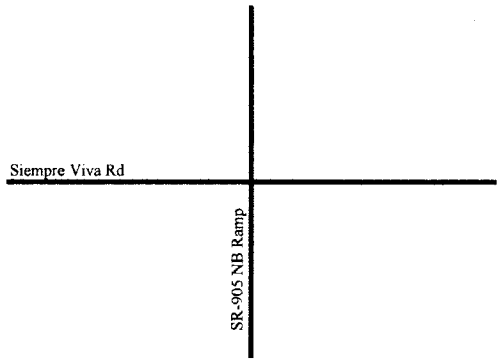
Phase 2 Critical ILV: 145

PHASE 3



Phase 3 Critical ILV: 193

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **375**

OPERATING CONDITION **STABLE**

LEGEND

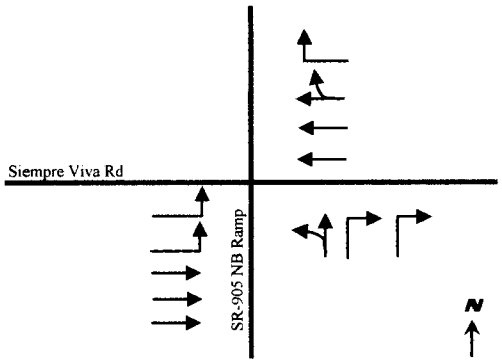
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

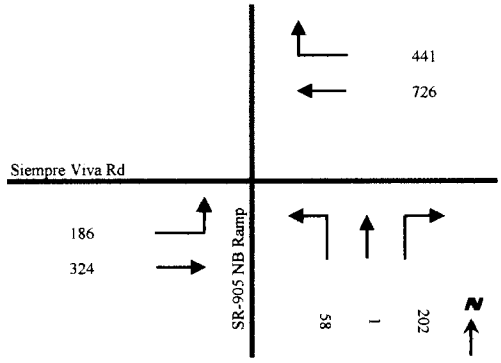
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	VSM	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Existing + Phases 1-2		

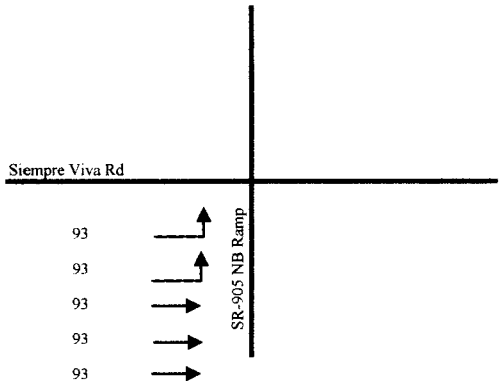
LANE GEOMETRY



TRAFFIC VOLUMES

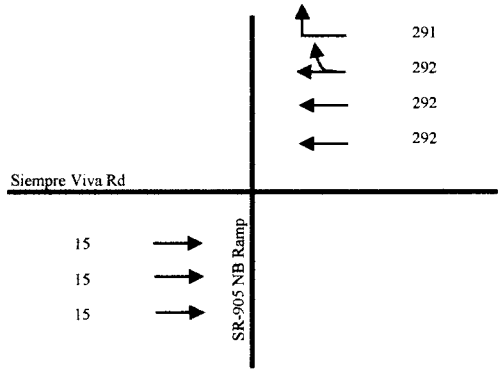


PHASE 1



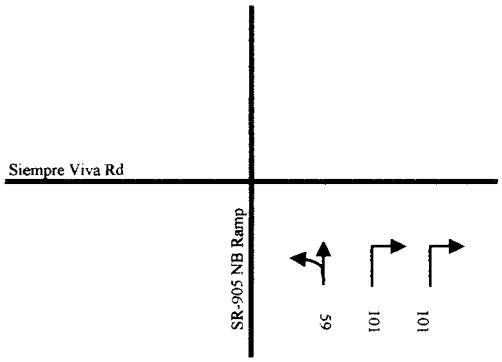
Phase 1 Critical ILV: 93

PHASE 2



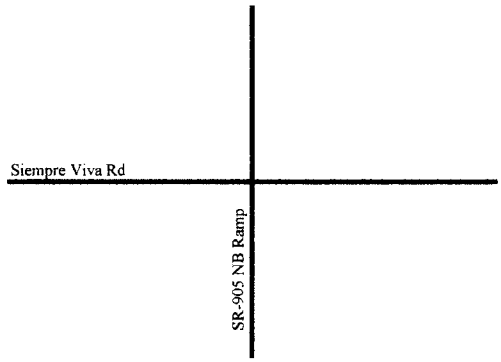
Phase 2 Critical ILV: 292

PHASE 3



Phase 3 Critical ILV: 101

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: **486**

OPERATING CONDITION **STABLE**

LEGEND

<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

Existing + Project Phases 1-2 – Queuing Summaries

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	129	3390	228	38	1470	126	77	110	285	62	63
v/c Ratio	0.57	1.01	0.17	0.37	0.47	0.10	0.41	0.94	1.21	0.47	0.25
Control Delay	79.2	40.9	0.6	71.7	9.4	0.9	71.6	108.8	181.4	79.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	40.9	0.6	71.7	9.4	0.9	71.6	108.8	181.4	79.2	16.6
Queue Length 50th (ft)	64	~1308	0	18	191	7	73	64	~344	60	0
Queue Length 95th (ft)	92	976	10	m34	274	13	120	#161	#466	100	21
Internal Link Dist (ft)		1361			2600			2637		1263	
Turn Bay Length (ft)	550		510	550		550	200		440		440
Base Capacity (vph)	235	3359	1356	102	3132	1308	189	117	235	169	310
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	1.01	0.17	0.37	0.47	0.10	0.41	0.94	1.21	0.37	0.20

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	135	1516	94	35	3010	377	228	135	251	48	263
v/c Ratio	0.61	0.53	0.10	0.15	1.06	0.29	0.67	0.71	0.94	0.43	0.68
Control Delay	86.3	22.2	3.3	60.7	60.1	1.9	73.4	84.5	110.7	87.2	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.3	22.2	3.3	60.7	60.1	1.9	73.4	84.5	110.7	87.2	44.6
Queue Length 50th (ft)	76	371	0	18	~1321	31	235	130	277	52	93
Queue Length 95th (ft)	#176	446	29	m15	m#940	m54	332	203	#455	99	136
Internal Link Dist (ft)		1361			2600			2637		1263	
Turn Bay Length (ft)	550		510	550		550	200		440		440
Base Capacity (vph)	220	2864	982	266	2830	1301	339	246	271	258	388
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.53	0.10	0.13	1.06	0.29	0.67	0.55	0.93	0.19	0.68

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	5	3867	70	1601	94	85	1	1
v/c Ratio	0.06	1.08	0.59	0.41	0.59	0.27	0.01	0.00
Control Delay	59.5	44.8	77.5	3.4	80.6	2.1	64.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	44.8	77.5	3.4	80.6	2.1	64.0	0.0
Queue Length 50th (ft)	4	~1535	71	23	91	0	1	0
Queue Length 95th (ft)	m5	m#1447	m84	272	133	0	6	0
Internal Link Dist (ft)		2600		2650				
Turn Bay Length (ft)	550		550		250	120	25	25
Base Capacity (vph)	86	3594	128	3950	239	397	202	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	1.08	0.55	0.41	0.39	0.21	0.00	0.00

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	2	1858	86	3264	200	1	138	4	1	4
v/c Ratio	0.02	0.68	0.53	1.02	0.60	0.00	0.34	0.03	0.01	0.03
Control Delay	31.5	16.2	39.2	29.9	37.8	24.0	7.2	36.5	36.0	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	16.2	39.2	29.9	37.8	24.0	7.2	36.5	36.0	24.5
Queue Length 50th (ft)	1	203	46	207	97	0	0	2	1	0
Queue Length 95th (ft)	m2	#494	m52	m#1002	150	4	42	12	6	10
Internal Link Dist (ft)		2600		2650		2628			1880	
Turn Bay Length (ft)	550		550		250		120	25		25
Base Capacity (vph)	105	2749	169	3207	351	470	502	190	366	314
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.68	0.51	1.02	0.57	0.00	0.27	0.02	0.00	0.01

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2540	1210	41	689	952	61
v/c Ratio	0.99	0.82	0.35	0.24	0.96	0.12
Control Delay	27.5	9.0	39.2	2.7	48.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	9.0	39.2	2.7	48.3	6.7
Queue Length 50th (ft)	~808	533	21	26	226	0
Queue Length 95th (ft)	m#485	m611	48	15	#294	21
Internal Link Dist (ft)	2650			5401	660	
Turn Bay Length (ft)		540	550			
Base Capacity (vph)	2566	1471	116	2907	994	502
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.82	0.35	0.24	0.96	0.12

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	800	1005	18	2035	1287	62
v/c Ratio	0.43	0.66	0.19	0.98	0.79	0.08
Control Delay	10.1	10.4	21.6	25.8	22.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	10.4	21.6	25.8	22.6	3.2
Queue Length 50th (ft)	105	615	8	~428	256	0
Queue Length 95th (ft)	48	317	m9	#503	334	18
Internal Link Dist (ft)	2650			5401	660	
Turn Bay Length (ft)		540	550			
Base Capacity (vph)	1880	1531	95	2074	1766	844
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.66	0.19	0.98	0.73	0.07

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	94	1746	318	192	546	86	132	13	83
v/c Ratio	0.45	0.95	0.33	0.62	0.25	0.38	0.26	0.07	0.39
Control Delay	16.6	17.6	2.0	27.2	5.3	34.6	10.5	35.2	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	17.6	2.0	27.2	5.3	34.6	10.5	35.2	24.8
Queue Length 50th (ft)	33	113	8	42	11	38	17	3	21
Queue Length 95th (ft)	m35	m#546	m30	151	103	72	54	11	55
Internal Link Dist (ft)		5401			908		520		2547
Turn Bay Length (ft)	550		500	550				150	
Base Capacity (vph)	224	1830	966	336	2226	233	526	181	394
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.95	0.33	0.57	0.25	0.37	0.25	0.07	0.21

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	548	298	131	1535	308	173	42	195
v/c Ratio	0.43	0.37	0.29	0.56	0.84	0.78	0.26	0.24	0.66
Control Delay	42.4	9.9	0.7	26.4	22.4	44.1	6.9	42.1	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.9	0.7	26.4	22.4	44.1	6.9	42.1	33.9
Queue Length 50th (ft)	45	57	1	66	202	151	18	11	67
Queue Length 95th (ft)	65	111	1	m81	#447	233	54	27	129
Internal Link Dist (ft)		5401			908		520		2547
Turn Bay Length (ft)	550		500	550				150	
Base Capacity (vph)	154	1479	1038	253	1823	470	744	175	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.37	0.29	0.52	0.84	0.66	0.23	0.24	0.52

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	207	1661	715	147	66
v/c Ratio	0.42	0.59	0.31	0.37	0.32
Control Delay	6.9	7.0	11.6	22.7	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.9	7.0	11.6	22.7	13.0
Queue Length 50th (ft)	42	76	88	21	0
Queue Length 95th (ft)	m9	181	52	43	34
Internal Link Dist (ft)		1591	1489	1149	
Turn Bay Length (ft)	600				125
Base Capacity (vph)	498	2798	2298	976	455
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.59	0.31	0.15	0.15

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	169	876	2030	322	202
v/c Ratio	0.41	0.31	0.79	0.59	0.59
Control Delay	36.7	2.6	13.8	17.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	2.6	13.8	17.5	12.5
Queue Length 50th (ft)	100	17	175	30	0
Queue Length 95th (ft)	124	29	221	64	62
Internal Link Dist (ft)		1591	1489	1149	
Turn Bay Length (ft)	600				125
Base Capacity (vph)	411	2795	2572	937	504
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.31	0.79	0.34	0.40

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1811	483	599	267
v/c Ratio	0.55	0.15	0.70	0.45
Control Delay	4.7	11.5	29.9	5.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.7	11.5	29.9	5.7
Queue Length 50th (ft)	14	45	131	2
Queue Length 95th (ft)	139	72	149	40
Internal Link Dist (ft)	1489	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	3276	3276	1563	863
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.15	0.38	0.31

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	639	1618	100	124
v/c Ratio	0.16	0.39	0.22	0.58
Control Delay	1.4	3.2	32.6	42.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.4	3.2	32.6	42.3
Queue Length 50th (ft)	14	90	24	58
Queue Length 95th (ft)	22	122	43	105
Internal Link Dist (ft)	1489	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	4112	4112	1533	711
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.16	0.39	0.07	0.17

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	56	2443	501	69
v/c Ratio	0.18	0.69	0.16	0.03
Control Delay	33.6	3.3	0.4	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.6	3.3	0.4	0.0
Queue Length 50th (ft)	12	11	4	0
Queue Length 95th (ft)	m21	74	5	0
Internal Link Dist (ft)		570	460	
Turn Bay Length (ft)	430			400
Base Capacity (vph)	926	3539	3104	2453
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.69	0.16	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	171	560	1600	419
v/c Ratio	0.45	0.16	0.57	0.18
Control Delay	27.8	0.1	4.0	0.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.8	0.1	4.0	0.4
Queue Length 50th (ft)	41	0	131	1
Queue Length 95th (ft)	52	0	m146	m0
Internal Link Dist (ft)		570	460	
Turn Bay Length (ft)	430			400
Base Capacity (vph)	1206	3539	2808	2298
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.16	0.57	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	2442	5	458	113
v/c Ratio	0.89	0.03	0.30	0.30
Control Delay	13.8	18.8	10.8	31.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.8	18.8	10.8	31.8
Queue Length 50th (ft)	192	2	179	24
Queue Length 95th (ft)	#703	m4	m235	41
Internal Link Dist (ft)	1003		1623	2621
Turn Bay Length (ft)		180		
Base Capacity (vph)	2730	221	1535	491
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.89	0.02	0.30	0.23

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	552	15	1595	403
v/c Ratio	0.24	0.05	1.12	0.82
Control Delay	5.6	18.6	71.4	50.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.6	18.6	71.4	50.2
Queue Length 50th (ft)	35	6	~1019	107
Queue Length 95th (ft)	91	m4	m121	#178
Internal Link Dist (ft)	1003		1623	2621
Turn Bay Length (ft)		180		
Base Capacity (vph)	2531	273	1420	492
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.05	1.12	0.82

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1686	111	141	404	47
v/c Ratio	1.70	0.65	0.12	0.91	0.11
Control Delay	337.1	52.3	5.7	50.2	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	337.1	52.3	5.7	50.2	7.5
Queue Length 50th (ft)	~1179	51	23	199	0
Queue Length 95th (ft)	#1093	81	34	#234	m22
Internal Link Dist (ft)	1250		2512	2644	
Turn Bay Length (ft)		90		175	
Base Capacity (vph)	993	175	1199	454	441
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.70	0.63	0.12	0.89	0.11

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	368	35	490	1071	97
v/c Ratio	0.40	0.16	0.44	1.99	0.19
Control Delay	5.4	32.7	10.6	475.7	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.4	32.7	10.6	475.7	11.8
Queue Length 50th (ft)	42	16	127	~923	20
Queue Length 95th (ft)	7	34	142	#871	m35
Internal Link Dist (ft)	1250		2512	2644	
Turn Bay Length (ft)		90		175	
Base Capacity (vph)	911	284	1120	537	523
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.12	0.44	1.99	0.19

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	95	42	8	16	195	88	268	889	446
v/c Ratio	0.06	0.42	0.19	0.05	0.07	0.53	0.39	0.34	1.08	0.22
Control Delay	32.6	35.7	11.5	32.7	28.2	10.4	43.0	26.8	63.7	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	35.7	11.5	32.7	28.2	10.4	43.0	26.8	63.7	11.8
Queue Length 50th (ft)	4	44	0	4	7	0	42	53	~478	48
Queue Length 95th (ft)	14	69	18	13	18	27	67	66	m#404	m70
Internal Link Dist (ft)		1210			1186			501		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	175	454	417	175	478	551	283	1181	822	2069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.21	0.10	0.05	0.03	0.35	0.31	0.23	1.08	0.22

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	23	12	7	54	691	113	544	206	154
v/c Ratio	0.07	0.05	0.03	0.05	0.12	0.88	0.33	0.40	0.58	0.10
Control Delay	36.7	20.2	10.0	36.7	21.7	19.8	24.5	17.4	42.4	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	20.2	10.0	36.7	21.7	19.8	24.5	17.4	42.4	27.2
Queue Length 50th (ft)	5	9	0	4	22	70	49	88	105	30
Queue Length 95th (ft)	17	23	10	15	40	141	63	130	#226	67
Internal Link Dist (ft)		1210			1186			501		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	200	520	450	200	546	842	375	1448	357	1572
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.04	0.03	0.04	0.10	0.82	0.30	0.38	0.58	0.10

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	20	152	66	289	14	8	66
v/c Ratio	0.12	0.06	0.40	0.10	0.09	0.05	0.33
Control Delay	33.0	8.7	39.2	7.5	32.8	20.9	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	8.7	39.2	7.5	32.8	20.9	24.8
Queue Length 50th (ft)	9	10	31	18	6	0	17
Queue Length 95th (ft)	28	22	69	35	22	13	51
Internal Link Dist (ft)		3989		1156		1019	1012
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	160	2648	172	2941	408	378	417
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	0.13	0.06	0.38	0.10	0.03	0.02	0.16

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	48	267	136	347	29	21	108
v/c Ratio	0.28	0.12	0.50	0.13	0.19	0.13	0.48
Control Delay	38.6	14.0	44.0	2.6	37.8	18.7	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	14.0	44.0	2.6	37.8	18.7	37.2
Queue Length 50th (ft)	24	24	66	12	15	1	48
Queue Length 95th (ft)	55	52	119	23	39	22	93
Internal Link Dist (ft)		3989		1156		1019	1012
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	208	2251	284	2742	411	388	421
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	0.23	0.12	0.48	0.13	0.07	0.05	0.26

Intersection Summary

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	311	123	598	337
v/c Ratio	0.10	0.22	0.14	0.27
Control Delay	4.1	28.0	1.9	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.1	28.0	1.9	0.5
Queue Length 50th (ft)	14	24	11	0
Queue Length 95th (ft)	22	m54	44	0
Internal Link Dist (ft)	1279		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3129	637	4148	1674
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.14	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	600	371	588	141
v/c Ratio	0.19	0.70	0.13	0.12
Control Delay	2.3	38.7	1.5	0.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.3	38.7	1.5	0.2
Queue Length 50th (ft)	11	91	20	0
Queue Length 95th (ft)	25	125	21	0
Internal Link Dist (ft)	1279		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3208	813	4407	1597
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.46	0.13	0.09

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	77	503	447	146	174	402
v/c Ratio	0.23	0.14	0.16	0.17	0.57	0.49
Control Delay	35.0	2.5	3.7	2.5	35.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	2.5	3.7	2.5	35.3	5.1
Queue Length 50th (ft)	16	12	3	0	77	0
Queue Length 95th (ft)	31	23	45	m0	123	35
Internal Link Dist (ft)		653	439		1142	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	637	3671	2797	874	596	1202
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.14	0.16	0.17	0.29	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	198	345	865	376	63	215
v/c Ratio	0.46	0.08	0.29	0.38	0.35	0.45
Control Delay	37.2	1.0	2.9	1.1	39.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	1.0	2.9	1.1	39.7	8.4
Queue Length 50th (ft)	53	4	18	0	32	0
Queue Length 95th (ft)	87	8	50	0	66	33
Internal Link Dist (ft)		653	439		1142	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	756	4080	2989	997	539	996
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.08	0.29	0.38	0.12	0.22

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	406	348	121	12	219	94	33	18	57	283
v/c Ratio	0.78	0.11	0.12	0.11	0.21	0.59	0.05	0.06	0.44	0.54
Control Delay	33.8	6.1	1.6	35.7	23.0	49.5	25.8	12.5	45.0	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	6.1	1.6	35.7	23.0	49.5	25.8	12.5	45.0	26.3
Queue Length 50th (ft)	155	14	0	5	46	43	7	0	26	50
Queue Length 95th (ft)	#308	40	16	19	72	#103	18	16	61	82
Internal Link Dist (ft)		493			1124		842			1095
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	539	3156	1028	105	1040	163	853	396	130	789
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.11	0.12	0.11	0.21	0.58	0.04	0.05	0.44	0.36

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	365	117	98	31	548	271	137	8	5	182
v/c Ratio	0.87	0.05	0.12	0.26	0.62	0.67	0.11	0.01	0.05	0.46
Control Delay	52.3	14.4	3.8	45.3	41.9	38.2	18.4	10.8	36.8	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	14.4	3.8	45.3	41.9	38.2	18.4	10.8	36.8	18.8
Queue Length 50th (ft)	186	13	0	17	154	127	23	0	2	20
Queue Length 95th (ft)	#339	24	28	m37	#223	208	47	9	m13	52
Internal Link Dist (ft)		493			1124		842			1095
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	421	2373	791	121	878	408	1261	569	105	718
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.05	0.12	0.26	0.62	0.66	0.11	0.01	0.05	0.25

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	55	300	17	227	107	200	301	41
v/c Ratio	0.17	0.35	0.16	0.17	0.23	0.45	0.67	0.09
Control Delay	47.3	12.7	41.3	12.5	21.0	20.1	42.5	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	12.7	41.3	12.5	21.0	20.1	42.5	33.9
Queue Length 50th (ft)	14	64	7	17	39	24	110	7
Queue Length 95th (ft)	30	90	m21	m40	65	47	210	22
Internal Link Dist (ft)		1204		311		851		533
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	327	848	105	1330	484	788	512	1251
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.35	0.16	0.17	0.22	0.25	0.59	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	67	41	775	204	152	71	66
v/c Ratio	0.12	0.07	0.24	0.42	0.65	0.24	0.36	0.21
Control Delay	42.0	16.8	35.5	9.1	41.5	27.0	24.6	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	16.8	35.5	9.1	41.5	27.0	24.6	27.4
Queue Length 50th (ft)	8	25	21	84	101	32	39	13
Queue Length 95th (ft)	23	63	m45	150	159	57	83	35
Internal Link Dist (ft)		1204		311		851		533
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	266	929	178	1858	417	1005	301	739
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.07	0.23	0.42	0.49	0.15	0.24	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	16	2	534	130
v/c Ratio	0.15	0.02	0.30	0.07
Control Delay	18.6	12.5	1.1	0.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.6	12.5	1.1	0.7
Queue Length 50th (ft)	12	0	0	0
Queue Length 95th (ft)	25	6	78	18
Internal Link Dist (ft)	670		520	1210
Turn Bay Length (ft)				
Base Capacity (vph)	268	242	1782	1788
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.01	0.30	0.07

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	12	1	122	2	375
v/c Ratio	0.09	0.01	0.07	0.02	0.21
Control Delay	37.1	28.0	1.6	36.5	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	28.0	1.6	36.5	0.8
Queue Length 50th (ft)	6	0	0	1	0
Queue Length 95th (ft)	22	5	32	8	49
Internal Link Dist (ft)	670		520		1210
Turn Bay Length (ft)				150	
Base Capacity (vph)	579	519	1707	327	1794
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.02	0.00	0.07	0.01	0.21

Intersection Summary

APPENDIX G

- Cumulative + Project - Arterial Analysis
- Cumulative + Project - Intersection Synchro Analysis
- Cumulative + Project - Intersection ILV Analysis
- Cumulative + Project – Queuing Summaries

Cumulative + Project - Arterial Analysis

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	21.3	49.7	0.27	19.8	D
Cactus Rd	II	45	44.7	3.8	48.5	0.51	37.7	A
Brittania Blvd	II	45	45.5	19.0	64.5	0.52	28.9	B
La Media	II	45	83.0	10.5	93.5	1.04	40.0	A
Piper Ranch Rd	II	45	44.4	6.8	51.2	0.50	35.4	A
SR125 SB	II	45	29.4	3.9	33.3	0.30	32.1	B
SR125 NB Ramp	II	45	13.4	0.5	13.9	0.12	31.9	B
Harvest Rd	II	45	17.5	4.9	22.4	0.16	25.9	C
Sanyo Ave	II	45	22.4	45.7	68.1	0.21	10.8	F
Enrico Fermi Dr	II	45	62.8	79.5	142.3	0.78	19.8	D
Total	II		391.5	195.9	587.4	4.41	27.0	C

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	11.2	54.4	0.49	32.5	B
Sunroad Blvd	II	45	62.8	15.6	78.4	0.78	36.0	A
Harvest Rd	II	45	22.4	4.1	26.5	0.21	27.9	C
SR125 NB Ramp	II	45	17.5	0.6	18.1	0.16	32.0	B
SR125 SB	II	45	13.4	5.1	18.5	0.12	24.0	C
Piper Ranch Rd	II	45	29.4	14.2	43.6	0.30	24.5	C
La Media	II	45	44.4	7.6	52.0	0.50	34.9	B
Brittania Blvd	II	45	83.0	8.5	91.5	1.04	40.8	A
Cactus Rd	II	45	45.5	2.3	47.8	0.52	38.9	A
Heritage Road	II	45	44.7	26.1	70.8	0.51	25.8	C
Total	II		406.3	95.3	501.6	4.63	33.2	B

Arterial Level of Service: EB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Heritage Road	II	45	28.4	19.2	47.6	0.27	20.6	D
Cactus Rd	II	45	44.7	11.2	55.9	0.51	32.7	B
Brittania Blvd	II	45	45.5	11.5	57.0	0.52	32.7	B
La Media	II	45	83.0	27.0	110.0	1.04	34.0	B
Piper Ranch Rd	II	45	44.4	4.3	48.7	0.50	37.3	A
SR125 SB	II	45	29.4	1.3	30.7	0.30	34.8	B
SR125 NB Ramp	II	45	13.4	0.3	13.7	0.12	32.3	B
Harvest Rd	II	45	17.5	4.1	21.6	0.16	26.8	C
Sanyo Ave	II	45	22.4	31.6	54.0	0.21	13.7	E
Enrico Fermi Dr	II	45	62.8	46.0	108.8	0.78	25.9	C
Total	II		391.5	156.5	548.0	4.41	29.0	B

Arterial Level of Service: WB Otay Mesa Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Enrico Fermi Dr	II	45	43.2	15.9	59.1	0.49	29.9	B
Sunroad Blvd	II	45	62.8	54.8	117.6	0.78	24.0	C
Harvest Rd	II	45	22.4	28.0	50.4	0.21	14.7	E
SR125 NB Ramp	II	45	17.5	2.8	20.3	0.16	28.5	B
SR125 SB	II	45	13.4	0.8	14.2	0.12	31.2	B
Piper Ranch Rd	II	45	29.4	21.3	50.7	0.30	21.1	D
La Media	II	45	44.4	22.7	67.1	0.50	27.0	C
Brittania Blvd	II	45	83.0	11.6	94.6	1.04	39.5	A
Cactus Rd	II	45	45.5	14.7	60.2	0.52	30.9	B
Heritage Road	II	45	44.7	21.8	66.5	0.51	27.5	C
Total	II		406.3	194.4	600.7	4.63	27.7	C

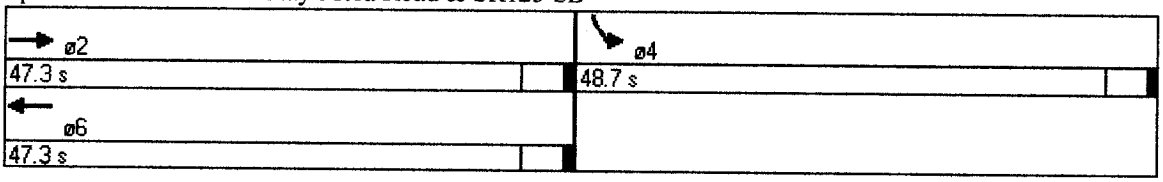
Cumulative + Project- Intersection Synchro Analysis

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↰↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						318
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	830	360	0	560	270
Adj. Flow (vph)	0	988	429	0	667	321
Lane Group Flow (vph)	0	988	429	0	667	321
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	47.3	47.3	0.0	48.7	48.7
Act Effct Green (s)		63.5	63.5		24.5	24.5
Actuated g/C Ratio		0.66	0.66		0.26	0.26
v/c Ratio		0.29	0.13		0.76	0.50
Control Delay		3.9	5.1		38.7	6.0
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		3.9	5.1		38.7	6.0
LOS		A	A		D	A
Approach Delay		3.9	5.1		28.1	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 17 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 14.1 — Intersection LOS: B
Intersection Capacity Utilization 40.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

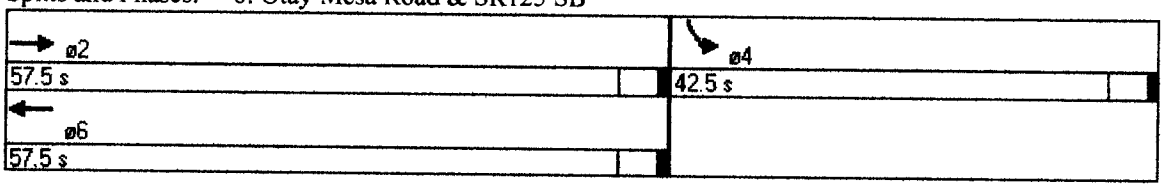


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	5085	5085	0	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	0	5085	5085	0	3433	1583
Satd. Flow (RTOR)						42
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	1030	1150	0	160	80
Adj. Flow (vph)	0	1157	1292	0	180	90
Lane Group Flow (vph)	0	1157	1292	0	180	90
Turn Type						Perm
Protected Phases		2	6		4	
Permitted Phases						4
Total Split (s)	0.0	57.5	57.5	0.0	42.5	42.5
Act Effct Green (s)		81.7	81.7		10.3	10.3
Actuated g/C Ratio		0.82	0.82		0.10	0.10
v/c Ratio		0.28	0.31		0.51	0.45
Control Delay		1.3	0.8		47.2	31.3
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		1.3	0.8		47.2	31.3
LOS		A	A		D	C
Approach Delay		1.3	0.8		41.9	
Approach LOS		A	A		D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 5 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 5.1 — Intersection LOS: A
Intersection Capacity Utilization 43.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Otay Mesa Road & SR125 SB

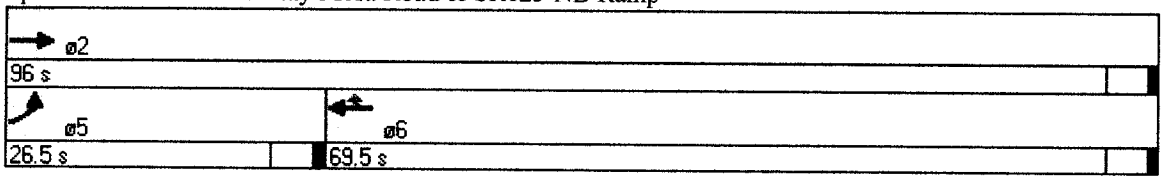


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				432		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	30	1360	360	350	0	0
Adj. Flow (vph)	37	1679	444	432	0	0
Lane Group Flow (vph)	37	1679	444	432	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	26.5	96.0	69.5	69.5	0.0	0.0
Act Effct Green (s)	6.8	96.0	89.8	89.8		
Actuated g/C Ratio	0.07	1.00	0.94	0.94		
v/c Ratio	0.15	0.47	0.13	0.16		
Control Delay	39.5	0.5	0.6	0.3		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	39.5	0.5	0.6	0.3		
LOS	D	A	A	A		
Approach Delay		1.4	0.4			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 56 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 1.1 — Intersection LOS: A
Intersection Capacity Utilization 40.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

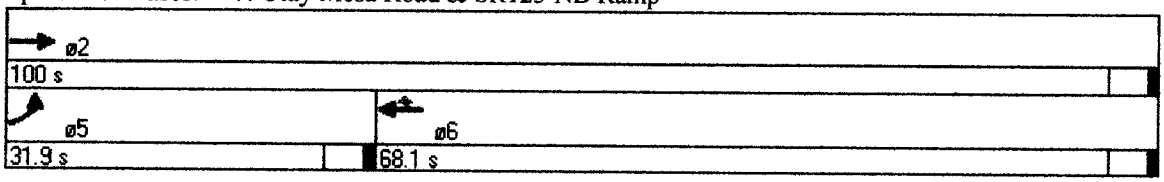


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				678		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	160	1030	1150	610	0	0
Adj. Flow (vph)	178	1144	1278	678	0	0
Lane Group Flow (vph)	178	1144	1278	678	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Total Split (s)	31.9	100.0	68.1	68.1	0.0	0.0
Act Effct Green (s)	10.2	100.0	81.8	81.8		
Actuated g/C Ratio	0.10	1.00	0.82	0.82		
v/c Ratio	0.51	0.32	0.44	0.28		
Control Delay	41.9	0.3	2.8	0.6		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	41.9	0.3	2.8	0.6		
LOS	D	A	A	A		
Approach Delay		5.9	2.1			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 12 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 3.6 — Intersection LOS: A
Intersection Capacity Utilization 43.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

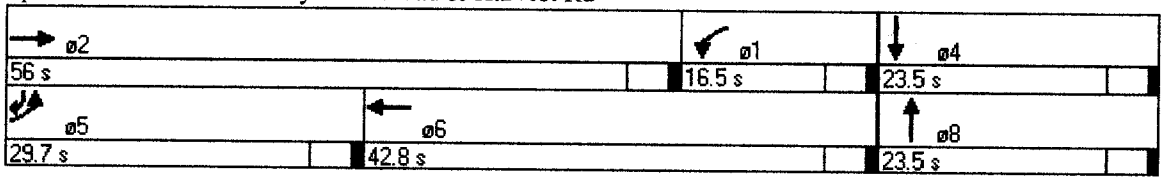


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.999			0.978			0.955				0.850
Flt Protected	0.950			0.950				0.984			0.960	
Satd. Flow (prot)	3433	3536	0	1770	3461	0	0	1750	0	0	1788	2787
Flt Permitted	0.950			0.950				0.921			0.763	
Satd. Flow (perm)	3433	3536	0	1770	3461	0	0	1638	0	0	1421	2787
Satd. Flow (RTOR)		2			25			12				260
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	330	1020	10	10	510	90	10	10	10	50	10	240
Adj. Flow (vph)	398	1229	12	12	614	108	12	12	12	60	12	289
Lane Group Flow (vph)	398	1241	0	12	722	0	0	36	0	0	72	289
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	29.7	56.0	0.0	16.5	42.8	0.0	23.5	23.5	0.0	23.5	23.5	29.7
Act Effct Green (s)	16.3	74.4		7.6	57.4			10.3			10.3	30.6
Actuated g/C Ratio	0.17	0.78		0.08	0.60			0.11			0.11	0.32
v/c Ratio	0.68	0.45		0.09	0.35			0.19			0.47	0.27
Control Delay	44.9	4.9		28.7	4.1			30.1			43.9	5.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	44.9	4.9		28.7	4.1			30.1			43.9	5.1
LOS	D	A		C	A			C			D	A
Approach Delay		14.7			4.5			30.1			12.9	
Approach LOS		B			A			C			B	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 7 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 11.9 — Intersection LOS: B
Intersection Capacity Utilization 50.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

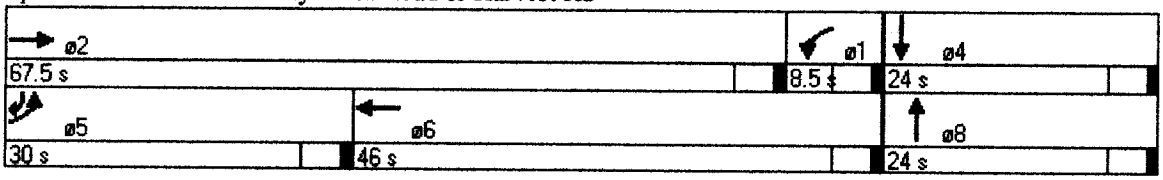


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.995			0.970			0.955				0.850
Flt Protected	0.950			0.950				0.984			0.954	
Satd. Flow (prot)	3433	3522	0	1770	3433	0	0	1750	0	0	1777	2787
Flt Permitted	0.950			0.950				0.888			0.712	
Satd. Flow (perm)	3433	3522	0	1770	3433	0	0	1580	0	0	1326	2787
Satd. Flow (RTOR)		7			37			11				62
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	740	280	10	10	930	230	10	10	10	180	10	940
Adj. Flow (vph)	851	322	11	11	1069	264	11	11	11	225	11	1080
Lane Group Flow (vph)	851	333	0	11	1333	0	0	33	0	0	236	1080
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	5	2		1	6			8			4	5
Permitted Phases							8			4		4
Total Split (s)	30.0	67.5	0.0	8.5	46.0	0.0	24.0	24.0	0.0	24.0	24.0	30.0
Act Effct Green (s)	26.5	70.8		4.5	42.0			19.5			19.5	50.0
Actuated g/C Ratio	0.26	0.71		0.04	0.42			0.20			0.20	0.50
v/c Ratio	0.93	0.13		0.14	0.91			0.10			0.91	0.76
Control Delay	63.8	4.1		43.1	28.0			25.4			69.3	19.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	63.8	4.1		43.1	28.0			25.4			69.3	19.1
LOS	E	A		D	C			C			E	B
Approach Delay		47.0			28.1			25.4			28.1	
Approach LOS		D			C			C			C	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 49 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 33.9 — Intersection LOS: C
Intersection Capacity Utilization 81.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 9: Otay Mesa Road & Harvest Rd

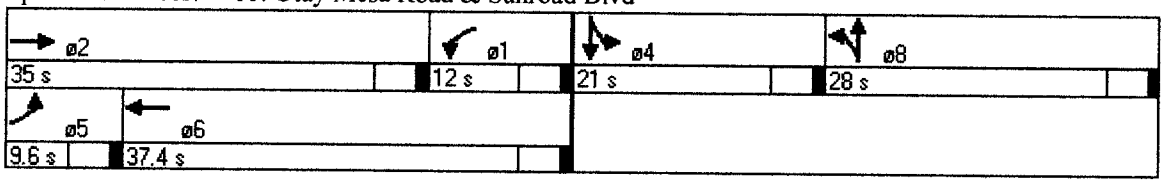


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.970			0.989			0.970			0.991	
Flt Protected	0.950			0.950			0.950	0.981		0.950		
Satd. Flow (prot)	1770	3433	0	1770	1842	0	1681	1684	0	1770	1846	0
Flt Permitted	0.950			0.950			0.950	0.981		0.950		
Satd. Flow (perm)	1770	3433	0	1770	1842	0	1681	1684	0	1770	1846	0
Satd. Flow (RTOR)		33			4			13			3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	850	210	90	260	20	340	100	50	20	150	10
Adj. Flow (vph)	25	1049	259	111	321	25	420	123	62	25	185	12
Lane Group Flow (vph)	25	1308	0	111	346	0	299	306	0	25	197	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	9.6	35.0	0.0	12.0	37.4	0.0	28.0	28.0	0.0	21.0	21.0	0.0
Act Effct Green (s)	6.2	36.5		8.0	44.7		20.9	20.9		14.6	14.6	
Actuated g/C Ratio	0.06	0.38		0.08	0.47		0.22	0.22		0.15	0.15	
v/c Ratio	0.22	0.99		0.75	0.40		0.82	0.81		0.09	0.70	
Control Delay	51.8	45.7		67.1	15.6		53.7	51.1		34.5	51.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.8	45.7		67.1	15.6		53.7	51.1		34.5	51.2	
LOS	D	D		E	B		D	D		C	D	
Approach Delay		45.8			28.1			52.4			49.3	
Approach LOS		D			C			D			D	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 6 (6%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 44.6 — Intersection LOS: D
Intersection Capacity Utilization 70.6% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sunroad Blvd

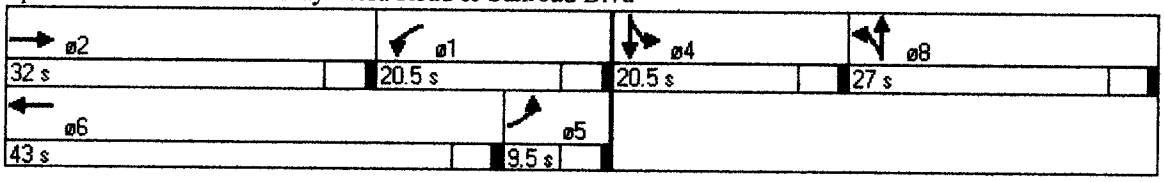


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.974			0.996			0.962			0.980	
Flt Protected	0.950			0.950			0.950	0.981		0.950		
Satd. Flow (prot)	1770	3447	0	1770	1855	0	1681	1670	0	1770	1825	0
Flt Permitted	0.950			0.950			0.950	0.981		0.950		
Satd. Flow (perm)	1770	3447	0	1770	1855	0	1681	1670	0	1770	1825	0
Satd. Flow (RTOR)		25			2			16			7	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	10	380	80	50	660	20	490	130	90	20	130	20
Adj. Flow (vph)	11	418	88	55	725	22	538	143	99	22	143	22
Lane Group Flow (vph)	11	506	0	55	747	0	386	394	0	22	165	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	9.5	32.0	0.0	20.5	43.0	0.0	27.0	27.0	0.0	20.5	20.5	0.0
Act Effct Green (s)	5.5	26.9		14.8	41.8		30.6	30.6		13.7	13.7	
Actuated g/C Ratio	0.06	0.27		0.15	0.42		0.31	0.31		0.14	0.14	
v/c Ratio	0.11	0.53		0.21	0.96		0.75	0.75		0.09	0.65	
Control Delay	55.1	31.6		37.7	54.8		42.9	41.6		37.0	50.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.1	31.6		37.7	54.8		42.9	41.6		37.0	50.7	
LOS	E	C		D	D		D	D		D	D	
Approach Delay		32.1			53.7			42.2			49.1	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 44.5 — Intersection LOS: D
Intersection Capacity Utilization 79.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sunroad Blvd



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	50	870	360	20	20	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	946	391	22	22	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	413				1457	402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	413				1457	402
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				84	98
cM capacity (veh/h)	1146				136	648

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	54	946	413	33
Volume Left	54	0	0	22
Volume Right	0	0	22	11
cSH	1146	1700	1700	185
Volume to Capacity	0.05	0.56	0.24	0.18
Queue Length 95th (ft)	4	0	0	16
Control Delay (s)	8.3	0.0	0.0	28.6
Lane LOS	A			D
Approach Delay (s)	0.5		0.0	28.6
Approach LOS				D

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	470	680	20	20	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	511	739	22	22	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	761				1304	750
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	761				1304	750
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				87	87
cM capacity (veh/h)	851				172	411

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	22	511	761	76
Volume Left	22	0	0	22
Volume Right	0	0	22	54
cSH	851	1700	1700	295
Volume to Capacity	0.03	0.30	0.45	0.26
Queue Length 95th (ft)	2	0	0	25
Control Delay (s)	9.3	0.0	0.0	21.4
Lane LOS	A			C
Approach Delay (s)	0.4		0.0	21.4
Approach LOS				C

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	820	10	30	350	20	10	10	10	10	5	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	891	11	33	380	22	11	11	11	11	5	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	402			902			1497	1495	897	1495	1489	391
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	402			902			1497	1495	897	1495	1489	391
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			96			87	90	97	87	95	97
cM capacity (veh/h)	1156			753			87	111	339	84	112	657

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	65	902	33	402	33	38
Volume Left	65	0	33	0	11	11
Volume Right	0	11	0	22	11	22
cSH	1156	1700	753	1700	128	180
Volume to Capacity	0.06	0.53	0.04	0.24	0.26	0.21
Queue Length 95th (ft)	4	0	3	0	24	19
Control Delay (s)	8.3	0.0	10.0	0.0	42.5	30.2
Lane LOS	A		A		E	D
Approach Delay (s)	0.6		0.7		42.5	30.2
Approach LOS					E	D

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	460	10	10	630	10	10	5	30	20	10	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	500	11	11	685	11	11	5	33	22	11	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	696			511			1326	1266	505	1291	1266	690
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696			511			1326	1266	505	1291	1266	690
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			90	97	94	83	93	85
cM capacity (veh/h)	900			1054			105	163	567	125	163	445

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	22	511	11	696	49	98
Volume Left	22	0	11	0	11	22
Volume Right	0	11	0	11	33	65
cSH	900	1700	1054	1700	251	253
Volume to Capacity	0.02	0.30	0.01	0.41	0.19	0.39
Queue Length 95th (ft)	2	0	1	0	18	43
Control Delay (s)	9.1	0.0	8.5	0.0	22.8	27.9
Lane LOS	A		A		C	D
Approach Delay (s)	0.4		0.1		22.8	27.9
Approach LOS					C	D

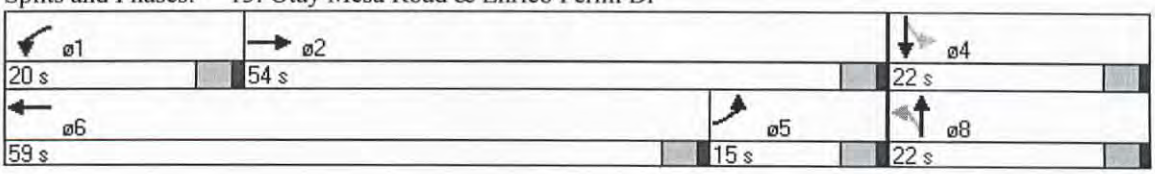
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.989			0.889			0.925	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1816	0	1770	1842	0	1770	1656	0	1770	1723	0
Flt Permitted	0.950			0.950			0.722			0.222		
Satd. Flow (perm)	1770	1816	0	1770	1842	0	1345	1656	0	414	1723	0
Satd. Flow (RTOR)		16			7			134			27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	640	130	240	260	20	120	90	260	20	20	20
Adj. Flow (vph)	96	877	178	329	356	27	164	123	356	27	27	27
Lane Group Flow (vph)	96	1055	0	329	383	0	164	479	0	27	54	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Total Split (s)	15.0	54.0	0.0	20.0	59.0	0.0	22.0	22.0	0.0	22.0	22.0	0.0
Act Effct Green (s)	10.1	50.0		16.0	58.0		18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.11	0.52		0.17	0.60		0.19	0.19		0.19	0.19	
v/c Ratio	0.52	1.11		1.12	0.34		0.65	1.14		0.35	0.16	
Control Delay	41.5	79.5		125.8	11.2		42.2	112.5		47.8	20.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.5	79.5		125.8	11.2		42.2	112.5		47.8	20.9	
LOS	D	E		F	B		D	F		D	C	
Approach Delay		76.3			64.2			94.6			29.9	
Approach LOS		E			E			F			C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 62 (65%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 76.1 — Intersection LOS: E
Intersection Capacity Utilization 85.6% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

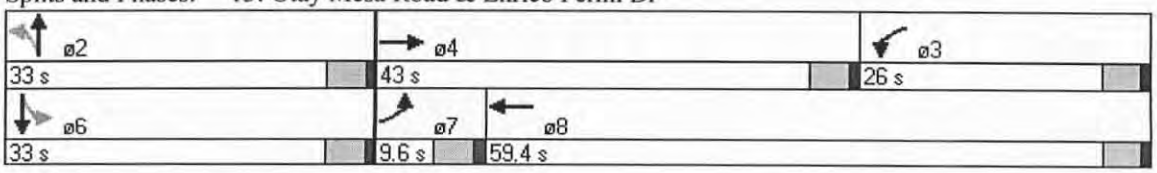


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979			0.993			0.867			0.934	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1824	0	1770	1850	0	1770	1615	0	1770	1740	0
Flt Permitted	0.950			0.950			0.536			0.333		
Satd. Flow (perm)	1770	1824	0	1770	1850	0	998	1615	0	620	1740	0
Satd. Flow (RTOR)		9			4			286			38	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	420	70	200	420	20	160	30	240	20	90	70
Adj. Flow (vph)	24	500	83	238	500	24	190	36	286	24	107	83
Lane Group Flow (vph)	24	583	0	238	524	0	190	322	0	24	190	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	9.6	43.0	0.0	26.0	59.4	0.0	33.0	33.0	0.0	33.0	33.0	0.0
Act Effct Green (s)	5.6	35.3		18.3	53.7		36.5	36.5		36.5	36.5	
Actuated g/C Ratio	0.05	0.35		0.18	0.53		0.36	0.36		0.36	0.36	
v/c Ratio	0.25	0.92		0.75	0.54		0.53	0.42		0.11	0.29	
Control Delay	52.7	51.6		54.3	17.8		28.6	4.8		28.0	22.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.7	51.6		54.3	17.8		28.6	4.8		28.0	22.5	
LOS	D	D		D	B		C	A		C	C	
Approach Delay		51.7			29.2			13.6			23.1	
Approach LOS		D			C			B			C	

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 102
Offset: 14 (14%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 31.3 — Intersection LOS: C
Intersection Capacity Utilization 70.5% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	640	140	190	30	90	80	70	80	30	50	50	290
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	696	152	207	33	98	87	76	87	33	54	54	315

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1054	217	196	424
Volume Left (vph)	696	33	76	54
Volume Right (vph)	207	87	33	315
Hadj (s)	0.05	-0.18	0.01	-0.39
Departure Headway (s)	6.8	7.4	7.8	6.7
Degree Utilization, x	2.00	0.45	0.42	0.79
Capacity (veh/h)	533	447	427	526
Control Delay (s)	472.4	16.2	16.3	30.2
Approach Delay (s)	472.4	16.2	16.3	30.2
Approach LOS	F	C	C	D

Intersection Summary			
Delay	273.7		
HCM Level of Service	F		
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	400	50	90	30	90	50	180	50	30	50	80	410
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	435	54	98	33	98	54	196	54	33	54	87	446

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	587	185	283	587
Volume Left (vph)	435	33	196	54
Volume Right (vph)	98	54	33	446
Hadj (s)	0.08	-0.11	0.10	-0.40
Departure Headway (s)	7.6	8.5	8.2	7.1
Degree Utilization, x	1.23	0.44	0.65	1.15
Capacity (veh/h)	482	399	425	506
Control Delay (s)	145.7	18.0	25.0	114.0
Approach Delay (s)	145.7	18.0	25.0	114.0
Approach LOS	F	C	C	F

Intersection Summary			
Delay	99.2		
HCM Level of Service	F		
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	180	40	20	400	350	40	70	10	210	360	140
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	22	198	44	22	440	385	44	77	11	231	396	154

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	264	462	385	44	88	626	154
Volume Left (vph)	22	22	0	44	0	231	0
Volume Right (vph)	44	0	385	0	11	0	154
Hadj (s)	-0.05	0.06	-0.67	0.53	-0.05	0.22	-0.67
Departure Headway (s)	8.0	7.7	7.0	9.5	8.9	8.1	7.2
Degree Utilization, x	0.59	0.99	0.75	0.12	0.22	1.42	0.31
Capacity (veh/h)	428	462	508	366	389	448	496
Control Delay (s)	21.9	64.8	26.4	12.5	13.2	222.3	12.3
Approach Delay (s)	21.9	47.4		13.0		180.9	
Approach LOS	C	E		B		F	

Intersection Summary			
Delay	93.3		
HCM Level of Service	F		
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	100	230	20	20	370	470	50	230	10	100	190	80
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	114	261	23	23	420	534	57	261	11	114	216	91

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	398	443	534	57	273	330	91
Volume Left (vph)	114	23	0	57	0	114	0
Volume Right (vph)	23	0	534	0	11	0	91
Hadj (s)	0.06	0.06	-0.67	0.53	0.00	0.21	-0.67
Departure Headway (s)	9.2	8.8	8.1	10.0	9.5	9.4	8.5
Degree Utilization, x	1.01	1.09	1.21	0.16	0.72	0.86	0.22
Capacity (veh/h)	384	410	449	353	372	376	414
Control Delay (s)	79.3	99.1	136.9	13.6	31.8	47.8	12.7
Approach Delay (s)	79.3	119.7		28.7		40.2	
Approach LOS	F	F		D		E	

Intersection Summary			
Delay	82.3		
HCM Level of Service	F		
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	90	220	80	20	260	10	320	70	30	10	70	190
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	100	244	89	22	289	11	356	78	33	11	78	211
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	300			333			928	833	167	733	872	150
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	300			333			928	833	167	733	872	150
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			98			0	72	96	95	70	76
cM capacity (veh/h)	1258			1223			121	274	848	215	260	870

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	100	163	170	22	193	107	433	33	300
Volume Left	100	0	0	22	0	0	356	0	11
Volume Right	0	0	89	0	0	11	0	33	211
cSH	1258	1700	1700	1223	1700	1700	134	848	505
Volume to Capacity	0.08	0.10	0.10	0.02	0.11	0.06	3.23	0.04	0.59
Queue Length 95th (ft)	6	0	0	1	0	0	Err	3	95
Control Delay (s)	8.1	0.0	0.0	8.0	0.0	0.0	Err	9.4	22.0
Lane LOS	A			A			F	A	C
Approach Delay (s)	1.9			0.6			9285.5		22.0
Approach LOS							F		C

Intersection Summary			
Average Delay	2851.6		
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	110	160	70	60	340	20	430	80	30	10	70	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	126	184	80	69	391	23	494	92	34	11	80	92
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	414			264			943	1029	132	966	1057	207
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	414			264			943	1029	132	966	1057	207
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			95			0	53	96	90	57	88
cM capacity (veh/h)	1142			1297			114	196	893	113	188	799

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1
Volume Total	126	123	142	69	261	153	586	34	184
Volume Left	126	0	0	69	0	0	494	0	11
Volume Right	0	0	80	0	0	23	0	34	92
cSH	1142	1700	1700	1297	1700	1700	122	893	285
Volume to Capacity	0.11	0.07	0.08	0.05	0.15	0.09	4.81	0.04	0.64
Queue Length 95th (ft)	9	0	0	4	0	0	Err	3	103
Control Delay (s)	8.5	0.0	0.0	7.9	0.0	0.0	Err	9.2	37.9
Lane LOS	A			A			F	A	E
Approach Delay (s)	2.8			1.1			9444.0		37.9
Approach LOS							F		E

Intersection Summary			
Average Delay	3498.1		
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	160	70	20	240	50	60
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	205	90	26	308	64	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			295		609	147
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			295		609	147
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		85	91
cM capacity (veh/h)			1263		418	873

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	137	158	26	308	64	77
Volume Left	0	0	26	0	64	0
Volume Right	0	90	0	0	0	77
cSH	1700	1700	1263	1700	418	873
Volume to Capacity	0.08	0.09	0.02	0.18	0.15	0.09
Queue Length 95th (ft)	0	0	2	0	13	7
Control Delay (s)	0.0	0.0	7.9	0.0	15.2	9.5
Lane LOS			A		C	A
Approach Delay (s)	0.0		0.6		12.1	
Approach LOS					B	

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	120	70	30	280	110	10
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	143	83	36	333	131	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			226		589	113
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			226		589	113
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		69	99
cM capacity (veh/h)			1339		427	918

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	95	131	36	333	131	12
Volume Left	0	0	36	0	131	0
Volume Right	0	83	0	0	0	12
cSH	1700	1700	1339	1700	427	918
Volume to Capacity	0.06	0.08	0.03	0.20	0.31	0.01
Queue Length 95th (ft)	0	0	2	0	32	1
Control Delay (s)	0.0	0.0	7.8	0.0	17.1	9.0
Lane LOS			A		C	A
Approach Delay (s)	0.0		0.8		16.4	
Approach LOS					C	

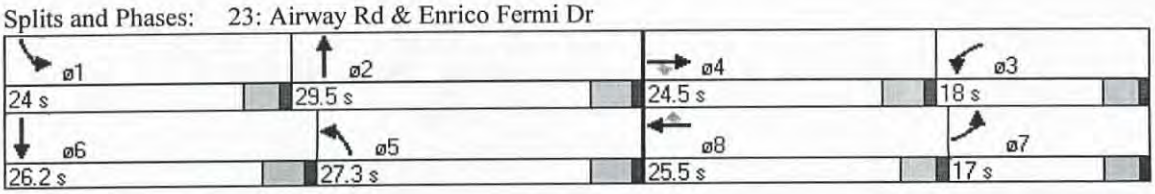
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984	0.850			0.850		0.965			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1741	1504	1770	1863	1583	1770	3415	0	1770	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1741	1504	1770	1863	1583	1770	3415	0	1770	3472	0
Satd. Flow (RTOR)		6	98			84		41			16	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	60	70	90	70	40	70	170	290	90	130	340	50
Adj. Flow (vph)	72	84	108	84	48	84	205	349	108	157	410	60
Lane Group Flow (vph)	72	94	98	84	48	84	205	457	0	157	470	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	17.0	24.5	24.5	18.0	25.5	25.5	27.3	29.5	0.0	24.0	26.2	0.0
Act Effct Green (s)	12.3	10.5	10.5	9.8	7.8	7.8	19.7	48.6		13.2	42.0	
Actuated g/C Ratio	0.13	0.11	0.11	0.10	0.08	0.08	0.21	0.51		0.14	0.44	
v/c Ratio	0.32	0.48	0.39	0.47	0.32	0.41	0.56	0.26		0.65	0.31	
Control Delay	39.8	45.1	12.8	47.1	43.2	13.6	41.1	14.8		36.4	14.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.8	45.1	12.8	47.1	43.2	13.6	41.1	14.8		36.4	14.8	
LOS	D	D	B	D	D	B	D	B		D	B	
Approach Delay		31.7			33.2			22.9			20.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 63 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 24.5 — Intersection LOS: C
Intersection Capacity Utilization 41.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

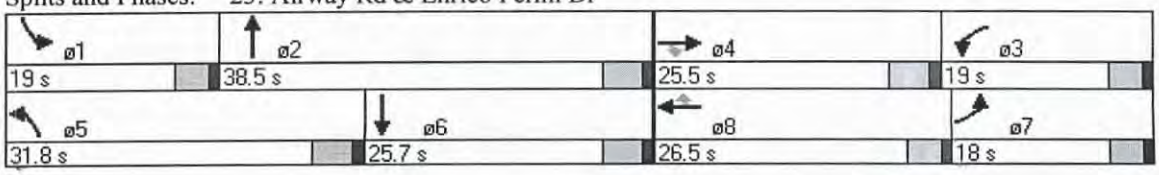


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.967			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3422	0	1770	3458	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3422	0	1770	3458	0
Satd. Flow (RTOR)			49			122		38			19	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	50	40	40	70	70	100	190	320	90	70	270	50
Adj. Flow (vph)	61	49	49	85	85	122	232	390	110	85	329	61
Lane Group Flow (vph)	61	49	49	85	85	122	232	500	0	85	390	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	18.0	25.5	25.5	19.0	26.5	26.5	31.8	38.5	0.0	19.0	25.7	0.0
Act Effct Green (s)	9.0	8.6	8.6	10.0	9.5	9.5	19.4	61.3		10.1	50.0	
Actuated g/C Ratio	0.09	0.08	0.08	0.10	0.09	0.09	0.19	0.60		0.10	0.49	
v/c Ratio	0.39	0.33	0.28	0.49	0.49	0.47	0.69	0.24		0.48	0.23	
Control Delay	50.2	49.1	16.8	53.6	53.0	14.5	42.1	12.5		64.2	11.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	50.2	49.1	16.8	53.6	53.0	14.5	42.1	12.5		64.2	11.0	
LOS	D	D	B	D	D	B	D	B		E	B	
Approach Delay		39.6			37.1			21.9			20.5	
Approach LOS		D			D			C			C	

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 102
Offset: 82 (80%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 25.9 — Intersection LOS: C
Intersection Capacity Utilization 40.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

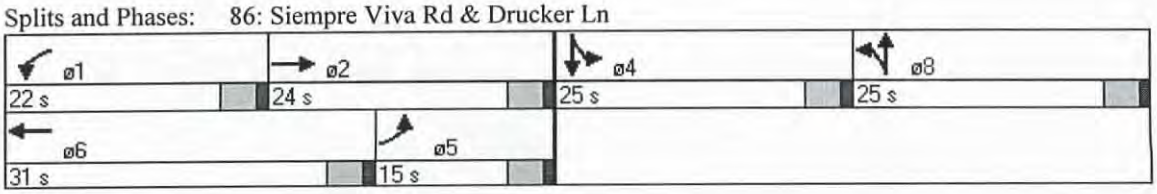


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.981			0.900			0.948	
Flt Protected	0.950			0.950			0.950				0.974	
Satd. Flow (prot)	1770	4984	0	1770	4989	0	1770	1676	0	0	1720	0
Flt Permitted	0.950			0.950			0.950				0.974	
Satd. Flow (perm)	1770	4984	0	1770	4989	0	1770	1676	0	0	1720	0
Satd. Flow (RTOR)		26			28			22			30	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	40	330	50	120	680	100	30	10	20	70	10	50
Adj. Flow (vph)	43	359	54	130	739	109	33	11	22	76	11	54
Lane Group Flow (vph)	43	413	0	130	848	0	33	33	0	0	141	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	15.0	24.0	0.0	22.0	31.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0
Act Effct Green (s)	8.9	49.5		12.0	56.5		7.2	7.2			11.3	
Actuated g/C Ratio	0.09	0.52		0.12	0.59		0.08	0.08			0.12	
v/c Ratio	0.26	0.16		0.59	0.29		0.25	0.23			0.62	
Control Delay	43.4	13.2		45.4	10.7		45.9	25.7			42.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	43.4	13.2		45.4	10.7		45.9	25.7			42.4	
LOS	D	B		D	B		D	C			D	
Approach Delay		16.1			15.3			35.8			42.4	
Approach LOS		B			B			D			D	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 38 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 18.7 — Intersection LOS: B
Intersection Capacity Utilization 42.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

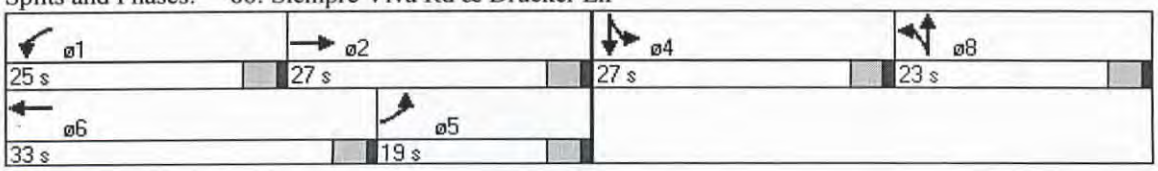


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.968			0.880			0.979	
Flt Protected	0.950			0.950			0.950				0.969	
Satd. Flow (prot)	1770	5009	0	1770	4923	0	1770	1639	0	0	1767	0
Flt Permitted	0.950			0.950			0.950				0.969	
Satd. Flow (perm)	1770	5009	0	1770	4923	0	1770	1639	0	0	1767	0
Satd. Flow (RTOR)		16			67			44			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	90	650	70	160	700	190	50	10	40	120	40	30
Adj. Flow (vph)	99	714	77	176	769	209	55	11	44	132	44	33
Lane Group Flow (vph)	99	791	0	176	978	0	55	55	0	0	209	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases												
Total Split (s)	19.0	27.0	0.0	25.0	33.0	0.0	23.0	23.0	0.0	27.0	27.0	0.0
Act Effct Green (s)	9.3	16.4		11.7	18.6		8.1	8.1			12.6	
Actuated g/C Ratio	0.14	0.26		0.18	0.29		0.13	0.13			0.20	
v/c Ratio	0.39	0.61		0.56	0.66		0.24	0.22			0.58	
Control Delay	34.5	24.4		34.4	21.7		34.4	16.7			32.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	34.5	24.4		34.4	21.7		34.4	16.7			32.2	
LOS	C	C		C	C		C	B			C	
Approach Delay		25.5			23.6			25.6			32.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 63.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 25.2 — Intersection LOS: C
Intersection Capacity Utilization 50.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 86: Siempre Viva Rd & Drucker Ln

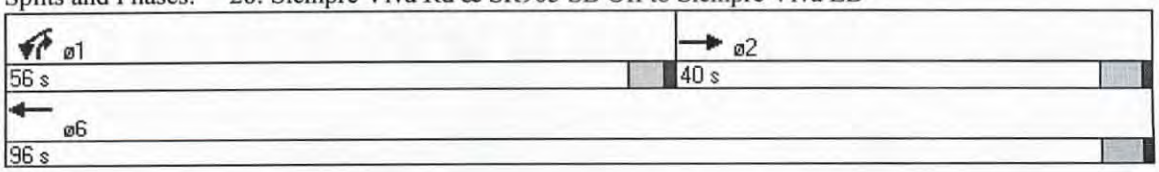


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.974					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4953	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4953	0	3433	5085	0	2787
Satd. Flow (RTOR)	55					185
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	610	130	230	1060	0	760
Adj. Flow (vph)	663	141	250	1152	0	826
Lane Group Flow (vph)	804	0	250	1152	0	826
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Total Split (s)	40.0	0.0	56.0	96.0	0.0	56.0
Act Effct Green (s)	55.6		32.4	96.0		32.4
Actuated g/C Ratio	0.58		0.34	1.00		0.34
v/c Ratio	0.28		0.22	0.23		0.78
Control Delay	8.0		18.7	0.1		26.6
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	8.0		18.7	0.1		26.6
LOS	A		B	A		C
Approach Delay	8.0			3.4		
Approach LOS	A			A		

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 77 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 47.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB

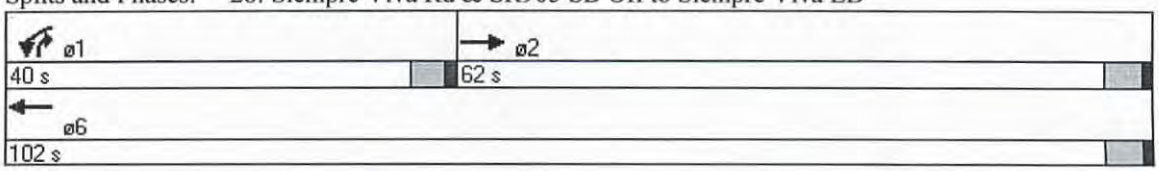


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	0.91	0.97	0.91	1.00	0.88
Frt	0.947					0.850
Flt Protected			0.950			
Satd. Flow (prot)	4816	0	3433	5085	0	2787
Flt Permitted			0.950			
Satd. Flow (perm)	4816	0	3433	5085	0	2787
Satd. Flow (RTOR)	94					98
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1240	670	640	750	0	340
Adj. Flow (vph)	1265	684	653	765	0	347
Lane Group Flow (vph)	1949	0	653	765	0	347
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Total Split (s)	62.0	0.0	40.0	102.0	0.0	40.0
Act Effct Green (s)	67.1		26.9	102.0		26.9
Actuated g/C Ratio	0.66		0.26	1.00		0.26
v/c Ratio	0.61		0.72	0.15		0.43
Control Delay	11.3		26.2	0.1		22.6
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	11.3		26.2	0.1		22.6
LOS	B		C	A		C
Approach Delay	11.3			12.1		
Approach LOS	B			B		

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 102
Offset: 88 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 12.6 — Intersection LOS: B
Intersection Capacity Utilization 63.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 28: Siempre Viva Rd & SR905 SB Off to Siempre Viva EB



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1370	820	0	0	470
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	1457	872	0	0	500
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked					0.95	
vC, conflicting volume	872				1358	291
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872				1268	291
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	29
cM capacity (veh/h)	769				152	706

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	486	486	486	291	291	291	500
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	500
cSH	1700	1700	1700	1700	1700	1700	706
Volume to Capacity	0.29	0.29	0.29	0.17	0.17	0.17	0.71
Queue Length 95th (ft)	0	0	0	0	0	0	148
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	21.5
Lane LOS							C
Approach Delay (s)	0.0			0.0			21.5
Approach LOS							C

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1580	1040	0	0	350
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	1612	1061	0	0	357
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		281	733			
pX, platoon unblocked					0.85	
vC, conflicting volume	1061				1599	354
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1061				1347	354
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	44
cM capacity (veh/h)	652				121	643

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	537	537	537	354	354	354	357
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	357
cSH	1700	1700	1700	1700	1700	1700	643
Volume to Capacity	0.32	0.32	0.32	0.21	0.21	0.21	0.56
Queue Length 95th (ft)	0	0	0	0	0	0	86
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	17.4
Lane LOS							C
Approach Delay (s)	0.0			0.0			17.4
Approach LOS							C

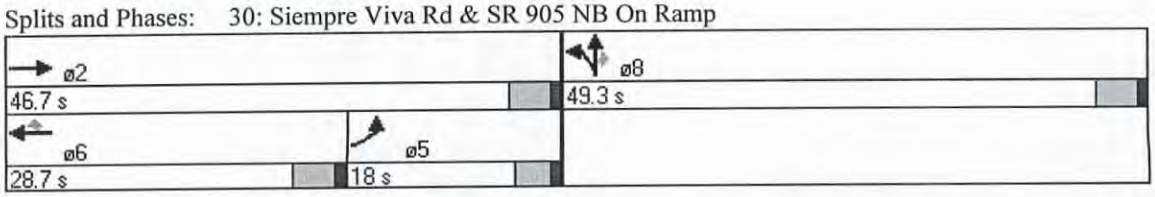
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.934	0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	3433	5085	0	0	4489	1362	0	1775	2787	0	0	0
Flt Permitted	0.950							0.953				
Satd. Flow (perm)	3433	5085	0	0	4489	1362	0	1775	2787	0	0	0
Satd. Flow (RTOR)					201	255			50			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	220	1150	0	0	310	490	510	10	550	0	0	0
Adj. Flow (vph)	229	1198	0	0	323	510	531	10	573	0	0	0
Lane Group Flow (vph)	229	1198	0	0	578	255	0	541	573	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	18.0	46.7	0.0	0.0	28.7	28.7	49.3	49.3	49.3	0.0	0.0	0.0
Act Effct Green (s)	11.4	53.0			37.6	37.6		35.0	35.0			
Actuated g/C Ratio	0.12	0.55			0.39	0.39		0.36	0.36			
v/c Ratio	0.56	0.43			0.31	0.37		0.84	0.55			
Control Delay	41.9	14.0			1.8	2.0		39.2	23.0			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	41.9	14.0			1.8	2.0		39.2	23.0			
LOS	D	B			A	A		D	C			
Approach Delay		18.5			1.9			30.9				
Approach LOS		B			A			C				

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 34 (35%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 18.5 — Intersection LOS: B
Intersection Capacity Utilization 65.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

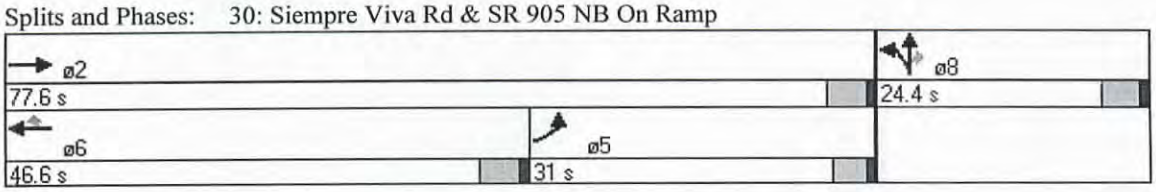


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	1.00	1.00	0.88	1.00	1.00	1.00
Frt					0.952	0.850			0.850			
Flt Protected	0.950							0.955				
Satd. Flow (prot)	3433	5085	0	0	4575	1362	0	1779	2787	0	0	0
Flt Permitted	0.950							0.955				
Satd. Flow (perm)	3433	5085	0	0	4575	1362	0	1779	2787	0	0	0
Satd. Flow (RTOR)					142	461			287			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	600	980	0	0	860	910	180	10	440	0	0	0
Adj. Flow (vph)	638	1043	0	0	915	968	191	11	468	0	0	0
Lane Group Flow (vph)	638	1043	0	0	1345	538	0	202	468	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Total Split (s)	31.0	77.6	0.0	0.0	46.6	46.6	24.4	24.4	24.4	0.0	0.0	0.0
Act Effct Green (s)	22.8	77.2			50.4	50.4		16.8	16.8			
Actuated g/C Ratio	0.22	0.76			0.49	0.49		0.16	0.16			
v/c Ratio	0.83	0.27			0.58	0.59		0.69	0.67			
Control Delay	43.5	1.5			2.5	1.8		52.1	19.6			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	43.5	1.5			2.5	1.8		52.1	19.6			
LOS	D	A			A	A		D	B			
Approach Delay		17.5			2.3			29.4				
Approach LOS		B			A			C				

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 102
Offset: 9 (9%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 12.6 — Intersection LOS: B
Intersection Capacity Utilization 75.2% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 30: Siempre Viva Rd & SR 905 NB On Ramp

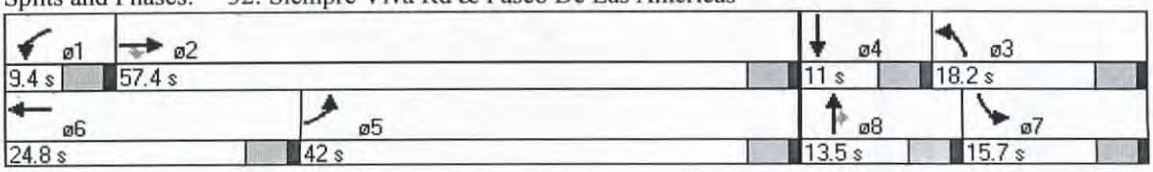


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.994				0.850		0.912	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3228	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3228	0
Satd. Flow (RTOR)			191		4				21		181	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	530	660	180	20	480	20	150	70	20	90	120	170
Adj. Flow (vph)	564	702	191	21	511	21	160	74	21	96	128	181
Lane Group Flow (vph)	564	702	191	21	532	0	160	74	21	96	309	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	42.0	57.4	57.4	9.4	24.8	0.0	18.2	13.5	13.5	15.7	11.0	0.0
Act Effct Green (s)	38.0	60.6	60.6	5.7	22.4		12.8	7.8	7.8	11.8	6.9	
Actuated g/C Ratio	0.40	0.63	0.63	0.06	0.23		0.13	0.08	0.08	0.12	0.07	
v/c Ratio	0.80	0.22	0.18	0.20	0.65		0.68	0.26	0.14	0.44	0.77	
Control Delay	30.7	7.3	1.6	50.0	25.2		54.4	43.1	19.0	45.8	32.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	30.7	7.3	1.6	50.0	25.2		54.4	43.1	19.0	45.8	32.1	
LOS	C	A	A	D	C		D	D	B	D	C	
Approach Delay		15.6			26.2			48.2			35.4	
Approach LOS		B			C			D			D	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 27 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 23.9 — Intersection LOS: C
Intersection Capacity Utilization 73.7% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

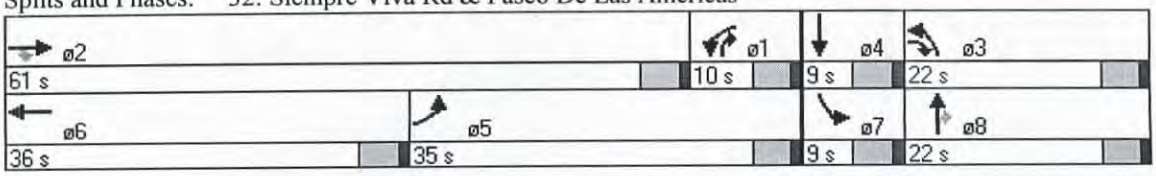


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.996				0.850		0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2049	5487	1708	1909	4082	0	2049	3819	1708	1909	3463	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2049	5487	1708	1909	4082	0	2049	3819	1708	1909	3463	0
Satd. Flow (RTOR)			102		3				10		235	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	640	430	100	50	1170	30	370	200	10	20	140	230
Adj. Flow (vph)	653	439	102	51	1194	31	378	204	10	20	143	235
Lane Group Flow (vph)	653	439	102	51	1225	0	378	204	10	20	378	0
Turn Type	Prot		pm+ov	Prot			Prot		pm+ov	Prot		
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2						8			
Total Split (s)	35.0	61.0	22.0	10.0	36.0	0.0	22.0	22.0	10.0	9.0	9.0	0.0
Act Effct Green (s)	31.0	59.0	81.0	6.0	32.0		18.0	23.4	31.8	5.0	5.0	
Actuated g/C Ratio	0.30	0.58	0.79	0.06	0.31		0.18	0.23	0.31	0.05	0.05	
v/c Ratio	1.05	0.14	0.07	0.46	0.95		1.04	0.23	0.02	0.21	0.96	
Control Delay	80.6	8.7	0.7	63.3	45.5		101.3	34.1	11.6	51.6	56.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	80.6	8.7	0.7	63.3	45.5		101.3	34.1	11.6	51.6	56.7	
LOS	F	A	A	E	D		F	C	B	D	E	
Approach Delay		47.3			46.2			76.7			56.5	
Approach LOS		D			D			E			E	

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 102
Offset: 100 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 53.0 — Intersection LOS: D
Intersection Capacity Utilization 100.9% — ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	690	20	30	410	30	60	20	10	30	10	50
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	76	873	25	38	519	38	76	25	13	38	13	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1276			1310							
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	557			899			1443	1671	449	1228	1665	278
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	557			883			1435	1666	427	1217	1660	278
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			95			0	69	98	59	85	91
cM capacity (veh/h)	1010			751			68	83	568	92	84	719

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	76	582	316	38	346	211	114	51	63
Volume Left	76	0	0	38	0	0	76	38	0
Volume Right	0	0	25	0	0	38	13	0	63
cSH	1010	1700	1700	751	1700	1700	79	90	719
Volume to Capacity	0.08	0.34	0.19	0.05	0.20	0.12	1.44	0.57	0.09
Queue Length 95th (ft)	6	0	0	4	0	0	227	64	7
Control Delay (s)	8.9	0.0	0.0	10.0	0.0	0.0	349.9	88.1	10.5
Lane LOS	A			B			F	F	B
Approach Delay (s)	0.7			0.6			349.9	45.0	
Approach LOS							F	E	

Intersection Summary			
Average Delay	25.6		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	120	280	60	20	1010	20	110	20	10	20	20	130
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	140	326	70	23	1174	23	128	23	12	23	23	151
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1276			1310							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	1198			395			1436	1884	198	1698	1907	599
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1192			395			1432	1883	198	1696	1906	589
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	76			98			0	55	99	25	54	66
cM capacity (veh/h)	577			1160			32	52	810	31	50	448

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	140	217	178	23	783	415	163	47	151
Volume Left	140	0	0	23	0	0	128	23	0
Volume Right	0	0	70	0	0	23	12	0	151
cSH	577	1700	1700	1160	1700	1700	37	38	448
Volume to Capacity	0.24	0.13	0.10	0.02	0.46	0.24	4.41	1.21	0.34
Queue Length 95th (ft)	23	0	0	2	0	0	Err	118	37
Control Delay (s)	13.2	0.0	0.0	8.2	0.0	0.0	Err	377.3	17.1
Lane LOS	B			A			F	F	C
Approach Delay (s)	3.4			0.2			Err	101.8	
Approach LOS							F	F	

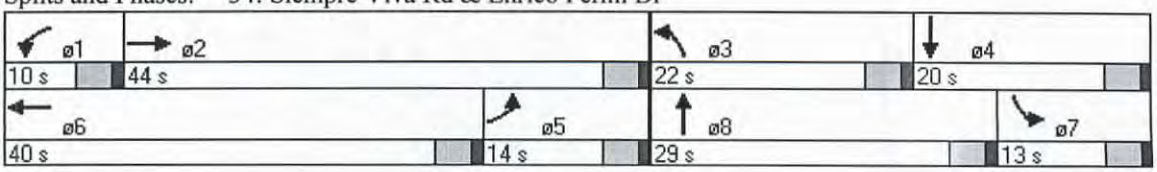
Intersection Summary			
Average Delay	779.6		
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991			0.975			0.967			0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1846	0	1770	3451	0	1770	3422	0	1770	3093	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1846	0	1770	3451	0	1770	3422	0	1770	3093	0
Satd. Flow (RTOR)		4			28			37			193	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	450	30	40	200	40	110	140	40	50	30	160
Adj. Flow (vph)	301	542	36	48	241	48	133	169	48	60	36	193
Lane Group Flow (vph)	301	578	0	48	289	0	133	217	0	60	229	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	14.0	44.0	0.0	10.0	40.0	0.0	22.0	29.0	0.0	13.0	20.0	0.0
Act Effct Green (s)	28.1	56.6		8.2	32.6		12.2	12.0		9.2	7.1	
Actuated g/C Ratio	0.29	0.59		0.09	0.34		0.13	0.12		0.10	0.07	
v/c Ratio	0.30	0.53		0.32	0.24		0.59	0.47		0.36	0.56	
Control Delay	21.9	12.4		47.0	24.0		49.7	36.2		59.0	28.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.9	12.4		47.0	24.0		49.7	36.2		59.0	28.2	
LOS	C	B		D	C		D	D		E	C	
Approach Delay		15.7			27.3			41.3			34.6	
Approach LOS		B			C			D			C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 94 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 25.6 — Intersection LOS: C
Intersection Capacity Utilization 54.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

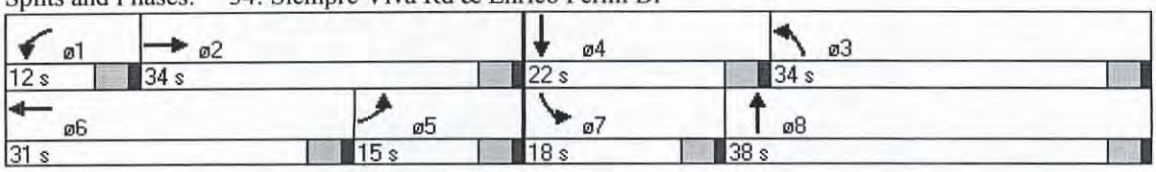


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.970			0.978			0.979			0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1807	0	1770	3461	0	1770	3465	0	1770	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1807	0	1770	3461	0	1770	3465	0	1770	3097	0
Satd. Flow (RTOR)		12			18			20			330	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	160	120	30	40	470	80	280	240	40	90	60	300
Adj. Flow (vph)	176	132	33	44	516	88	308	264	44	99	66	330
Lane Group Flow (vph)	176	165	0	44	604	0	308	308	0	99	396	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Total Split (s)	15.0	34.0	0.0	12.0	31.0	0.0	34.0	38.0	0.0	18.0	22.0	0.0
Act Effct Green (s)	9.9	50.6		8.0	44.6		22.2	22.9		10.7	9.2	
Actuated g/C Ratio	0.10	0.50		0.08	0.44		0.22	0.22		0.10	0.09	
v/c Ratio	0.53	0.18		0.32	0.40		0.80	0.39		0.54	0.68	
Control Delay	41.4	13.3		49.4	22.3		52.7	32.5		45.4	12.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.4	13.3		49.4	22.3		52.7	32.5		45.4	12.0	
LOS	D	B		D	C		D	C		D	B	
Approach Delay		27.8			24.1			42.6			18.7	
Approach LOS		C			C			D			B	

Intersection Summary

Cycle Length: 102
Actuated Cycle Length: 102
Offset: 70 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 28.9 — Intersection LOS: C
Intersection Capacity Utilization 60.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

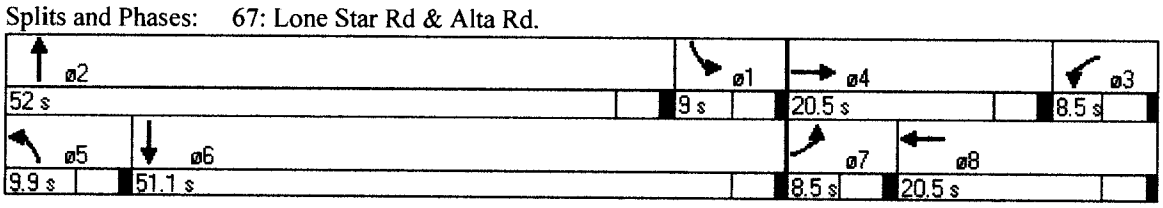


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.925				0.850		0.986			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	1837	0	1770	1818	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1723	0	1770	1863	1583	1770	1837	0	1770	1818	0
Satd. Flow (RTOR)		33				65		9			16	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	50	30	30	40	30	60	30	688	70	60	317	60
Adj. Flow (vph)	54	33	33	43	33	65	33	748	76	65	345	65
Lane Group Flow (vph)	54	66	0	43	33	65	33	824	0	65	410	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Total Split (s)	8.5	20.5	0.0	8.5	20.5	20.5	9.9	52.0	0.0	9.0	51.1	0.0
Act Effct Green (s)	5.1	8.6		5.1	8.6	8.6	6.6	57.4		5.7	59.1	
Actuated g/C Ratio	0.06	0.10		0.06	0.10	0.10	0.08	0.74		0.07	0.76	
v/c Ratio	0.49	0.32		0.39	0.17	0.29	0.24	0.61		0.53	0.30	
Control Delay	51.4	23.2		46.3	33.5	13.0	39.8	12.8		51.4	7.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	51.4	23.2		46.3	33.5	13.0	39.8	12.8		51.4	7.2	
LOS	D	C		D	C	B	D	B		D	A	
Approach Delay		35.9			28.0			13.8			13.2	
Approach LOS		D			C			B			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 16.6 — Intersection LOS: B
Intersection Capacity Utilization 63.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 67: Lone Star Rd & Alta Rd.



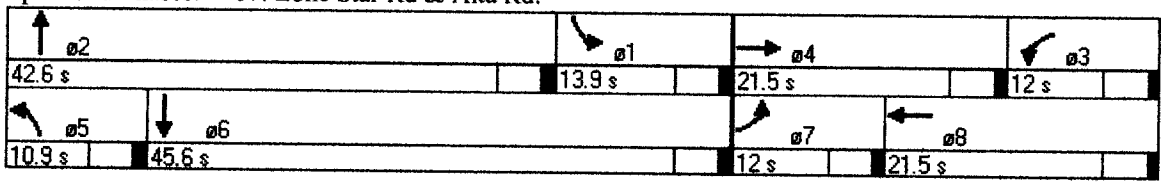
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.925				0.850		0.984			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	1833	0	1770	1835	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1723	0	1770	1863	1583	1770	1833	0	1770	1835	0
Satd. Flow (RTOR)		33				65		8			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	50	30	30	50	30	60	30	410	50	60	446	50
Adj. Flow (vph)	54	33	33	54	33	65	33	446	54	65	485	54
Lane Group Flow (vph)	54	66	0	54	33	65	33	500	0	65	539	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Total Split (s)	12.0	21.5	0.0	12.0	21.5	21.5	10.9	42.6	0.0	13.9	45.6	0.0
Act Effct Green (s)	8.3	8.7		8.3	8.7	8.7	7.6	45.6		9.2	49.6	
Actuated g/C Ratio	0.11	0.12		0.11	0.12	0.12	0.10	0.64		0.12	0.69	
v/c Ratio	0.28	0.29		0.28	0.15	0.27	0.19	0.43		0.30	0.42	
Control Delay	31.9	20.6		31.9	29.6	11.9	33.8	14.2		30.3	11.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	31.9	20.6		31.9	29.6	11.9	33.8	14.2		30.3	11.4	
LOS	C	C		C	C	B	C	B		C	B	
Approach Delay		25.7			22.8			15.4			13.4	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 71.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 16.2
Intersection Capacity Utilization 49.3%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

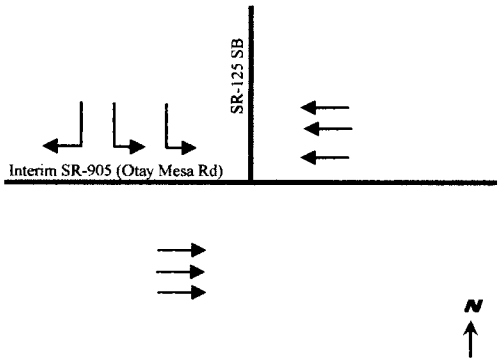
Splits and Phases: 67: Lone Star Rd & Alta Rd.



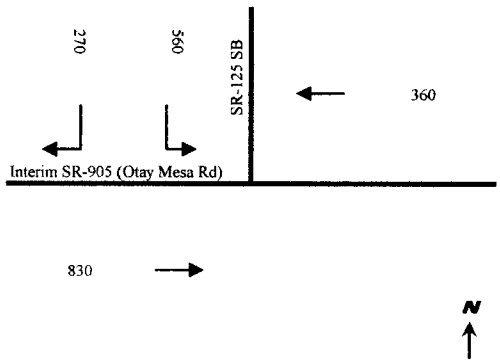
Cumulative + Project - Intersection ILV Analysis

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	*VSH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

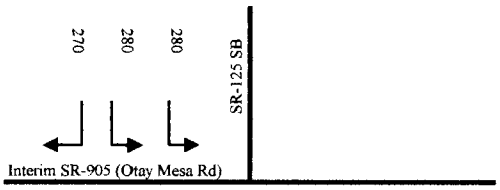
LANE GEOMETRY



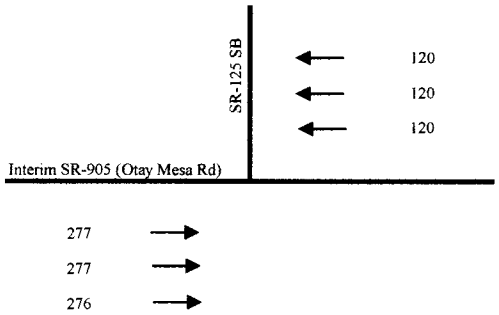
TRAFFIC VOLUMES



PHASE 1



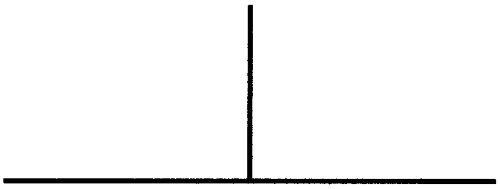
PHASE 2



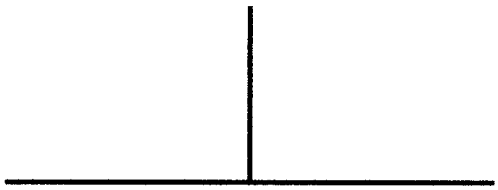
Phase 1 Critical ILV: 280

Phase 2 Critical ILV: 277

PHASE 3



PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 557

OPERATING CONDITION STABLE

LEGEND

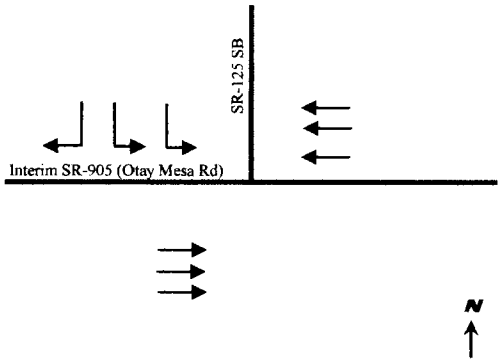
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

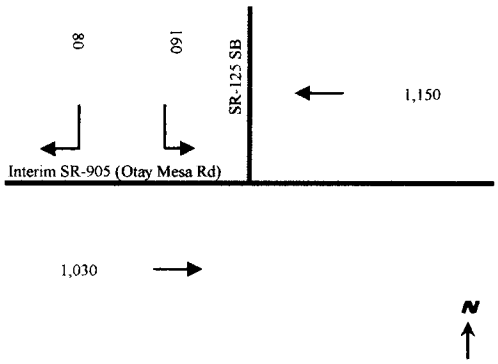
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @SR-125 SB
Analyst:	VSH	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

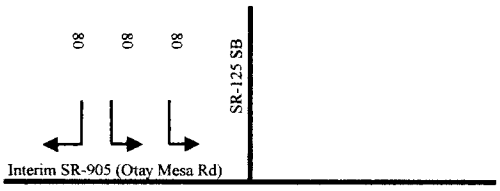
LANE GEOMETRY



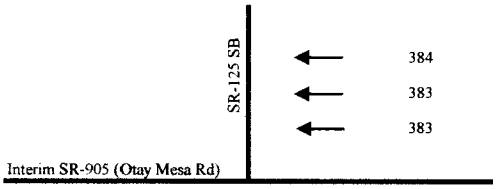
TRAFFIC VOLUMES



PHASE 1



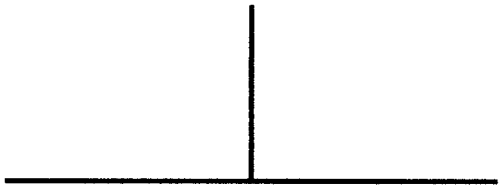
PHASE 2



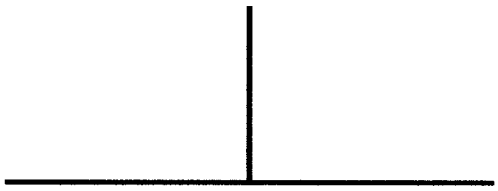
Phase 1 Critical ILV: 80

Phase 2 Critical ILV: 384

PHASE 3



PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 464

OPERATING CONDITION STABLE

LEGEND

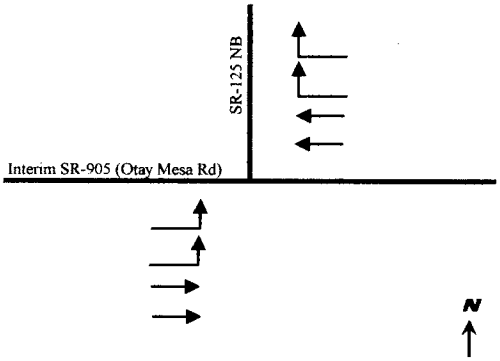
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

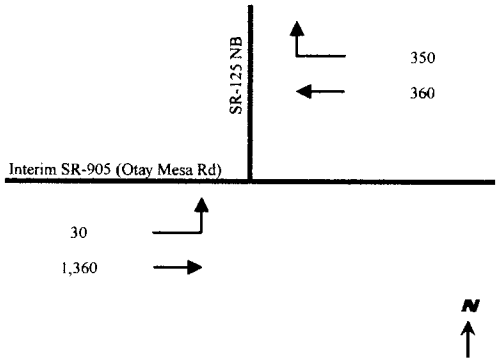
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Otay Mesa Rd @ SR-125 NB
Analyst:	*USH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

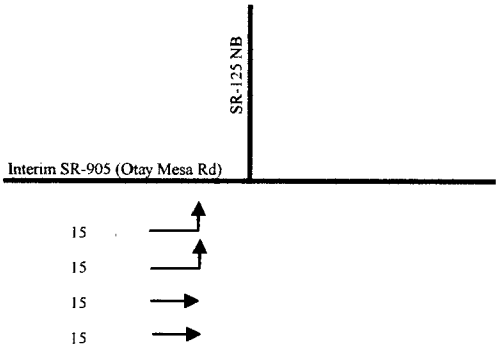
LANE GEOMETRY



TRAFFIC VOLUMES

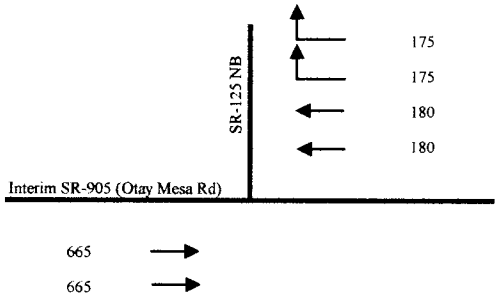


PHASE 1



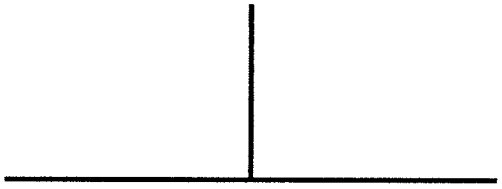
Phase 1 Critical ILV: 15

PHASE 2

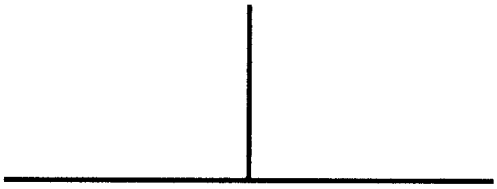


Phase 2 Critical ILV: 665

PHASE 3



PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 680

OPERATING CONDITION STABLE

LEGEND

<1200 ILV = STABLE FLOW

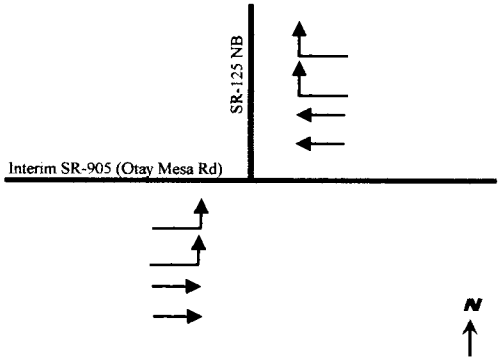
1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

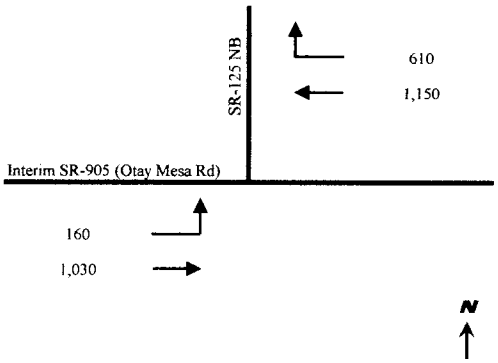
Date of Analysis:	March 19, 2011
Analyst:	RSH
Condition Analyzed:	Cumulative (2020) + Phases 1-2

Intersection:	Otay Mesa Rd @ SR-125 NB
Peak Hour Analyzed:	PM Peak Hour

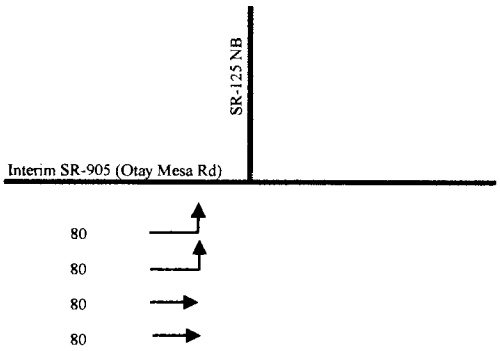
LANE GEOMETRY



TRAFFIC VOLUMES

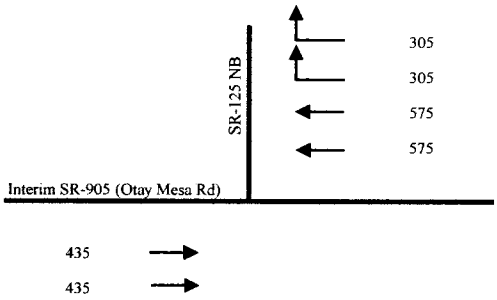


PHASE 1



Phase 1 Critical ILV: 80

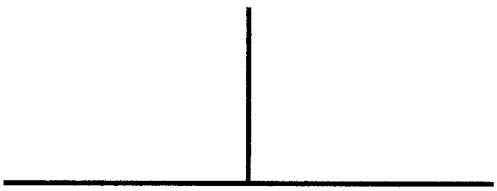
PHASE 2



Phase 2 Critical ILV: 575

PHASE 3

PHASE 4



Phase 3 Critical ILV:

Phase 4 Critical ILV:

GRAND TOTAL ILV: 655

OPERATING CONDITION STABLE

LEGEND

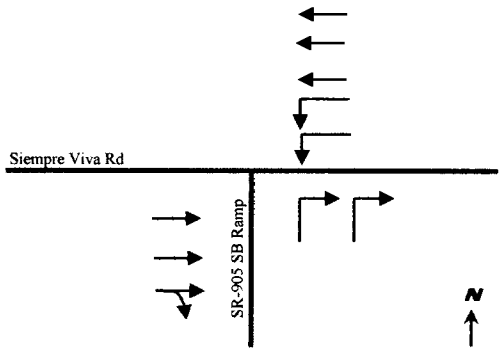
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

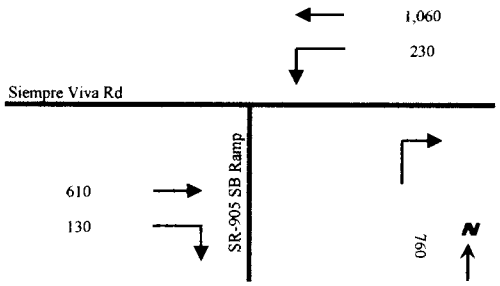
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	*USH*	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

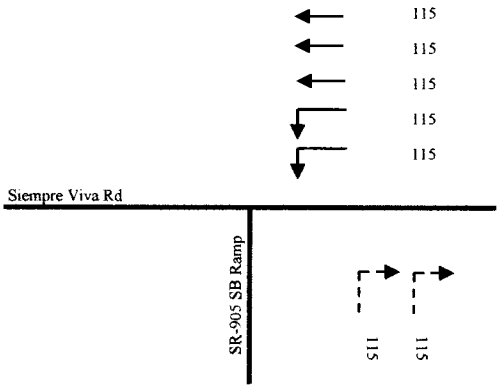
LANE GEOMETRY



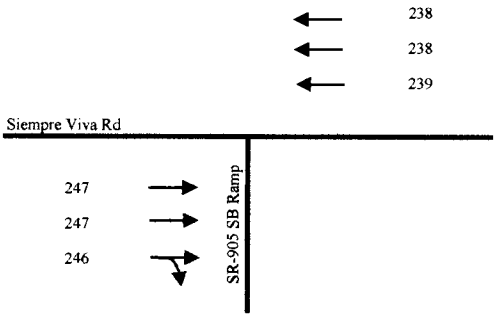
TRAFFIC VOLUMES



PHASE 1



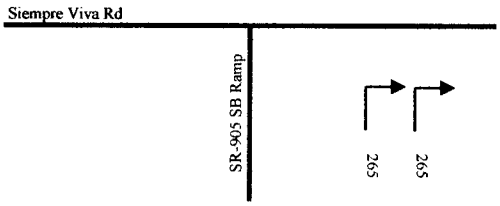
PHASE 2



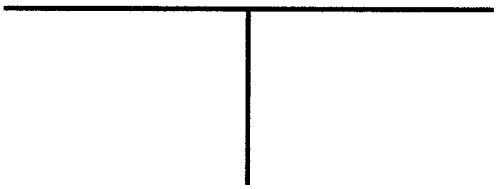
Phase 1 Critical ILV: 115

Phase 2 Critical ILV: 247

PHASE 3



PHASE 4



Phase 3 Critical ILV: 265

Phase 4 Critical ILV:

GRAND TOTAL ILV: 627

OPERATING CONDITION STABLE

LEGEND

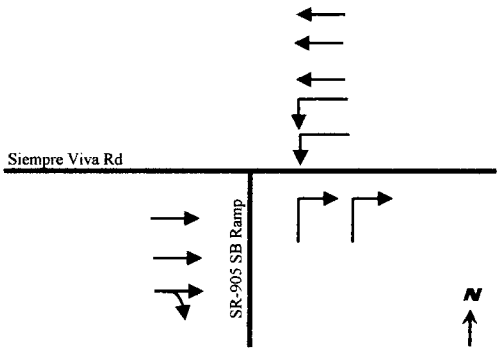
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

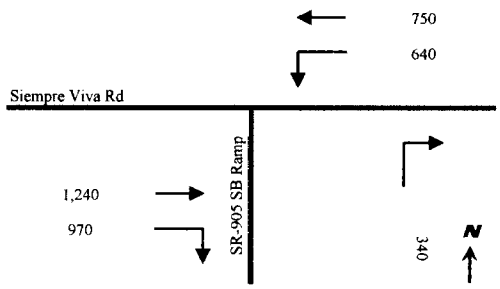
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd @ SR-905 SB Ramp
Analyst:	*VSH*	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

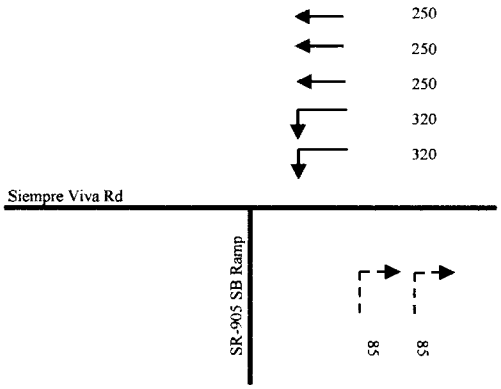
LANE GEOMETRY



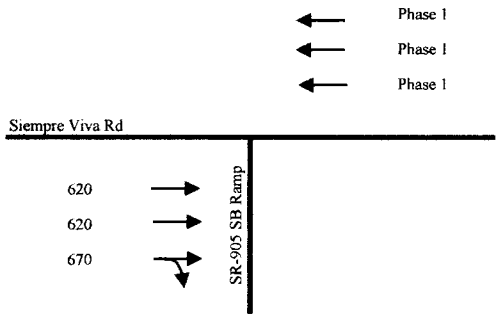
TRAFFIC VOLUMES



PHASE 1



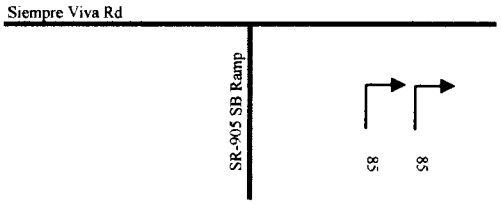
PHASE 2



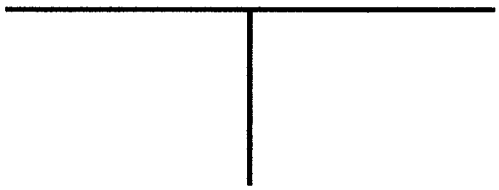
Phase 1 Critical ILV: 320

Phase 2 Critical ILV: 670

PHASE 3



PHASE 4



Phase 3 Critical ILV: 85

Phase 4 Critical ILV:

GRAND TOTAL ILV: **1,075**

OPERATING CONDITION **STABLE**

LEGEND

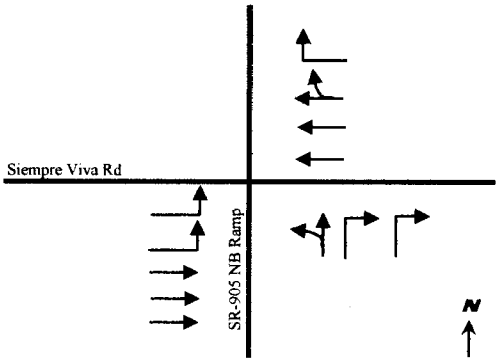
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

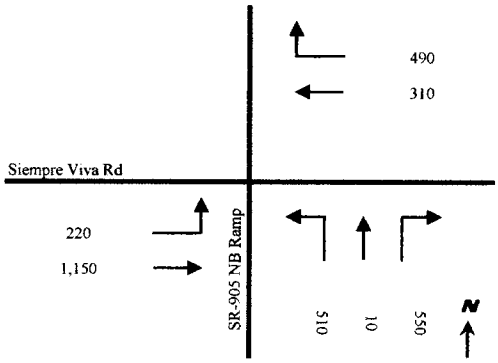
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	VJH	Peak Hour Analyzed:	AM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

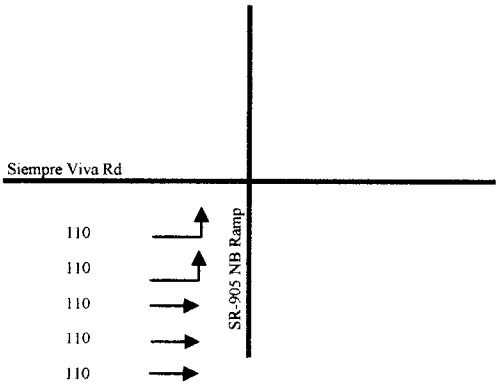
LANE GEOMETRY



TRAFFIC VOLUMES

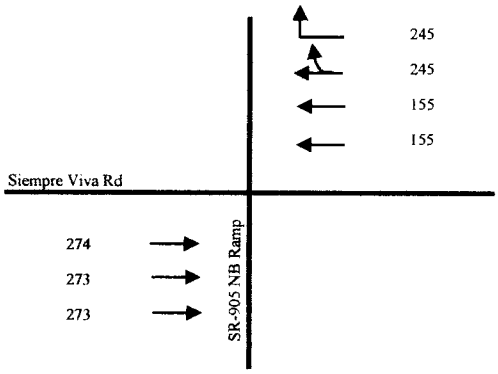


PHASE 1



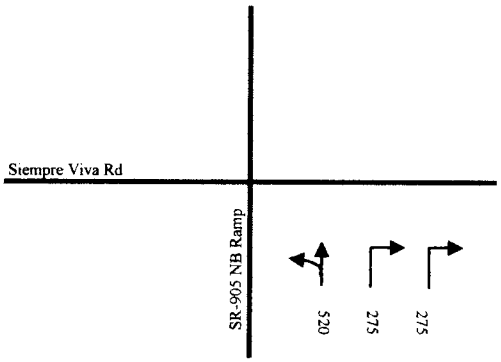
Phase 1 Critical ILV: 110

PHASE 2



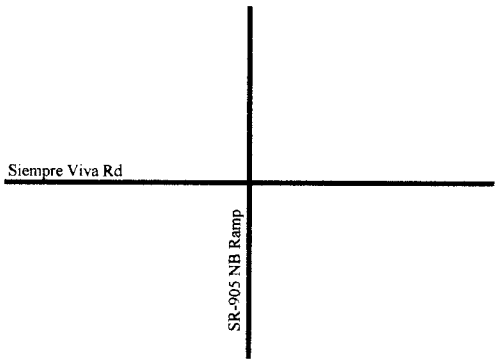
Phase 2 Critical ILV: 274

PHASE 3



Phase 3 Critical ILV: 520

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 904

OPERATING CONDITION STABLE

LEGEND

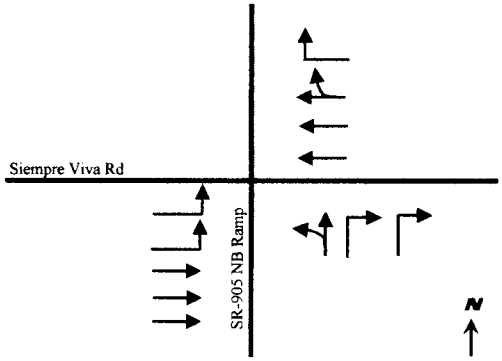
<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

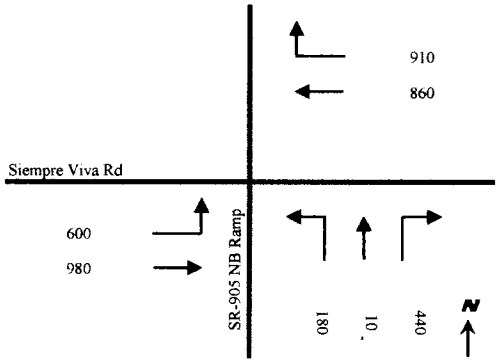
> 1500 ILV/HR = OVER CAPACITY

Date of Analysis:	March 19, 2011	Intersection:	Siempre Viva Rd & SR-905 NB
Analyst:	*TSH*	Peak Hour Analyzed:	PM Peak Hour
Condition Analyzed:	Cumulative (2020) + Phases 1-2		

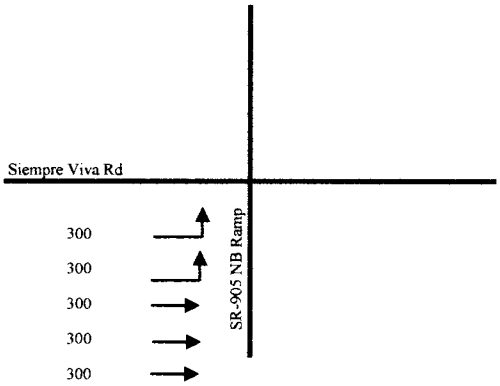
LANE GEOMETRY



TRAFFIC VOLUMES

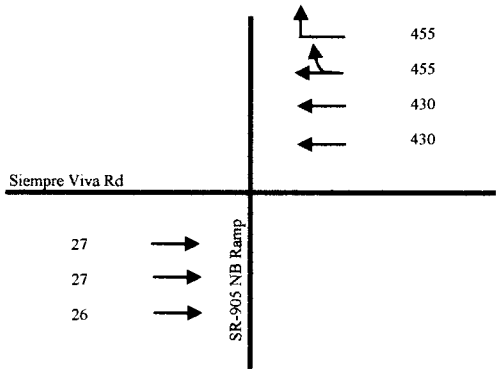


PHASE 1



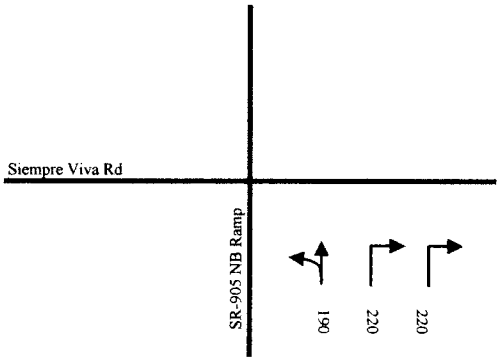
Phase 1 Critical ILV: 300

PHASE 2



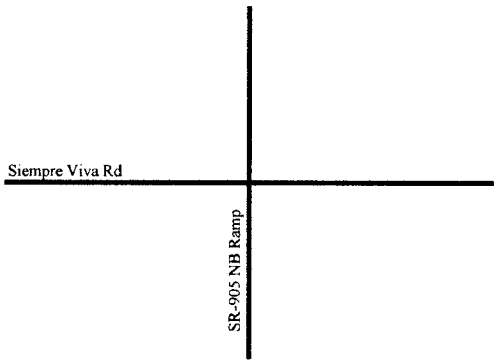
Phase 2 Critical ILV: 455

PHASE 3



Phase 3 Critical ILV: 220

PHASE 4



Phase 4 Critical ILV:

GRAND TOTAL ILV: 975

OPERATING CONDITION STABLE

LEGEND

<1200 ILV = STABLE FLOW

1200 - 1500 ILV/HR = UNSTABLE FLOW

> 1500 ILV/HR = OVER CAPACITY

Cumulative + Project – Queuing Summaries

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	988	429	667	321
v/c Ratio	0.29	0.13	0.76	0.50
Control Delay	3.9	5.1	38.7	6.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.9	5.1	38.7	6.0
Queue Length 50th (ft)	28	16	195	1
Queue Length 95th (ft)	45	41	209	44
Internal Link Dist (ft)	1486	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	3366	3366	1598	907
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.13	0.42	0.35

Intersection Summary

Lane Group	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1157	1292	180	90
v/c Ratio	0.28	0.31	0.51	0.45
Control Delay	1.3	0.8	47.2	31.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.3	0.8	47.2	31.3
Queue Length 50th (ft)	24	10	56	29
Queue Length 95th (ft)	28	29	87	75
Internal Link Dist (ft)	1486	570	1201	
Turn Bay Length (ft)				
Base Capacity (vph)	4152	4152	1322	635
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.31	0.14	0.14

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	37	1679	444	432
v/c Ratio	0.15	0.47	0.13	0.16
Control Delay	39.5	0.5	0.6	0.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.5	0.5	0.6	0.3
Queue Length 50th (ft)	11	0	0	0
Queue Length 95th (ft)	m19	0	4	0
Internal Link Dist (ft)		570	270	
Turn Bay Length (ft)	430			310
Base Capacity (vph)	805	3539	3312	2636
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.05	0.47	0.13	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR
Lane Group Flow (vph)	178	1144	1278	678
v/c Ratio	0.51	0.32	0.44	0.28
Control Delay	41.9	0.3	2.8	0.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	41.9	0.3	2.8	0.6
Queue Length 50th (ft)	60	0	84	5
Queue Length 95th (ft)	88	0	m172	m16
Internal Link Dist (ft)		570	270	
Turn Bay Length (ft)	430			310
Base Capacity (vph)	958	3539	2896	2404
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.32	0.44	0.28

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	398	1241	12	722	36	72	289
v/c Ratio	0.68	0.45	0.09	0.35	0.19	0.47	0.27
Control Delay	44.9	4.9	28.7	4.1	30.1	43.9	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	4.9	28.7	4.1	30.1	43.9	5.1
Queue Length 50th (ft)	110	24	7	4	14	42	13
Queue Length 95th (ft)	143	249	m10	110	37	78	55
Internal Link Dist (ft)		230		1003	291	511	
Turn Bay Length (ft)			50				
Base Capacity (vph)	919	2739	230	2078	342	289	1314
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	0.43	0.45	0.05	0.35	0.11	0.25	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	851	333	11	1333	33	236	1080
v/c Ratio	0.93	0.13	0.14	0.91	0.10	0.91	0.76
Control Delay	63.8	4.1	43.1	28.0	25.4	69.3	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	4.1	43.1	28.0	25.4	69.3	19.1
Queue Length 50th (ft)	279	21	6	325	12	148	304
Queue Length 95th (ft)	#387	51	m8	m384	36	m#231	400
Internal Link Dist (ft)		230		1003	291	511	
Turn Bay Length (ft)			50				
Base Capacity (vph)	911	2497	80	1463	325	265	1425
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	0.93	0.13	0.14	0.91	0.10	0.89	0.76

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	1308	111	346	299	306	25	197
v/c Ratio	0.22	0.99	0.75	0.40	0.82	0.81	0.09	0.70
Control Delay	51.8	45.7	67.1	15.6	53.7	51.1	34.4	51.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	45.7	67.1	15.6	53.7	51.1	34.4	51.2
Queue Length 50th (ft)	16	~458	69	104	180	176	13	112
Queue Length 95th (ft)	m29	#515	m#130	196	238	235	32	161
Internal Link Dist (ft)		1003		1090		2620		1662
Turn Bay Length (ft)	180		180				150	
Base Capacity (vph)	114	1327	148	860	420	431	313	329
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.99	0.75	0.40	0.71	0.71	0.08	0.60

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	506	55	747	386	394	22	165
v/c Ratio	0.11	0.53	0.21	0.96	0.75	0.75	0.09	0.65
Control Delay	55.1	31.6	37.7	54.8	42.9	41.6	37.0	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	31.6	37.7	54.8	42.9	41.6	37.0	50.7
Queue Length 50th (ft)	7	146	31	~513	216	213	12	96
Queue Length 95th (ft)	m20	m178	63	#742	#462	#462	34	161
Internal Link Dist (ft)		1003		1090		2620		1662
Turn Bay Length (ft)	180		180				150	
Base Capacity (vph)	97	1133	311	777	515	523	292	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.45	0.18	0.96	0.75	0.75	0.08	0.54

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	1055	329	383	164	479	27	54
v/c Ratio	0.52	1.11	1.12	0.34	0.65	1.14	0.35	0.16
Control Delay	41.5	79.5	125.8	11.2	42.2	112.5	47.8	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	79.5	125.8	11.2	42.2	112.5	47.8	20.9
Queue Length 50th (ft)	61	~758	~232	115	92	~279	14	14
Queue Length 95th (ft)	m70	#695	#290	131	75	#303	34	34
Internal Link Dist (ft)		1250		2512		2644		1233
Turn Bay Length (ft)	150		90		175		175	
Base Capacity (vph)	203	954	295	1115	252	419	78	345
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.11	1.12	0.34	0.65	1.14	0.35	0.16

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	583	238	524	190	322	24	190
v/c Ratio	0.25	0.92	0.75	0.54	0.53	0.42	0.11	0.29
Control Delay	52.7	51.6	54.3	17.8	28.6	4.8	28.0	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	51.6	54.3	17.8	28.6	4.8	28.0	22.5
Queue Length 50th (ft)	15	340	148	178	111	83	11	72
Queue Length 95th (ft)	39	431	206	266	183	2	31	128
Internal Link Dist (ft)		1250		2512		2644		1233
Turn Bay Length (ft)	150		90		175		175	
Base Capacity (vph)	97	703	382	1026	357	761	222	646
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.83	0.62	0.51	0.53	0.42	0.11	0.29

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	94	98	84	48	84	205	457	157	470
v/c Ratio	0.32	0.48	0.39	0.47	0.32	0.41	0.56	0.26	0.65	0.31
Control Delay	39.8	45.1	12.8	47.1	43.2	13.6	41.1	14.8	36.4	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	45.1	12.8	47.1	43.2	13.6	41.1	14.8	36.4	14.8
Queue Length 50th (ft)	40	53	0	50	28	4	123	76	73	80
Queue Length 95th (ft)	70	92	37	87	m56	34	176	149	m93	m125
Internal Link Dist (ft)		1264			1283			504		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	266	376	398	258	417	420	430	1749	369	1529
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.25	0.25	0.33	0.12	0.20	0.48	0.26	0.43	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	49	49	85	85	122	232	500	85	390
v/c Ratio	0.39	0.33	0.28	0.49	0.49	0.47	0.69	0.24	0.48	0.23
Control Delay	50.2	49.1	16.8	53.6	53.0	14.5	42.1	12.5	64.2	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	49.1	16.8	53.6	53.0	14.5	42.1	12.5	64.2	11.0
Queue Length 50th (ft)	38	32	0	53	54	1	120	84	55	34
Queue Length 95th (ft)	69	63	30	90	91	43	159	140	m74	m129
Internal Link Dist (ft)		1264			1283			504		2644
Turn Bay Length (ft)	175			200			200		200	
Base Capacity (vph)	243	373	356	260	411	444	482	2072	260	1705
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.13	0.14	0.33	0.21	0.27	0.48	0.24	0.33	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	43	413	130	848	33	33	141
v/c Ratio	0.26	0.16	0.59	0.29	0.25	0.23	0.62
Control Delay	43.4	13.2	45.4	10.7	45.9	25.7	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	13.2	45.4	10.7	45.9	25.7	42.4
Queue Length 50th (ft)	24	43	76	112	19	6	65
Queue Length 95th (ft)	57	79	131	148	48	35	120
Internal Link Dist (ft)		3986		1160		879	785
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	203	2580	332	2947	387	384	400
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	0.21	0.16	0.39	0.29	0.09	0.09	0.35

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	99	791	176	978	55	55	209
v/c Ratio	0.39	0.61	0.56	0.66	0.24	0.22	0.58
Control Delay	34.5	24.4	34.4	21.7	34.4	16.7	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	24.4	34.4	21.7	34.4	16.7	32.2
Queue Length 50th (ft)	35	95	62	109	20	4	70
Queue Length 95th (ft)	100	187	154	209	66	40	172
Internal Link Dist (ft)		3986		1160		879	785
Turn Bay Length (ft)	270		200		300		
Base Capacity (vph)	392	1752	517	2058	485	481	588
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	0.25	0.45	0.34	0.48	0.11	0.11	0.36

Intersection Summary

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	804	250	1152	826
v/c Ratio	0.28	0.22	0.23	0.78
Control Delay	8.0	18.7	0.1	26.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.0	18.7	0.1	26.6
Queue Length 50th (ft)	54	50	0	199
Queue Length 95th (ft)	80	m56	0	236
Internal Link Dist (ft)	1277		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	2892	1860	5085	1594
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.13	0.23	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1949	653	765	347
v/c Ratio	0.61	0.72	0.15	0.43
Control Delay	11.3	26.2	0.1	22.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.3	26.2	0.1	22.6
Queue Length 50th (ft)	221	170	0	75
Queue Length 95th (ft)	343	222	0	107
Internal Link Dist (ft)	1277		201	
Turn Bay Length (ft)		200		
Base Capacity (vph)	3199	1212	5085	1047
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.61	0.54	0.15	0.33

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	229	1198	578	255	541	573
v/c Ratio	0.56	0.43	0.31	0.37	0.84	0.55
Control Delay	41.9	14.0	1.8	2.0	39.2	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	14.0	1.8	2.0	39.2	23.0
Queue Length 50th (ft)	70	130	0	0	296	140
Queue Length 95th (ft)	m93	184	34	m27	357	161
Internal Link Dist (ft)		653	897		1340	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	501	2809	1881	689	838	1342
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.43	0.31	0.37	0.65	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	638	1043	1345	538	202	468
v/c Ratio	0.83	0.27	0.58	0.59	0.69	0.67
Control Delay	43.5	1.5	2.5	1.8	52.1	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	1.5	2.5	1.8	52.1	19.6
Queue Length 50th (ft)	198	15	21	0	124	59
Queue Length 95th (ft)	250	20	m71	m11	195	115
Internal Link Dist (ft)		653	897		1340	
Turn Bay Length (ft)	250			200		200
Base Capacity (vph)	909	3849	2331	906	356	787
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.27	0.58	0.59	0.57	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	564	702	191	21	532	160	74	21	96	309
v/c Ratio	0.80	0.22	0.18	0.20	0.65	0.68	0.26	0.14	0.44	0.77
Control Delay	30.7	7.3	1.6	50.0	25.2	54.4	43.1	19.0	45.8	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	7.3	1.6	50.0	25.2	54.4	43.1	19.0	45.8	32.1
Queue Length 50th (ft)	299	54	6	13	118	93	22	0	54	41
Queue Length 95th (ft)	#476	83	17	m31	160	159	44	22	m106	#100
Internal Link Dist (ft)		897			1196		812			1210
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	701	3211	1070	105	823	262	350	176	226	403
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.22	0.18	0.20	0.65	0.61	0.21	0.12	0.42	0.77

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	653	439	102	51	1225	378	204	10	20	378
v/c Ratio	1.05	0.14	0.07	0.46	0.95	1.04	0.23	0.02	0.21	0.96
Control Delay	80.6	8.7	0.7	63.3	45.5	101.3	34.1	11.6	51.6	56.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.6	8.7	0.7	63.3	45.5	101.3	34.1	11.6	51.6	56.7
Queue Length 50th (ft)	~471	36	0	33	423	~269	54	0	13	50
Queue Length 95th (ft)	#682	54	m11	m61	#533	#450	96	11	m37	#144
Internal Link Dist (ft)		897			1196		812			1210
Turn Bay Length (ft)	250		120	325		475			250	
Base Capacity (vph)	623	3174	1377	112	1283	362	876	540	94	393
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.14	0.07	0.46	0.95	1.04	0.23	0.02	0.21	0.96

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	325	554	48	289	133	217	60	229
v/c Ratio	0.28	0.53	0.32	0.30	0.58	0.39	0.31	0.49
Control Delay	20.8	16.1	46.4	28.5	49.0	33.8	39.0	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	16.1	46.4	28.5	49.0	33.8	39.0	15.9
Queue Length 50th (ft)	70	237	28	74	78	55	18	0
Queue Length 95th (ft)	105	379	m57	98	118	81	67	48
Internal Link Dist (ft)		1230		1296		877		525
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	1147	1061	152	1348	272	776	218	676
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.52	0.32	0.21	0.49	0.28	0.28	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	176	165	44	604	308	308	99	396
v/c Ratio	0.53	0.18	0.32	0.40	0.80	0.39	0.54	0.68
Control Delay	41.4	13.3	49.4	22.3	52.7	32.5	45.4	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	13.3	49.4	22.3	52.7	32.5	45.4	12.0
Queue Length 50th (ft)	50	30	28	135	192	87	62	26
Queue Length 95th (ft)	82	125	m61	222	261	114	109	36
Internal Link Dist (ft)		1230		1296		877		525
Turn Bay Length (ft)	180		180		250		200	
Base Capacity (vph)	373	902	153	1523	522	1168	243	818
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.18	0.29	0.40	0.59	0.26	0.41	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	66	43	33	65	33	824	65	410
v/c Ratio	0.49	0.32	0.39	0.17	0.29	0.24	0.61	0.53	0.30
Control Delay	51.4	23.2	46.3	33.5	13.0	39.8	12.8	51.4	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	23.2	46.3	33.5	13.0	39.8	12.8	51.4	7.2
Queue Length 50th (ft)	23	13	18	13	0	14	275	28	62
Queue Length 95th (ft)	#81	52	#61	42	35	46	478	#94	171
Internal Link Dist (ft)		2484		671			522		620
Turn Bay Length (ft)						150		150	
Base Capacity (vph)	111	369	111	371	367	140	1379	123	1384
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.18	0.39	0.09	0.18	0.24	0.60	0.53	0.30

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	66	54	33	65	33	500	65	539
v/c Ratio	0.28	0.29	0.28	0.15	0.27	0.19	0.43	0.30	0.42
Control Delay	31.9	20.6	31.9	29.6	11.9	33.8	14.2	30.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	20.6	31.9	29.6	11.9	33.8	14.2	30.3	11.4
Queue Length 50th (ft)	18	11	18	11	0	11	154	22	108
Queue Length 95th (ft)	60	50	60	40	34	42	280	67	286
Internal Link Dist (ft)		2484		671			522		620
Turn Bay Length (ft)						150		150	
Base Capacity (vph)	215	421	215	428	414	181	1264	260	1332
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.16	0.25	0.08	0.16	0.18	0.40	0.25	0.40

Intersection Summary

APPENDIX H

- Existing + Project Phase 1 - Internal Int. Analysis
- Existing + Project Phases 1-2 - Internal Int. Analysis
- Cum. w/SR-905 Ph. 1A&1B + Project Build Out (Phases 1-2) - Internal Int. Analysis
- Buildout + Project Phases 1-2 - Internal Int. Analysis

Existing + Project Phase 1 - Internal Int. Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	93	0	160	33	119	386
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	101	0	174	36	129	420
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	210				394	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	210				394	192
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				77	51
cM capacity (veh/h)	1361				565	850

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	101	0	210	129	420
Volume Left	101	0	0	129	0
Volume Right	0	0	36	0	420
cSH	1361	1700	1700	565	850
Volume to Capacity	0.07	0.00	0.12	0.23	0.49
Queue Length 95th (ft)	6	0	0	22	70
Control Delay (s)	7.9	0.0	0.0	13.2	13.3
Lane LOS	A			B	B
Approach Delay (s)	7.9		0.0	13.3	
Approach LOS				B	

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	372	0	40	133	30	96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	396	0	43	141	32	102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	184				905	113
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	184				905	113
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	72				85	89
cM capacity (veh/h)	1391				220	939

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	396	0	184	32	102
Volume Left	396	0	0	32	0
Volume Right	0	0	141	0	102
cSH	1391	1700	1700	220	939
Volume to Capacity	0.28	0.00	0.11	0.15	0.11
Queue Length 95th (ft)	30	0	0	12	9
Control Delay (s)	8.6	0.0	0.0	24.2	9.3
Lane LOS	A			C	A
Approach Delay (s)	8.6		0.0	12.8	
Approach LOS				B	

Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

Existing + Project Phases 1-2 - Internal Int. Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	393	157	78	118	29	98
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	418	167	83	126	31	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	209				1065	104
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	209				1065	104
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	69				80	89
cM capacity (veh/h)	1360				151	930

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	418	84	84	55	153	31	104
Volume Left	418	0	0	0	0	31	0
Volume Right	0	0	0	0	126	0	104
cSH	1360	1700	1700	1700	1700	151	930
Volume to Capacity	0.31	0.05	0.05	0.03	0.09	0.20	0.11
Queue Length 95th (ft)	33	0	0	0	0	18	9
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	35.0	9.4
Lane LOS	A					D	A
Approach Delay (s)	6.3			0.0		15.2	
Approach LOS						C	

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	98	39	315	29	118	393
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	107	42	342	32	128	427
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	374				592	187
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	374				592	187
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				68	48
cM capacity (veh/h)	1181				398	823

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	107	21	21	228	146	128	427
Volume Left	107	0	0	0	0	128	0
Volume Right	0	0	0	0	32	0	427
cSH	1181	1700	1700	1700	1700	398	823
Volume to Capacity	0.09	0.01	0.01	0.13	0.09	0.32	0.52
Queue Length 95th (ft)	7	0	0	0	0	34	76
Control Delay (s)	8.3	0.0	0.0	0.0	0.0	18.3	14.0
Lane LOS	A					C	B
Approach Delay (s)	6.0			0.0		15.0	
Approach LOS						B	

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	29	157	39	121	484	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	171	42	132	526	171
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	828	611	697			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	828	611	697			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	65	95			
cM capacity (veh/h)	325	493	899			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	32	171	42	132	697
Volume Left	32	0	42	0	0
Volume Right	0	171	0	0	171
cSH	325	493	899	1700	1700
Volume to Capacity	0.10	0.35	0.05	0.08	0.41
Queue Length 95th (ft)	8	38	4	0	0
Control Delay (s)	17.3	16.1	9.2	0.0	0.0
Lane LOS	C	C	A		
Approach Delay (s)	16.3		2.2		0.0
Approach LOS	C				

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	118	39	157	485	121	187
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	124	41	165	511	127	197
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1067	226	324			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1067	226	324			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	42	95	87			
cM capacity (veh/h)	213	814	1236			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	124	41	165	511	324
Volume Left	124	0	165	0	0
Volume Right	0	41	0	0	197
cSH	213	814	1236	1700	1700
Volume to Capacity	0.58	0.05	0.13	0.30	0.19
Queue Length 95th (ft)	81	4	12	0	0
Control Delay (s)	43.2	9.7	8.4	0.0	0.0
Lane LOS	E	A	A		
Approach Delay (s)	34.8		2.0		0.0
Approach LOS	D				

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	150	0	0	10	39	537
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	0	0	11	42	584
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	345	334	626			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	345	334	626			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	75	100	100			
cM capacity (veh/h)	651	708	956			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	163	0	11	626
Volume Left	163	0	0	0
Volume Right	0	0	0	584
cSH	651	1700	956	1700
Volume to Capacity	0.25	0.00	0.00	0.37
Queue Length 95th (ft)	25	0	0	0
Control Delay (s)	12.4	0.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.4		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	603	0	0	39	10	134
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	655	0	0	42	11	146
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	126	84	157			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126	84	157			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	25	100	100			
cM capacity (veh/h)	869	976	1423			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	655	0	42	157
Volume Left	655	0	0	0
Volume Right	0	0	0	146
cSH	869	1700	1423	1700
Volume to Capacity	0.75	0.00	0.00	0.09
Queue Length 95th (ft)	181	0	0	0
Control Delay (s)	20.7	0.0	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	20.7		0.0	0.0
Approach LOS	C			

Intersection Summary			
Average Delay	15.9		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	33	131	288	72	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	36	142	313	78	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	455				335	299
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	455				335	299
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	100
cM capacity (veh/h)	1105				660	741

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	36	455	78	0
Volume Left	0	0	78	0
Volume Right	0	313	0	0
cSH	1105	1700	660	1700
Volume to Capacity	0.00	0.27	0.12	0.00
Queue Length 95th (ft)	0	0	10	0
Control Delay (s)	0.0	0.0	11.2	0.0
Lane LOS			B	A
Approach Delay (s)	0.0	0.0	11.2	
Approach LOS			B	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	131	33	72	288	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	142	36	78	313	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	114				217	75
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	114				217	75
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				59	100
cM capacity (veh/h)	1475				771	986

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	142	114	313	0
Volume Left	0	0	313	0
Volume Right	0	78	0	0
cSH	1475	1700	771	1700
Volume to Capacity	0.00	0.07	0.41	0.00
Queue Length 95th (ft)	0	0	50	0
Control Delay (s)	0.0	0.0	12.8	0.0
Lane LOS			B	A
Approach Delay (s)	0.0	0.0	12.8	
Approach LOS			B	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

Cum. w/SR-905 Ph. 1A&1B + Project Build Out (Phases 1-2) - Internal Int. Analysis

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	110	120	10	80	60	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	130	11	87	65	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			250		293	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			250		293	185
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		91	91
cM capacity (veh/h)			1316		692	857

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	250	98	141
Volume Left	0	11	65
Volume Right	130	0	76
cSH	1700	1316	772
Volume to Capacity	0.15	0.01	0.18
Queue Length 95th (ft)	0	1	17
Control Delay (s)	0.0	0.9	10.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.9	10.7
Approach LOS			B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	80	70	30	110	80	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	76	33	120	87	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			163		310	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			163		310	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		87	98
cM capacity (veh/h)			1416		667	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	163	152	109
Volume Left	0	33	87
Volume Right	76	0	22
cSH	1700	1416	706
Volume to Capacity	0.10	0.02	0.15
Queue Length 95th (ft)	0	2	14
Control Delay (s)	0.0	1.8	11.0
Lane LOS		A	B
Approach Delay (s)	0.0	1.8	11.0
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	103	327	100	10	3	26
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	110	348	106	11	3	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	117				679	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117				679	112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				99	97
cM capacity (veh/h)	1471				386	941

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	110	348	117	3	28
Volume Left	110	0	0	3	0
Volume Right	0	0	11	0	28
cSH	1471	1700	1700	386	941
Volume to Capacity	0.07	0.20	0.07	0.01	0.03
Queue Length 95th (ft)	6	0	0	1	2
Control Delay (s)	7.6	0.0	0.0	14.4	8.9
Lane LOS	A			B	A
Approach Delay (s)	1.8		0.0	9.5	
Approach LOS				A	

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	26	90	357	3	10	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	98	388	3	11	113
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	391				544	390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	391				544	390
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				98	83
cM capacity (veh/h)	1167				488	659

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	28	98	391	11	113
Volume Left	28	0	0	11	0
Volume Right	0	0	3	0	113
cSH	1167	1700	1700	488	659
Volume to Capacity	0.02	0.06	0.23	0.02	0.17
Queue Length 95th (ft)	2	0	0	2	15
Control Delay (s)	8.2	0.0	0.0	12.5	11.6
Lane LOS	A			B	B
Approach Delay (s)	1.8		0.0	11.7	
Approach LOS				B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	140	190	80	20	50	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	207	87	22	54	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	109				609	98
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	109				609	98
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				87	97
cM capacity (veh/h)	1482				411	958

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	359	109	87
Volume Left	152	0	54
Volume Right	0	22	33
cSH	1482	1700	523
Volume to Capacity	0.10	0.06	0.17
Queue Length 95th (ft)	9	0	15
Control Delay (s)	3.8	0.0	13.2
Lane LOS	A		B
Approach Delay (s)	3.8	0.0	13.2
Approach LOS			B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	50	50	290	70	10	70
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	53	53	305	74	11	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	379				500	342
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	379				500	342
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				98	89
cM capacity (veh/h)	1180				507	700

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	105	379	84
Volume Left	53	0	11
Volume Right	0	74	74
cSH	1180	1700	669
Volume to Capacity	0.04	0.22	0.13
Queue Length 95th (ft)	3	0	11
Control Delay (s)	4.3	0.0	11.2
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

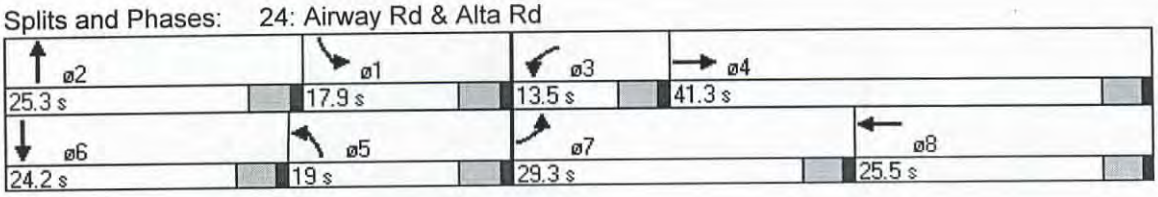
Buildout + Project Phases 1-2 - Internal Int. Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.918			0.971			0.968			0.908	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3249	0	1770	3437	0	1770	3426	0	1770	3214	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3249	0	1770	3437	0	1770	3426	0	1770	3214	0
Satd. Flow (RTOR)		289			28			14			142	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	190	218	266	12	196	48	74	48	13	55	83	131
Adj. Flow (vph)	207	237	289	13	213	52	80	52	14	60	90	142
Lane Group Flow (vph)	207	526	0	13	265	0	80	66	0	60	232	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Total Split (s)	29.3	41.3	0.0	13.5	25.5	0.0	19.0	25.3	0.0	17.9	24.2	0.0
Act Effct Green (s)	16.6	30.5		6.7	12.3		10.3	44.1		11.0	44.9	
Actuated g/C Ratio	0.17	0.31		0.07	0.13		0.11	0.45		0.11	0.46	
v/c Ratio	0.69	0.44		0.11	0.58		0.43	0.04		0.30	0.15	
Control Delay	49.8	12.3		44.4	41.0		37.0	7.5		42.4	8.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.8	12.3		44.4	41.0		37.0	7.5		42.4	8.8	
LOS	D	B		D	D		D	A		D	A	
Approach Delay		22.9			41.2			23.7			15.7	
Approach LOS		C			D			C			B	

Intersection Summary

Cycle Length: 98
Actuated Cycle Length: 98
Offset: 23 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 25.0 — Intersection LOS: C
Intersection Capacity Utilization 41.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 24: Airway Rd & Alta Rd

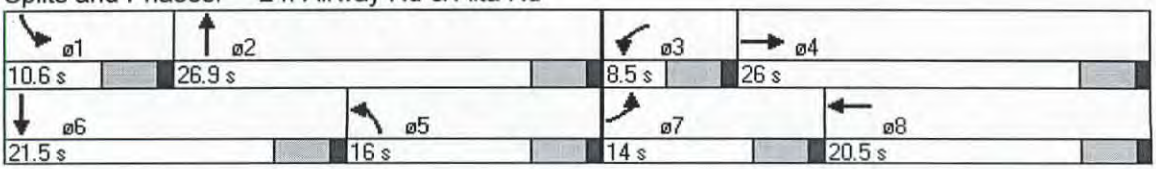


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.953			0.970			0.980			0.879	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3373	0	1770	3433	0	1770	3468	0	1770	3111	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3373	0	1770	3433	0	1770	3468	0	1770	3111	0
Satd. Flow (RTOR)		106			40			14			227	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	144	216	98	14	240	61	190	85	13	53	50	209
Adj. Flow (vph)	157	235	107	15	261	66	207	92	14	58	54	227
Lane Group Flow (vph)	157	342	0	15	327	0	207	106	0	58	281	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Total Split (s)	14.0	26.0	0.0	8.5	20.5	0.0	16.0	26.9	0.0	10.6	21.5	0.0
Act Effct Green (s)	10.2	24.0		5.4	11.6		15.2	30.7		7.7	19.0	
Actuated g/C Ratio	0.14	0.33		0.08	0.16		0.21	0.43		0.11	0.26	
v/c Ratio	0.63	0.29		0.11	0.56		0.55	0.07		0.31	0.28	
Control Delay	41.7	12.7		33.7	27.8		16.9	3.8		33.8	7.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.7	12.7		33.7	27.8		16.9	3.8		33.8	7.6	
LOS	D	B		C	C		B	A		C	A	
Approach Delay		21.8			28.0			12.4			12.1	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 72
Actuated Cycle Length: 72
Offset: 66 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 19.1 — Intersection LOS: B
Intersection Capacity Utilization 48.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 24: Airway Rd & Alta Rd

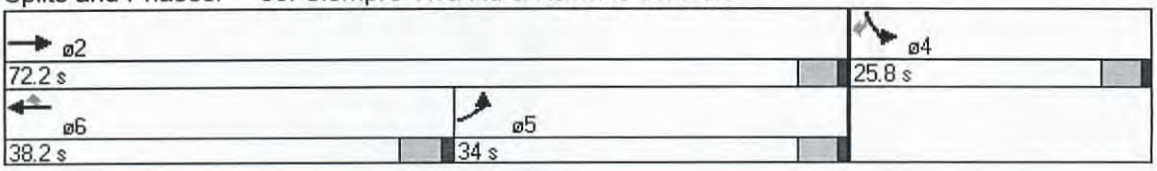


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Satd. Flow (RTOR)				276		100
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	249	1190	683	262	32	95
Adj. Flow (vph)	262	1253	719	276	34	100
Lane Group Flow (vph)	262	1253	719	276	34	100
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Total Split (s)	34.0	72.2	38.2	38.2	25.8	25.8
Act Effct Green (s)	30.0	82.1	48.1	48.1	7.9	7.9
Actuated g/C Ratio	0.31	0.84	0.49	0.49	0.08	0.08
v/c Ratio	0.48	0.42	0.41	0.30	0.24	0.45
Control Delay	31.4	2.6	7.9	1.4	45.5	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	2.6	7.9	1.4	45.5	15.7
LOS	C	A	A	A	D	B
Approach Delay		7.6	6.1		23.3	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 98
Actuated Cycle Length: 98
Offset: 26 (27%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 7.8 — Intersection LOS: A
Intersection Capacity Utilization 46.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 85: Siempre Viva Rd & Hawano Dr. North

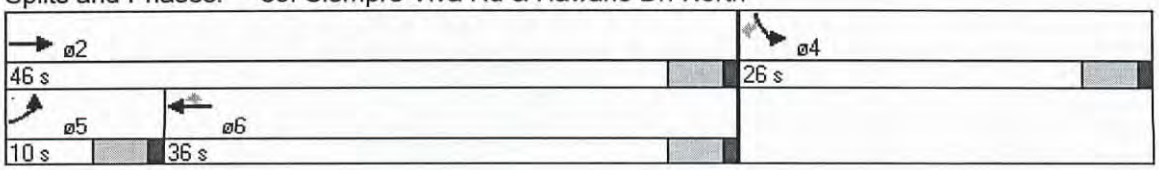


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	931	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	931	1583
Satd. Flow (RTOR)				68		197
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	62	1029	1026	65	131	380
Adj. Flow (vph)	65	1083	1080	68	138	400
Lane Group Flow (vph)	65	1083	1080	68	138	400
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Total Split (s)	10.0	46.0	36.0	36.0	26.0	26.0
Act Effct Green (s)	7.0	48.3	41.4	41.4	15.7	15.7
Actuated g/C Ratio	0.10	0.67	0.58	0.58	0.22	0.22
v/c Ratio	0.38	0.46	0.53	0.07	0.68	0.80
Control Delay	37.2	7.3	4.2	0.4	41.4	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	7.3	4.2	0.4	41.4	25.2
LOS	D	A	A	A	D	C
Approach Delay		9.0	3.9		29.3	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 72
Actuated Cycle Length: 72
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 10.8 — Intersection LOS: B
Intersection Capacity Utilization 58.6% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 85: Siempre Viva Rd & Hawano Dr. North

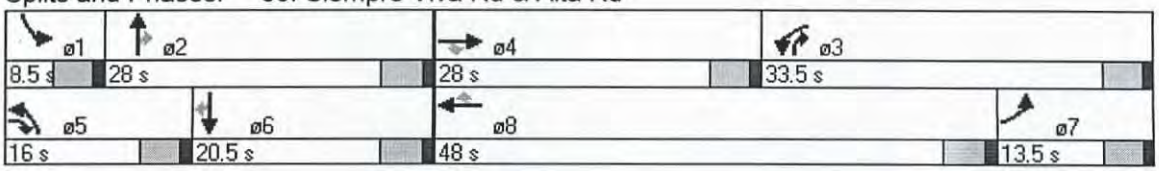


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Satd. Flow (RTOR)			152			12			36			116
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	41	987	194	222	643	11	148	86	159	50	109	107
Adj. Flow (vph)	45	1073	211	241	699	12	161	93	173	54	118	116
Lane Group Flow (vph)	45	1073	211	241	699	12	161	93	173	54	118	116
Turn Type	Prot		pm+ov	Prot		Perm	Prot		pm+ov	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Total Split (s)	13.5	28.0	16.0	33.5	48.0	48.0	16.0	28.0	33.5	8.5	20.5	20.5
Act Effct Green (s)	17.1	30.7	45.1	18.5	36.4	36.4	14.4	26.3	45.6	8.6	18.4	18.4
Actuated g/C Ratio	0.17	0.31	0.46	0.19	0.37	0.37	0.15	0.27	0.47	0.09	0.19	0.19
v/c Ratio	0.15	0.97	0.26	0.72	0.53	0.02	0.62	0.10	0.23	0.35	0.18	0.30
Control Delay	29.8	51.9	3.0	49.2	28.5	12.5	49.6	30.0	8.3	53.2	29.7	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	51.9	3.0	49.2	28.5	12.5	49.6	30.0	8.3	53.2	29.7	6.4
LOS	C	D	A	D	C	B	D	C	A	D	C	A
Approach Delay		43.4			33.5			28.6			24.7	
Approach LOS		D			C			C			C	

Intersection Summary

Cycle Length: 98
Actuated Cycle Length: 98
Offset: 2 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 36.3 — Intersection LOS: D
Intersection Capacity Utilization 64.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 35: Siempre Viva Rd & Alta Rd

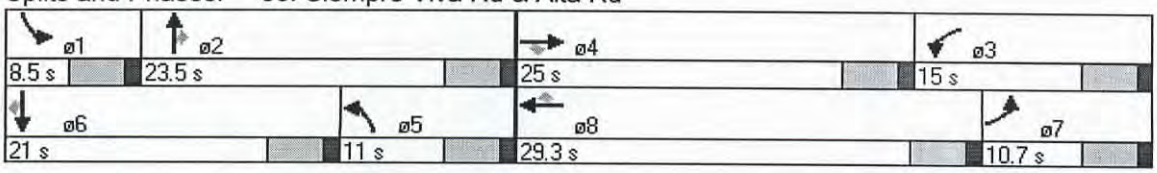


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Satd. Flow (RTOR)			185			2			279			202
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	55	923	182	74	784	2	121	256	354	45	52	186
Adj. Flow (vph)	60	1003	198	80	852	2	132	278	385	49	57	202
Lane Group Flow (vph)	60	1003	198	80	852	2	132	278	385	49	57	202
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Total Split (s)	10.7	25.0	25.0	15.0	29.3	29.3	11.0	23.5	23.5	8.5	21.0	21.0
Act Effct Green (s)	7.9	24.7	24.7	8.9	28.0	28.0	11.4	22.8	22.8	5.7	12.9	12.9
Actuated g/C Ratio	0.11	0.34	0.34	0.12	0.39	0.39	0.16	0.32	0.32	0.08	0.18	0.18
v/c Ratio	0.31	0.82	0.30	0.36	0.62	0.00	0.47	0.25	0.56	0.35	0.09	0.45
Control Delay	27.7	25.4	4.4	33.0	20.7	11.5	33.0	21.3	10.8	43.6	31.8	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	25.4	4.4	33.0	20.7	11.5	33.0	21.3	10.8	43.6	31.8	12.4
LOS	C	C	A	C	C	B	C	C	B	D	C	B
Approach Delay		22.2			21.8			18.1			21.0	
Approach LOS		C			C			B			C	

Intersection Summary

Cycle Length: 72
Actuated Cycle Length: 72
Offset: 48 (67%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 21.0 — Intersection LOS: C
Intersection Capacity Utilization 60.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 35: Siempre Viva Rd & Alta Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	192	5	5	5	24	88	5	26	5	64	39	301
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	209	5	5	5	26	96	5	28	5	70	42	327

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	209	11	32	96	39	70	370
Volume Left (vph)	209	0	5	0	5	70	0
Volume Right (vph)	0	5	0	96	5	0	327
Hadj (s)	0.53	-0.32	0.12	-0.67	-0.02	0.53	-0.59
Departure Headway (s)	6.4	5.6	6.2	5.4	6.1	6.1	5.0
Degree Utilization, x	0.37	0.02	0.05	0.14	0.07	0.12	0.51
Capacity (veh/h)	529	601	534	612	547	562	697
Control Delay (s)	12.0	7.5	8.4	8.1	9.5	8.7	11.9
Approach Delay (s)	11.8		8.2		9.5	11.4	
Approach LOS	B		A		A	B	

Intersection Summary			
Delay	10.9		
HCM Level of Service	B		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	367	5	5	5	96	354	5	103	5	16	10	175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	399	5	5	5	104	385	5	112	5	17	11	190

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	399	11	110	385	123	17	201
Volume Left (vph)	399	0	5	0	5	17	0
Volume Right (vph)	0	5	0	385	5	0	190
Hadj (s)	0.53	-0.32	0.06	-0.67	0.02	0.53	-0.63
Departure Headway (s)	7.0	6.1	6.5	5.8	7.5	7.9	6.7
Degree Utilization, x	0.77	0.02	0.20	0.62	0.26	0.04	0.37
Capacity (veh/h)	504	559	526	593	421	414	480
Control Delay (s)	28.7	8.0	9.9	16.4	13.1	10.0	12.4
Approach Delay (s)	28.2		15.0		13.1	12.2	
Approach LOS	D		B		B	B	

Intersection Summary			
Delay	18.7		
HCM Level of Service	C		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	170	117	89	118	29	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	185	127	97	128	32	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	225				658	161
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	225				658	161
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				91	95
cM capacity (veh/h)	1344				370	884

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	312	225	32	47
Volume Left	185	0	32	0
Volume Right	0	128	0	47
cSH	1344	1700	370	884
Volume to Capacity	0.14	0.13	0.09	0.05
Queue Length 95th (ft)	12	0	7	4
Control Delay (s)	5.3	0.0	15.6	9.3
Lane LOS	A		C	A
Approach Delay (s)	5.3	0.0	11.8	
Approach LOS			B	

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	43	65	212	29	118	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	71	230	32	128	185
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	262				410	246
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	262				410	246
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				78	77
cM capacity (veh/h)	1302				576	793

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	117	262	128	185
Volume Left	47	0	128	0
Volume Right	0	32	0	185
cSH	1302	1700	576	793
Volume to Capacity	0.04	0.15	0.22	0.23
Queue Length 95th (ft)	3	0	21	23
Control Delay (s)	3.3	0.0	13.0	10.9
Lane LOS	A		B	B
Approach Delay (s)	3.3	0.0	11.8	
Approach LOS			B	

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	43	65	212	29	118	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	71	230	32	128	185
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	262				410	246
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	262				410	246
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				78	77
cM capacity (veh/h)	1302				576	793

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	117	262	128	185
Volume Left	47	0	128	0
Volume Right	0	32	0	185
cSH	1302	1700	576	793
Volume to Capacity	0.04	0.15	0.22	0.23
Queue Length 95th (ft)	3	0	21	23
Control Delay (s)	3.3	0.0	13.0	10.9
Lane LOS	A		B	B
Approach Delay (s)	3.3	0.0	11.8	
Approach LOS			B	

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX I

- Freeway Analysis

Existing Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	9,160	8.29%	60%	5.11%	0.10	A
Existing State Route 905								
South of Siempre Viva Rd	2	4,600	28,000	8.29%	60%	5.11%	0.32	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Note: LOS calculations only go up to "F(2)", anything over 1.46 is LOS F(3)

Existing + Phase 1 Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	9,575	8.00%	60%	5.00%	0.10	A
Existing State Route 905								
South of Siempre Viva Rd	2	4,600	28,831	8.29%	60%	5.11%	0.33	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Note: LOS calculations only go up to "F(2)", anything over 1.46 is LOS F(3)

Existing + Phases 1-2 Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
State Route 125								
North of Otay Mesa Rd	2	4,600	9,979	8.00%	60%	5.00%	0.11	A
Existing State Route 905								
South of Siempre Viva Rd	2	4,600	29,637	8.29%	60%	5.11%	0.34	A

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Note: LOS calculations only go up to "F(2)", anything over 1.46 is LOS F(3)

Cumulative + Project w/ SR-905 [Phases 1A & 1B] Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
SR-125								
North of Otay Mesa Rd	2	4,600	13,930	8.00%	60%	5.00%	0.15	A
Existing State Route 905								
South of Siempre Viva Rd	2	4,600	76,460	8.29%	60%	5.11%	0.87	D
New State Route 905 Facility								
West of Britannia Blvd	3	6,900	117,120	8.29%	60%	5.11%	0.89	D
Britannia Blvd to La Media Rd	3	6,900	104,080	8.29%	60%	5.11%	0.79	C
La Media Rd to Siempre Viva Rd	3	6,900	90,990	8.29%	60%	5.11%	0.69	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Note: LOS calculations only go up to "F(2)", anything over 1.46 is LOS F(3)

2030 w/o Project Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
SR-125								
North of Otay Mesa Rd	2	4,600	77,482	8.00%	60%	5.00%	0.85	D
New State Route 905 Facility								
Britannia Blvd to La Media Rd	4	9,200	149,453	8.29%	60%	5.11%	0.85	D
La Media Rd to Siempre Viva Rd	4	9,200	73,308	8.29%	60%	5.11%	0.42	B
South of Siempre Viva Rd	2	4,600	71,482	8.29%	60%	5.11%	0.81	D

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Note: LOS calculations only go up to "F(2)", anything over 1.46 is LOS F(3)

2030 + Project Build Out (Phases 1-2) Conditions								
Roadway Segment	# Lanes/Direction	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	V/C	LOS
SR-125								
North of Otay Mesa Rd	2	4,600	78,300	8.00%	60%	5.00%	0.86	D
New State Route 905 Facility								
Britannia Blvd to La Media Rd	4	9,200	156,000	8.29%	60%	5.11%	0.89	D
La Media Rd to Siempre Viva Rd	4	9,200	80,400	8.29%	60%	5.11%	0.46	B
South of Siempre Viva Rd	2	4,600	72,300	8.29%	60%	5.11%	0.82	D

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes
Capacity - Capacity in one direction
ADT - Average Daily Traffic
Peak Hour % - Percentage of average daily traffic occurring during the peak hour
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.
Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.
v/c Ratio - Volume to Capacity Ratio

Note: LOS calculations only go up to "F(2)", anything over 1.46 is LOS F(3)

APPENDIX J

- Traffic Signal Warrant Analysis

Otay Mesa Road/Alta Road

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	~~8AM~~	~~4PM~~	~~5PM~~ Hour
Both Approaches - Major Street	X		475	206	60	88
Higher Approach - Minor Street	X		81	74	343	169

Major St: Otay Mesa
Minor St: Alta Rd

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) **SATISFIED YES ☐ NO ☒**

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☒

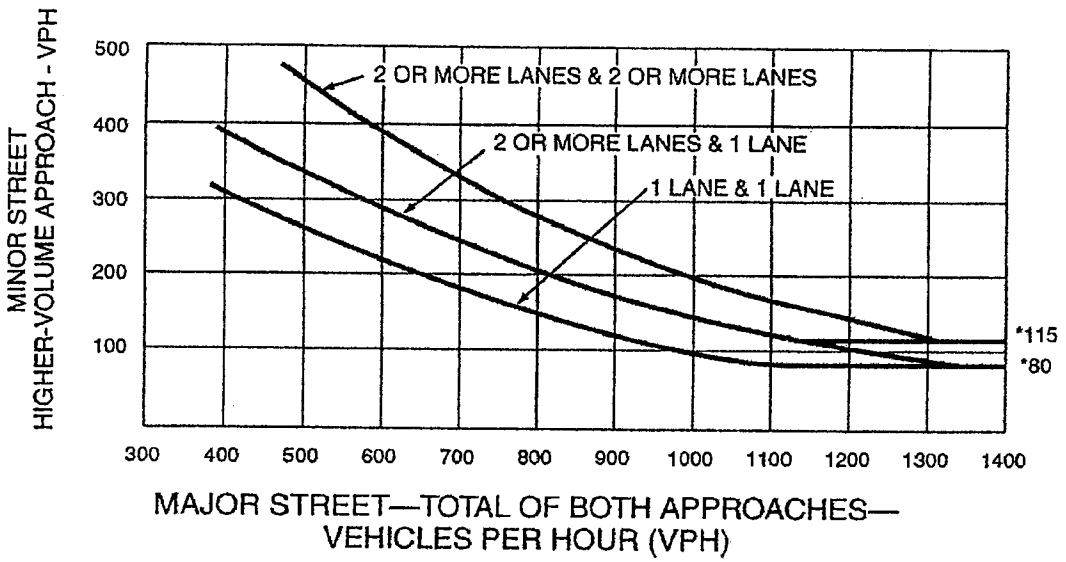
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	~~PM~~ Hour
Both Approaches - Major Street	X		475	60
Higher Approach - Minor Street	X		81	343

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐	No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

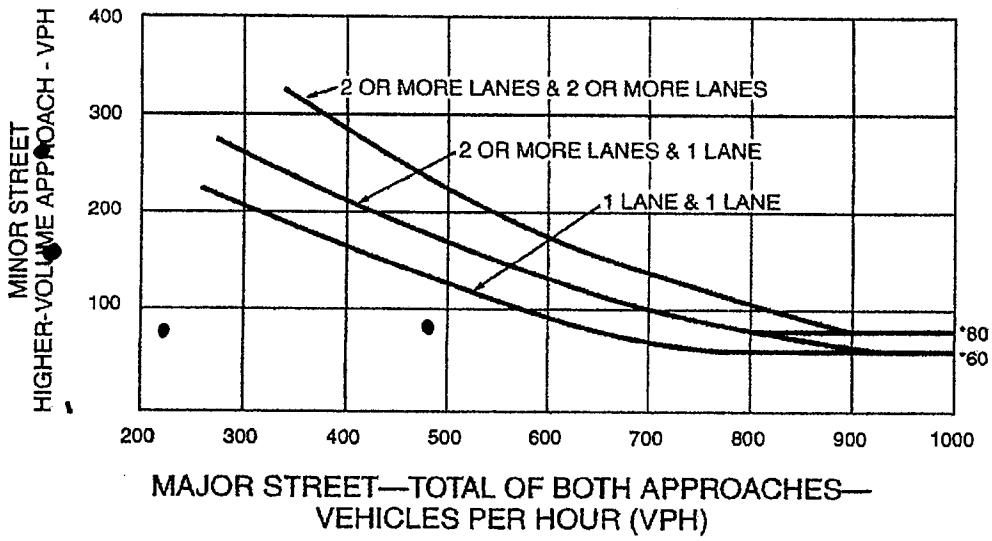
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

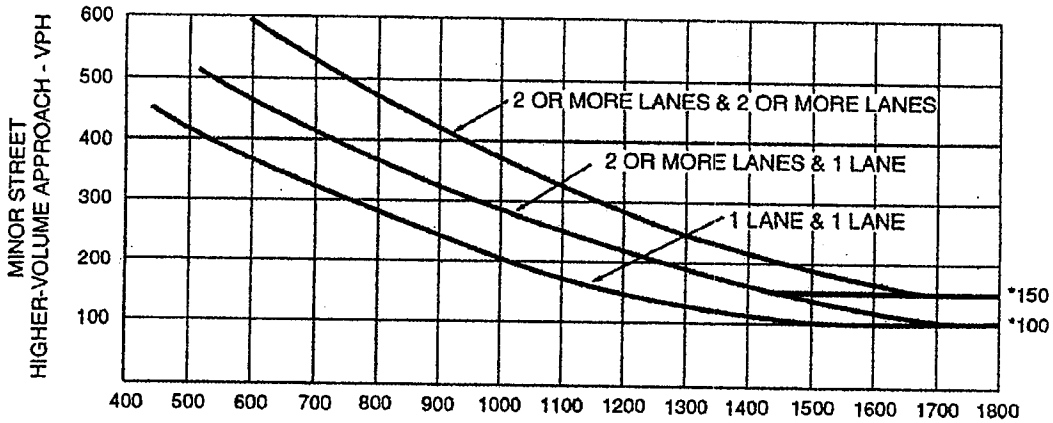
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

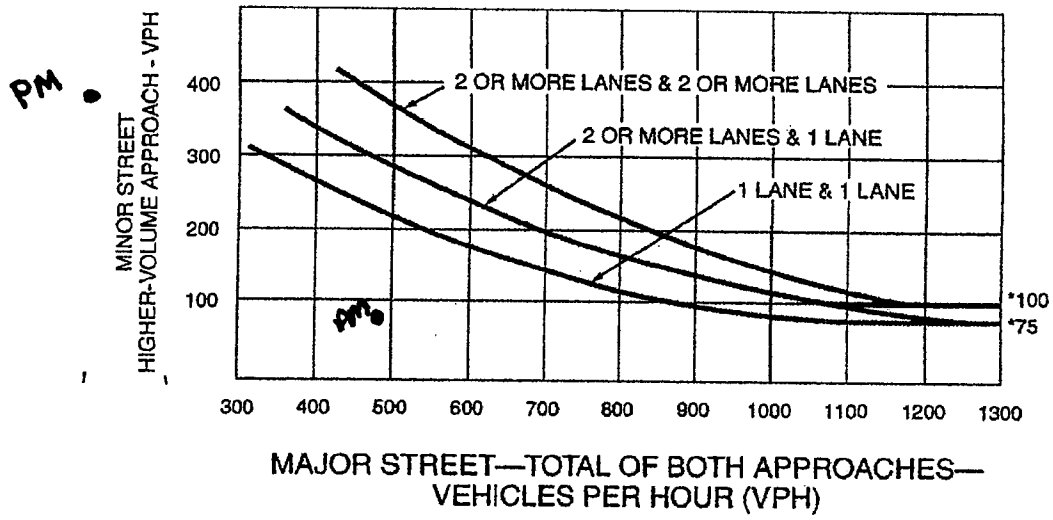
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	~~8AM~~	~~4PM~~	~~5PM~~ Hour
Both Approaches - Major Street	X		488	212	112	164
Higher Approach - Minor Street	X		133	122	356	175

Major St: Otay Mesa
Minor St: Alta Rd

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☒

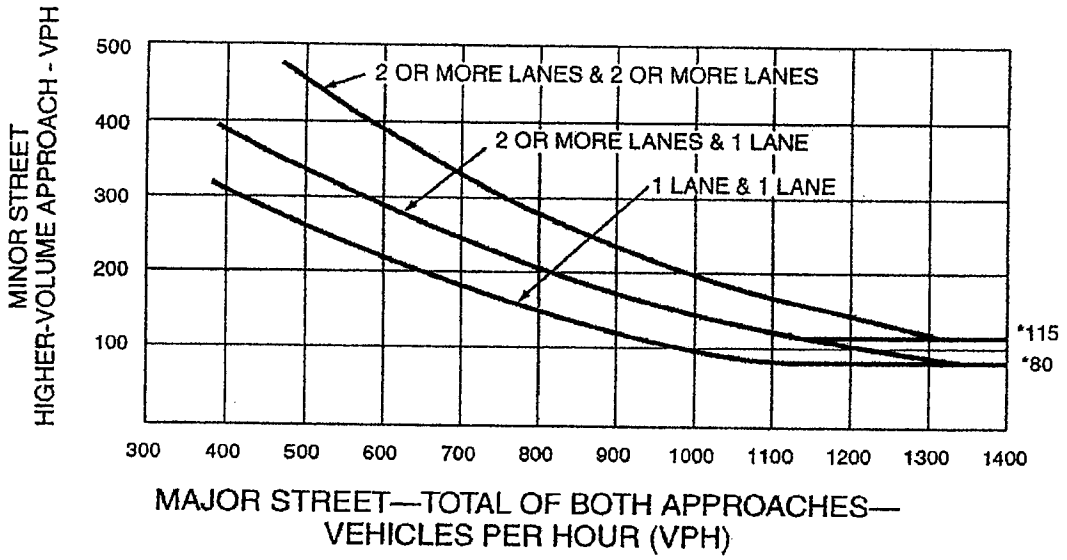
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	~~PM~~ Hour
Both Approaches - Major Street	X		488	112
Higher Approach - Minor Street	X		133	356

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐	No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

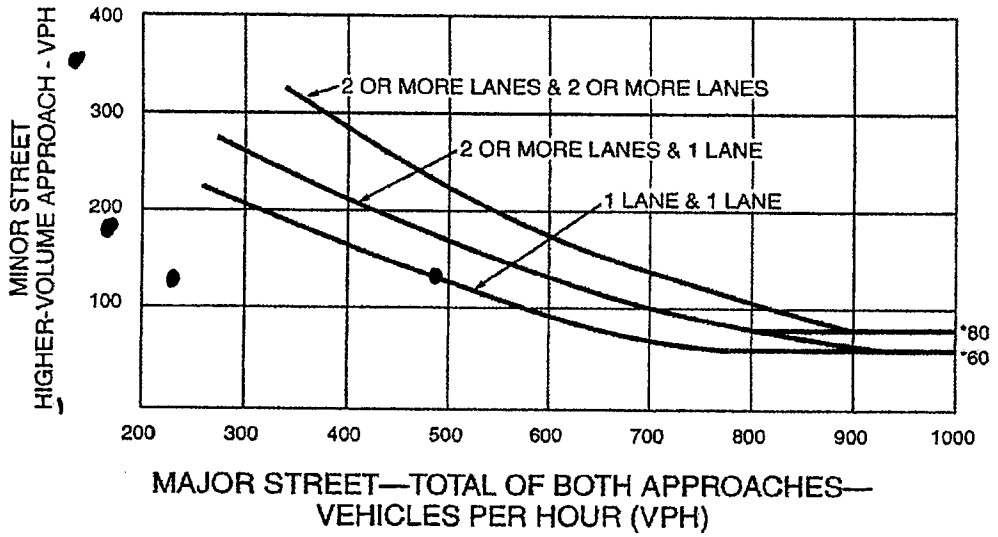
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

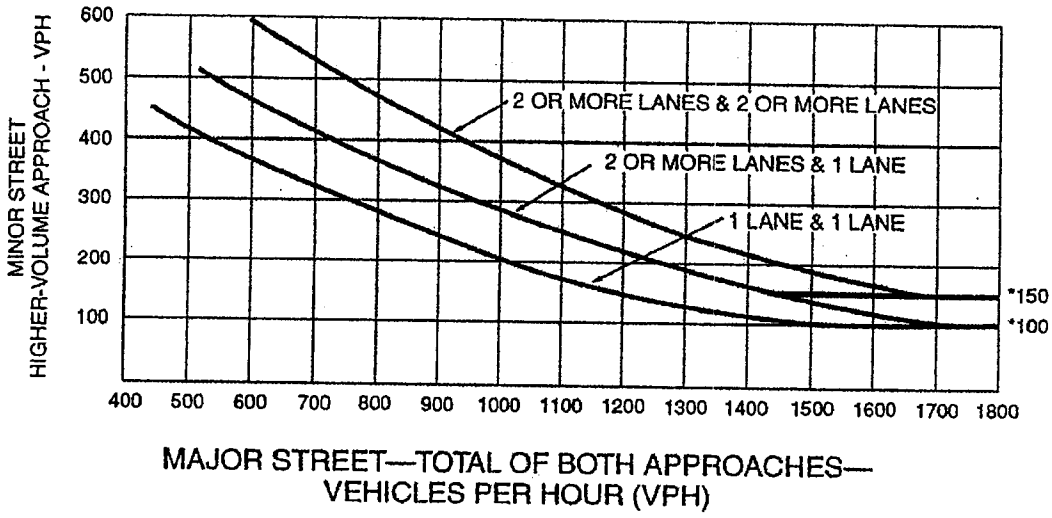
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing + Project Phases 1-2 - Otay Mesa Rd/Alta Rd

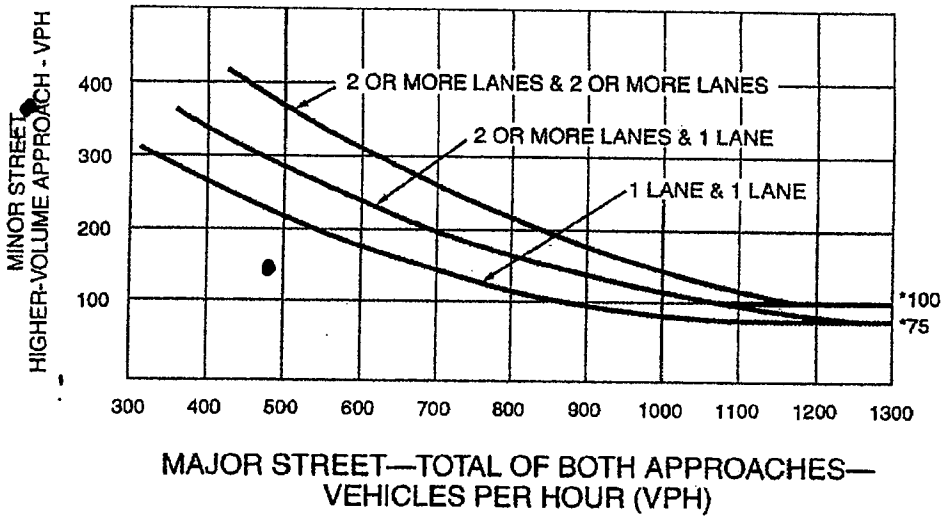
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☒ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	~~8AM~~	~~4PM~~	~~5PM~~ Hour
Both Approaches - Major Street	X		1170	507	710	1041
Higher Approach - Minor Street	X		390	356	540	266

Major St: Otay Mesa
Minor St: Alta Rd

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☒	No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

PART B **SATISFIED YES ☒ NO ☐**

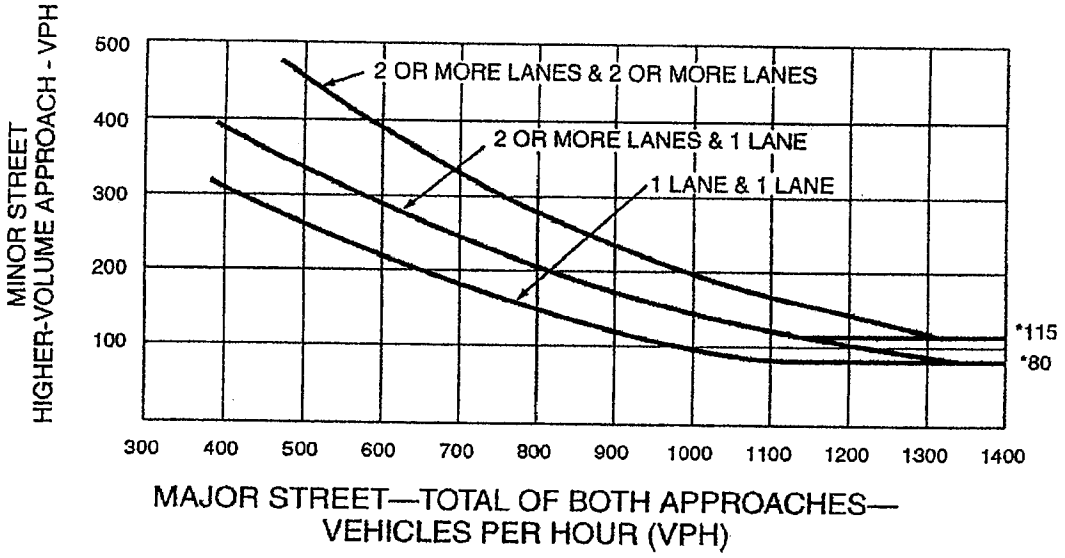
APPROACH LANES	One	2 or More	AM	~~PM~~ Hour
Both Approaches - Major Street	X		1170	710
Higher Approach - Minor Street	X		390	540

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Cumulative (2020) - Otay Mesa Rd/Alta Rd

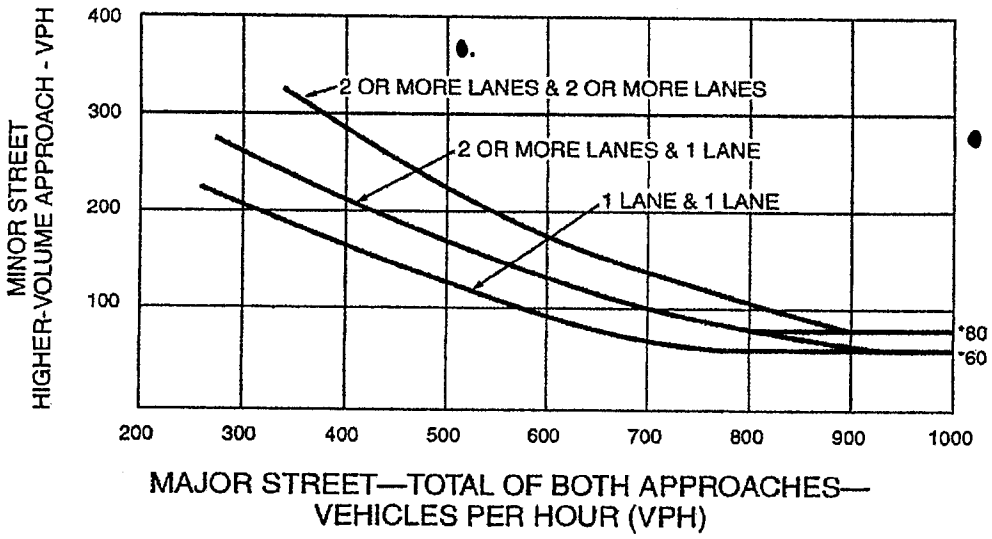
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

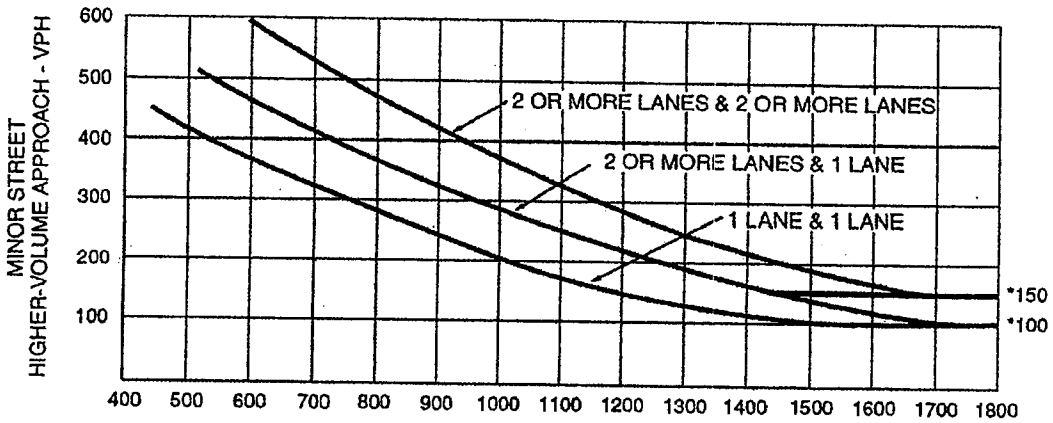
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Cumulative (2020) - Otay Mesa Rd/Alta Rd

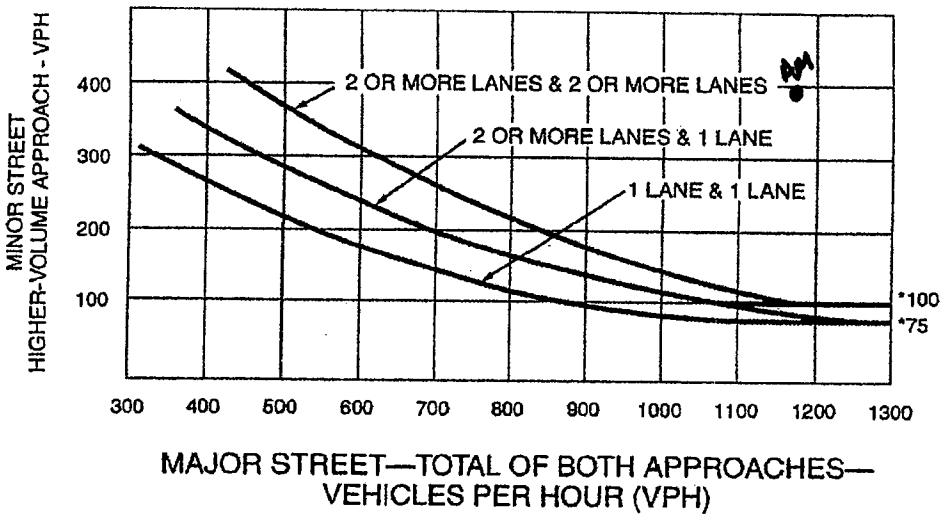
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Airway Road/Sanyo Avenue

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7 AM	8AM	4PM	5PM Hour
Both Approaches - Major Street		X	515	455	385	378
Higher Approach - Minor Street		X	79	151	227	209

Major St: Sanyo Ave
Minor St: Airway Rd

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) **SATISFIED YES ☐ NO ☒**

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

PART B **SATISFIED YES ☐ NO ☒**

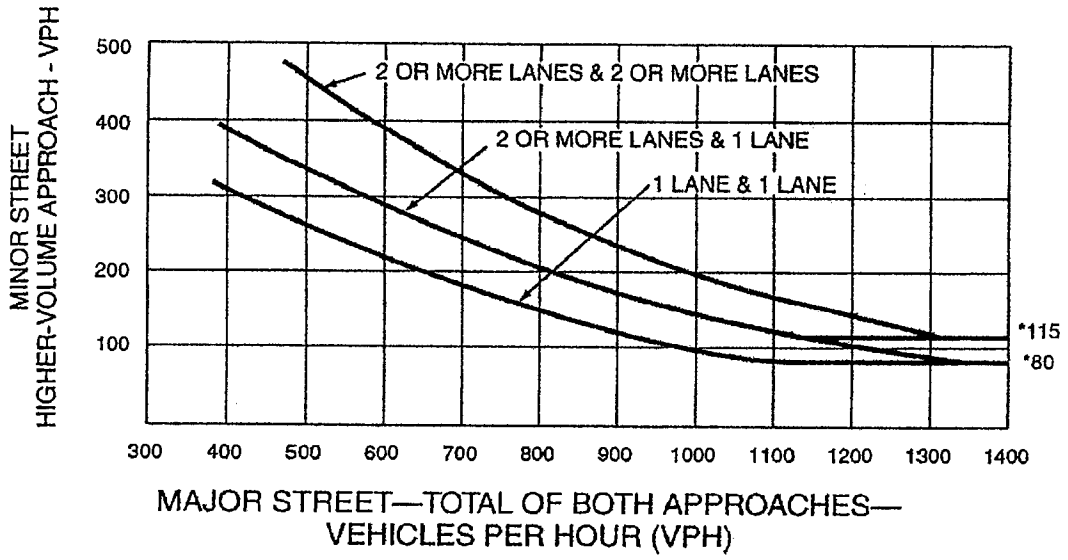
APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	499	421
Higher Approach - Minor Street		X	131	219

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Existing - Airway Road/Sanyo Avenue

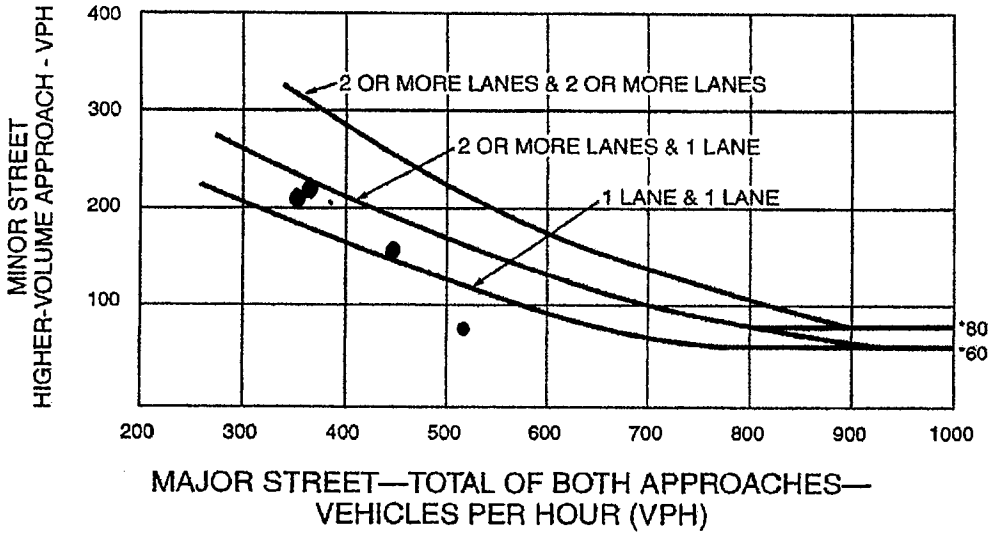
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

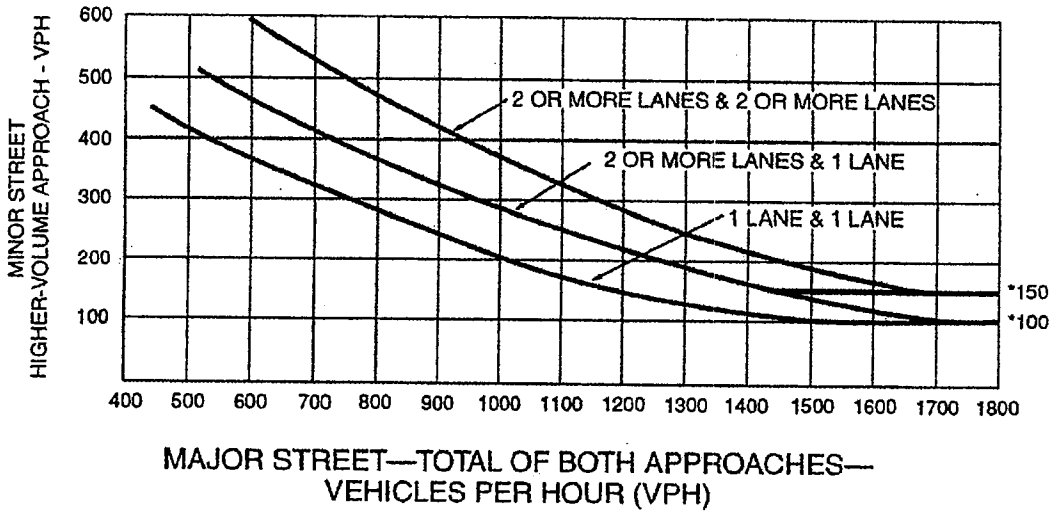
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing - Airway Road/Sanyo Avenue

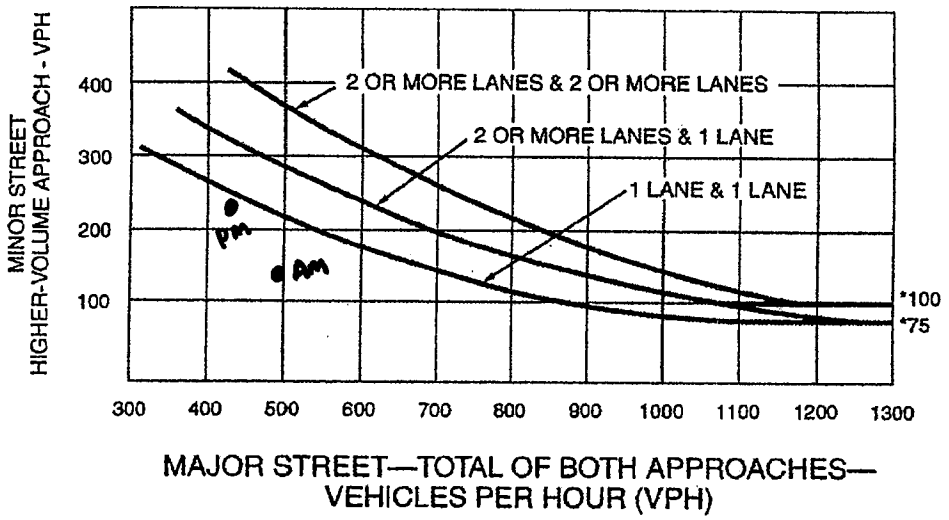
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7 AM	8AM	4PM	5PM Hour
Both Approaches - Major Street		X	528	467	388	381
Higher Approach - Minor Street		X	107	204	281	259

Major St: Sanyo Ave
Minor St: Airway Rd

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

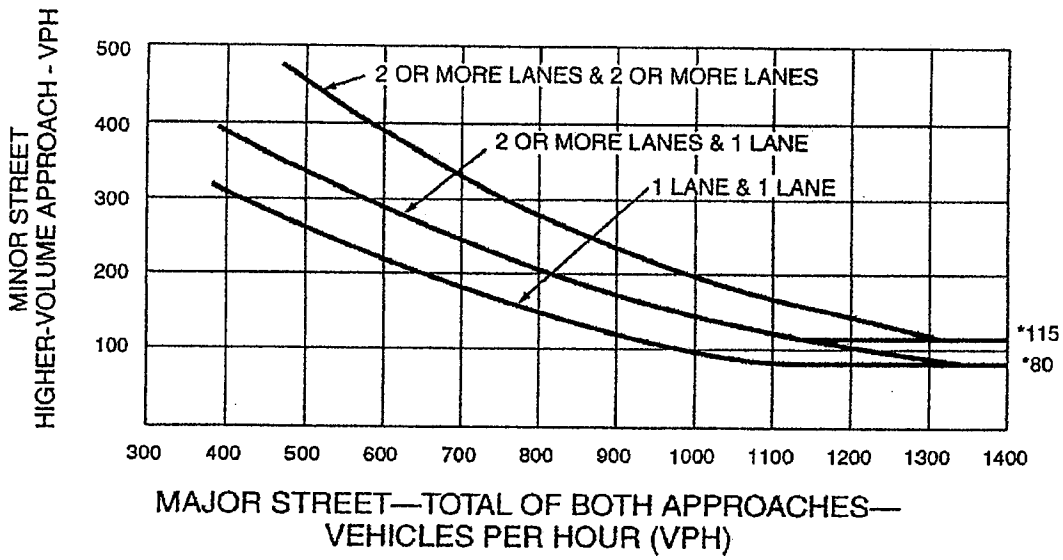
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	512	424
Higher Approach - Minor Street		X	177	271

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

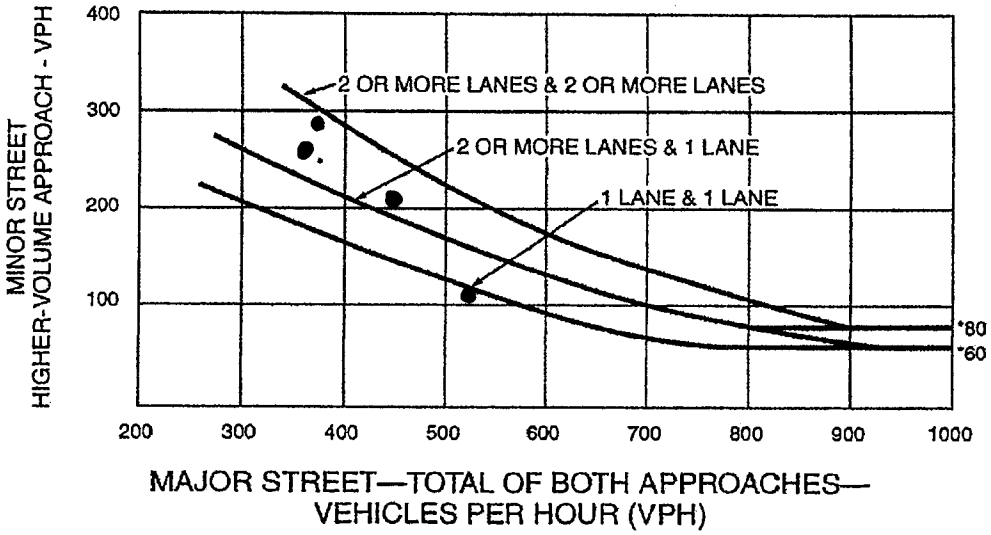
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

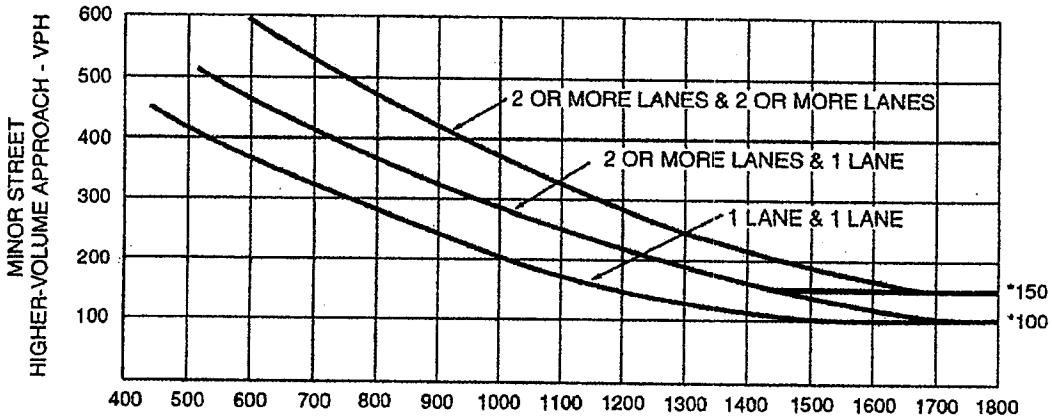
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing + Project Phases 1-2 - Airway Road/Sanyo Avenue

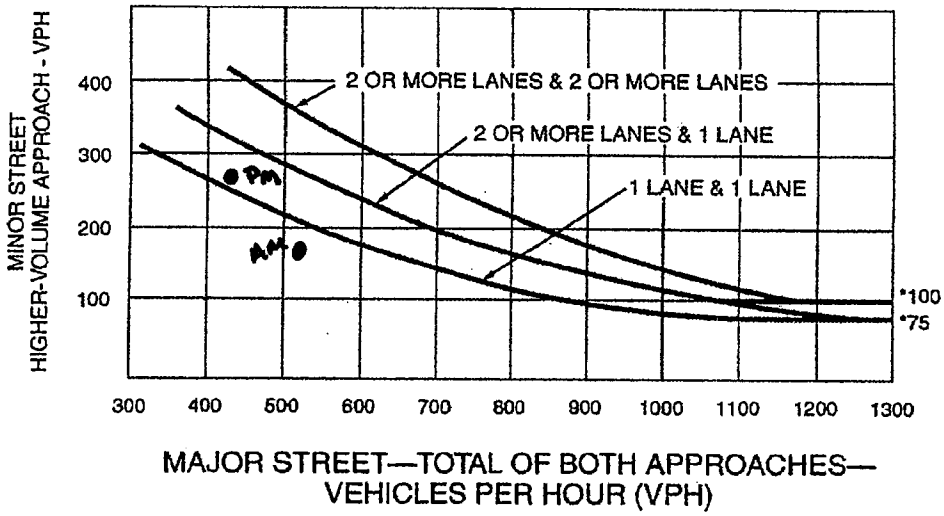
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☒ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7 AM	~~8AM~~	~~4PM~~	~~5PM~~ Hour
Both Approaches - Major Street		X	670	1134	1225	1135
Higher Approach - Minor Street		X	712	638	354	360

Major St: Airway Rd
Minor St: Sanyo Ave

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☒	No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

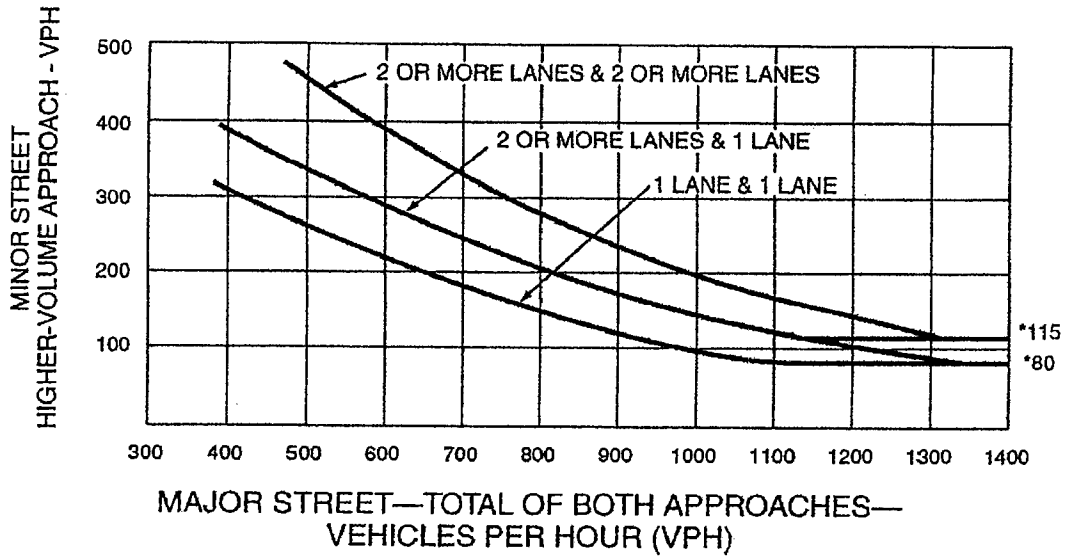
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	AM	~~PM~~ Hour
Both Approaches - Major Street		X	1010	1210
Higher Approach - Minor Street		X	710	370

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

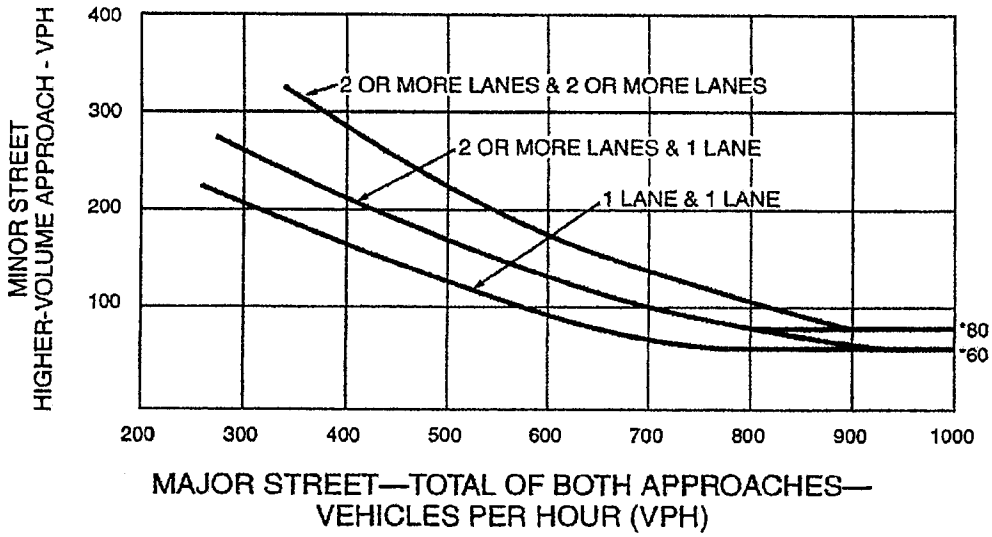
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

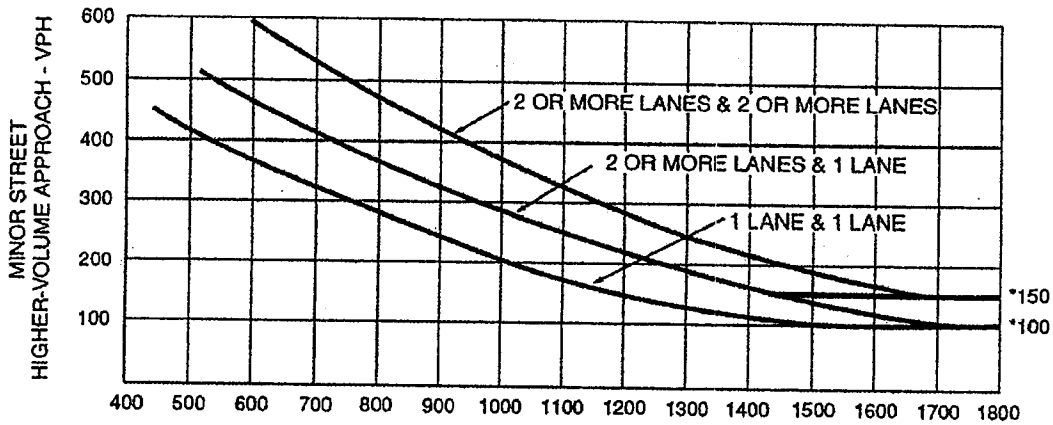
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Cumulative (2020) - Airway Road/Sanyo Avenue

Figure 4C-3. Warrant 3, Peak Hour

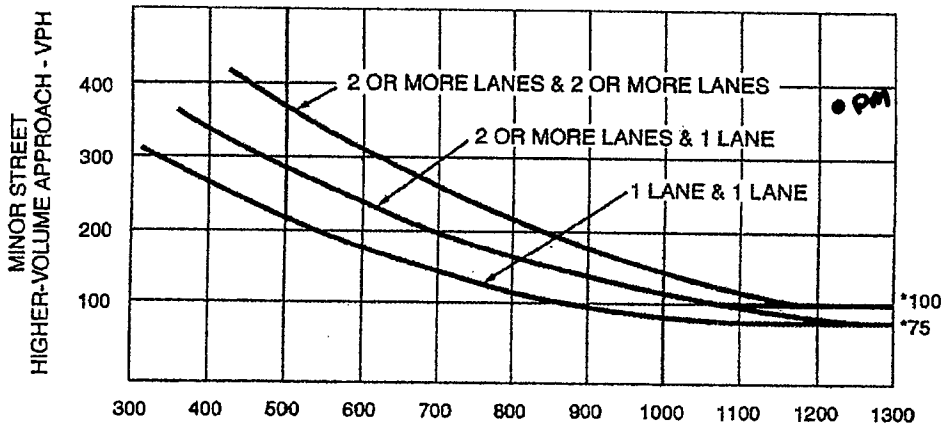


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

AM

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Airway Road/Paseo De Las Americas

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	~~8AM~~	~~4PM~~	~~5PM~~ Hour
Both Approaches - Major Street		X	62	123	110	97
Higher Approach - Minor Street		X	10	65	55	50

Major St: Airway Rd
Minor St: Paseo De Las Americas

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

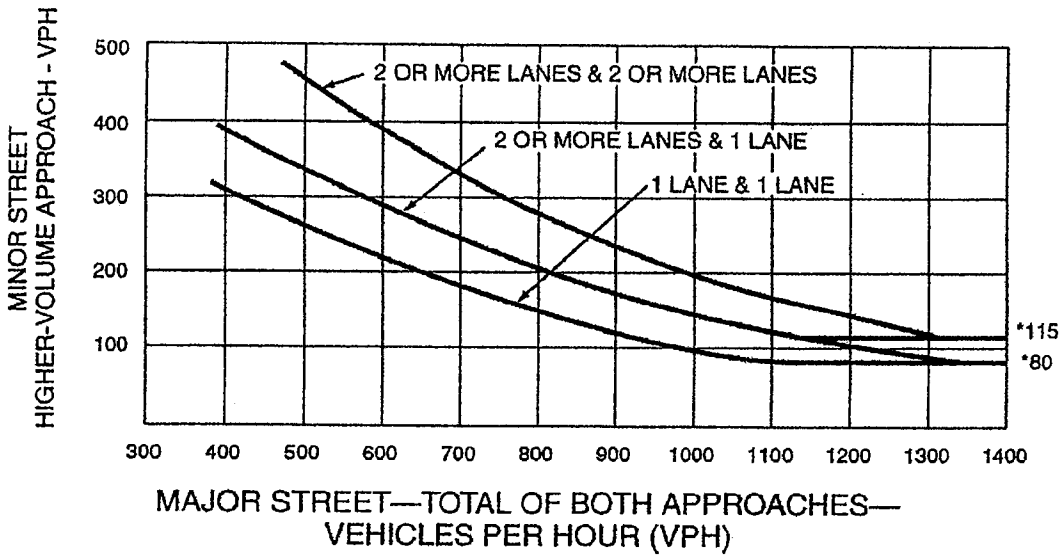
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	~~PM~~ Hour
Both Approaches - Major Street		X	123	118
Higher Approach - Minor Street		X	65	55

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

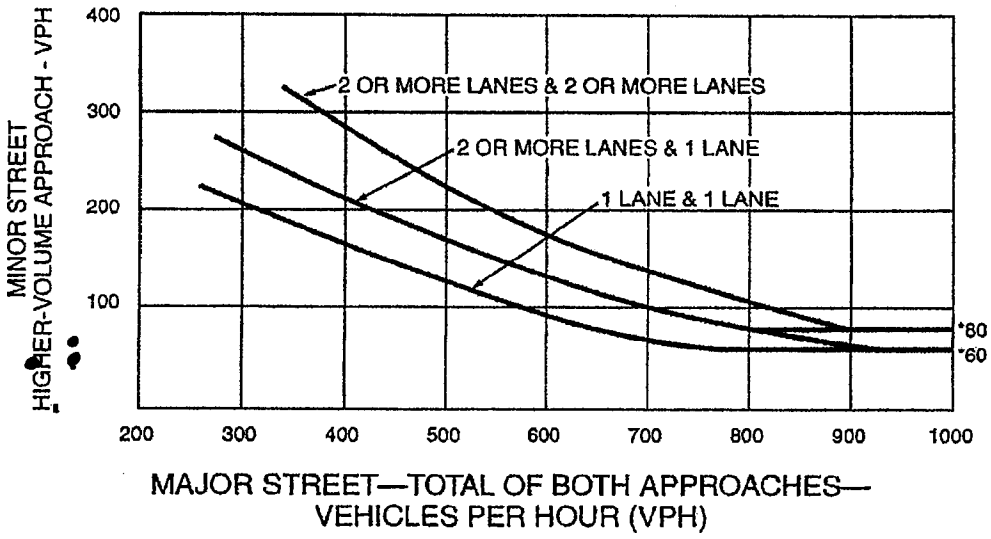
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

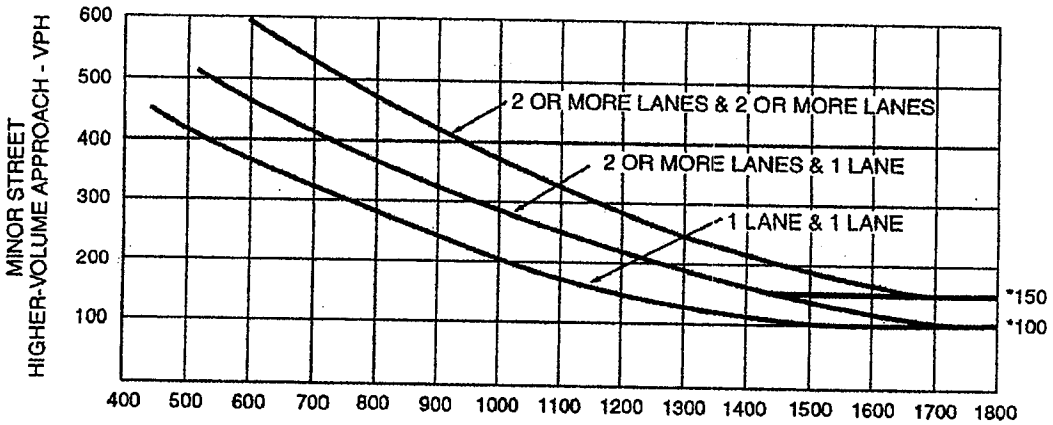
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~79~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing - Airway Road/Paseo De Las Americas

Figure 4C-3. Warrant 3, Peak Hour

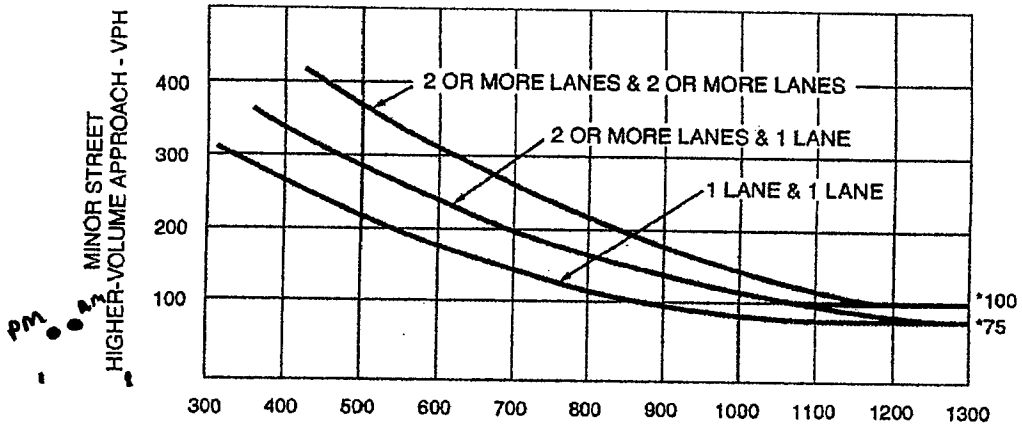


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	8AM	4PM	5PM	Hour
Both Approaches - Major Street		X	139	275	310	274	
Higher Approach - Minor Street		X	10	65	98	89	

Major St: Airway Rd
Minor St: Paseo De Las Americas

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☒

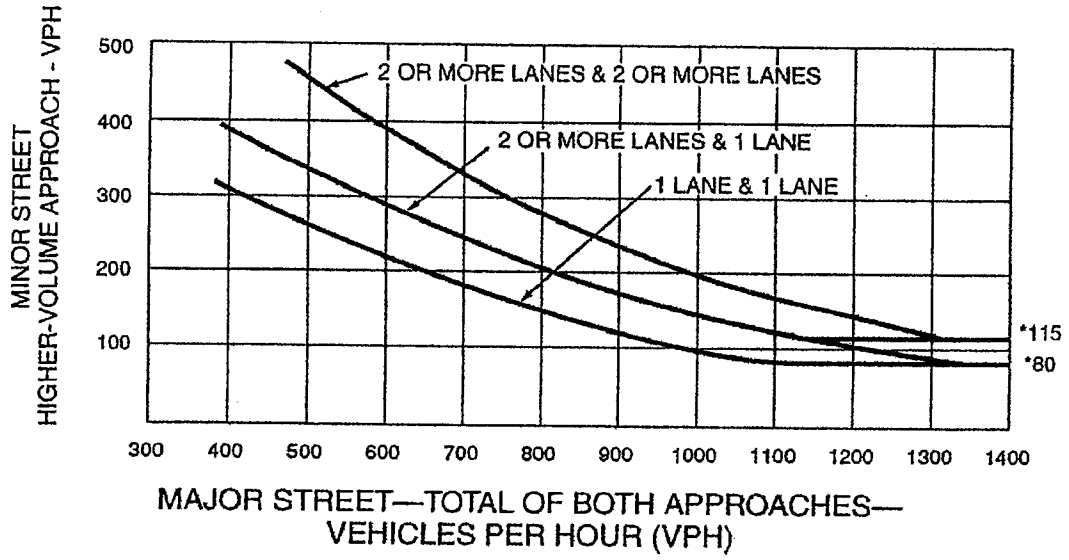
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	PM	Hour
Both Approaches - Major Street		X	275	333	
Higher Approach - Minor Street		X	65	98	

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐	No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

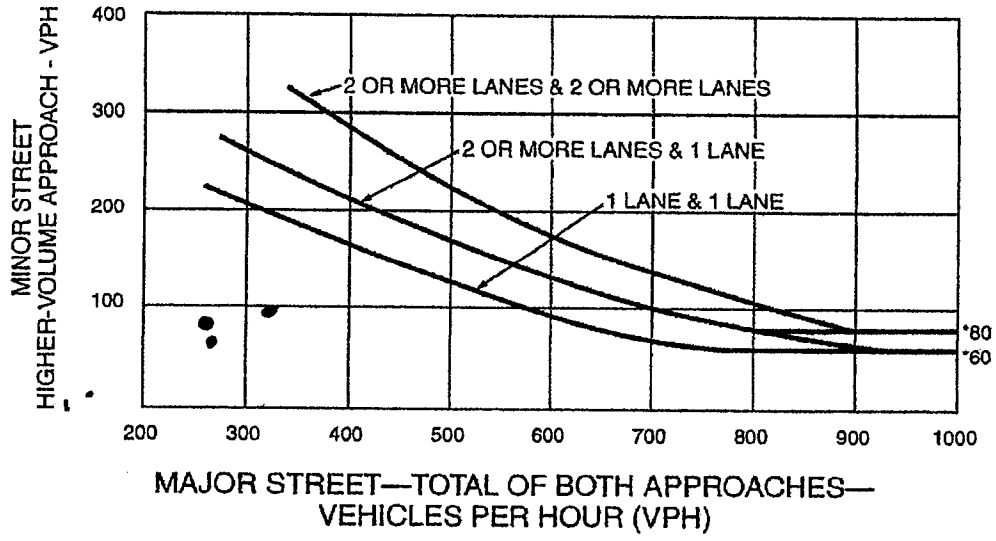
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

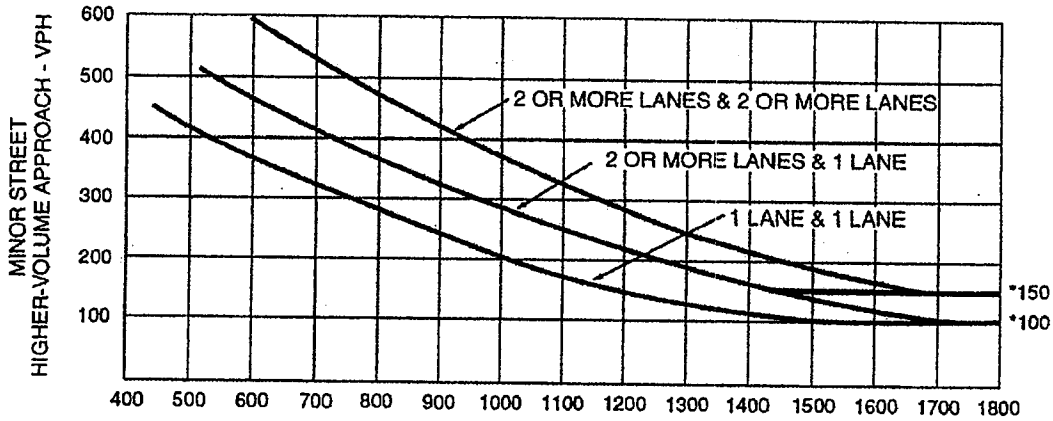
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing + Project Phases 1-2 - Airway Road/Paseo De Las Americas

Figure 4C-3. Warrant 3, Peak Hour

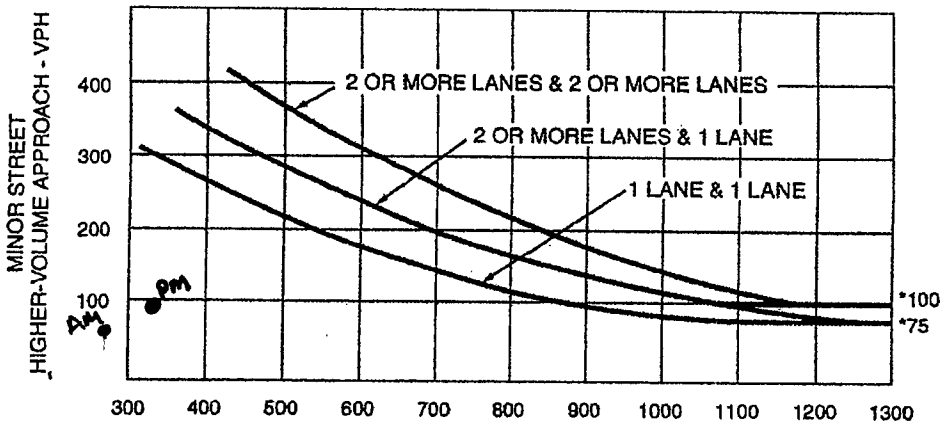


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	~~8AM~~	~~4PM~~	~~5PM~~ Hour
Both Approaches - Major Street		X	343	680	708	625
Higher Approach - Minor Street		X	212	420	540	491

Major St: Airway Rd
Minor St: Paseo De Las Americas

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) **SATISFIED YES ☒ NO ☐**

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED YES ☐ NO ☒**

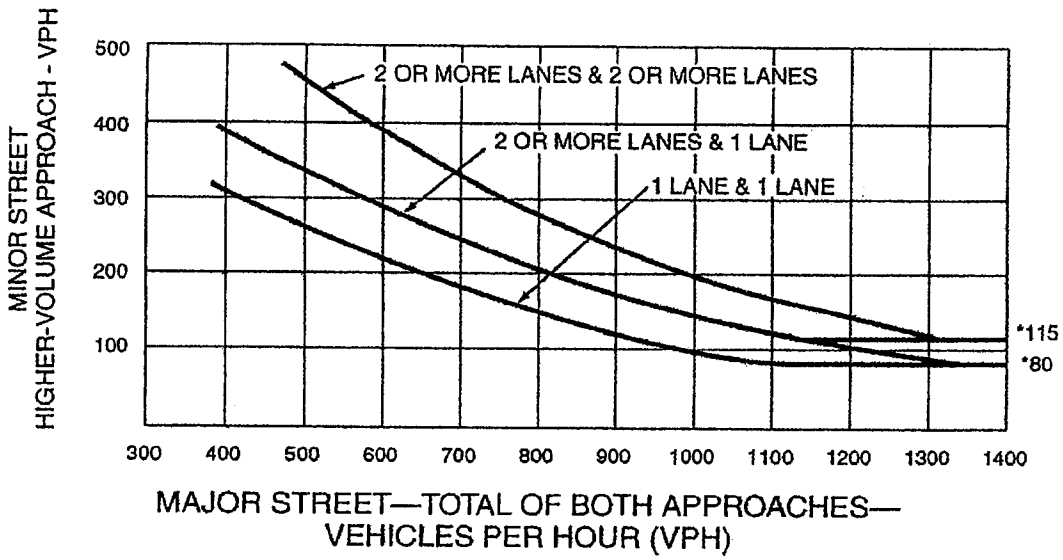
APPROACH LANES	One	2 or More	AM	~~PM~~ Hour
Both Approaches - Major Street		X	680	760
Higher Approach - Minor Street		X	420	540

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Cumulative (2020) - Airway Road/Paseo De Las Americas

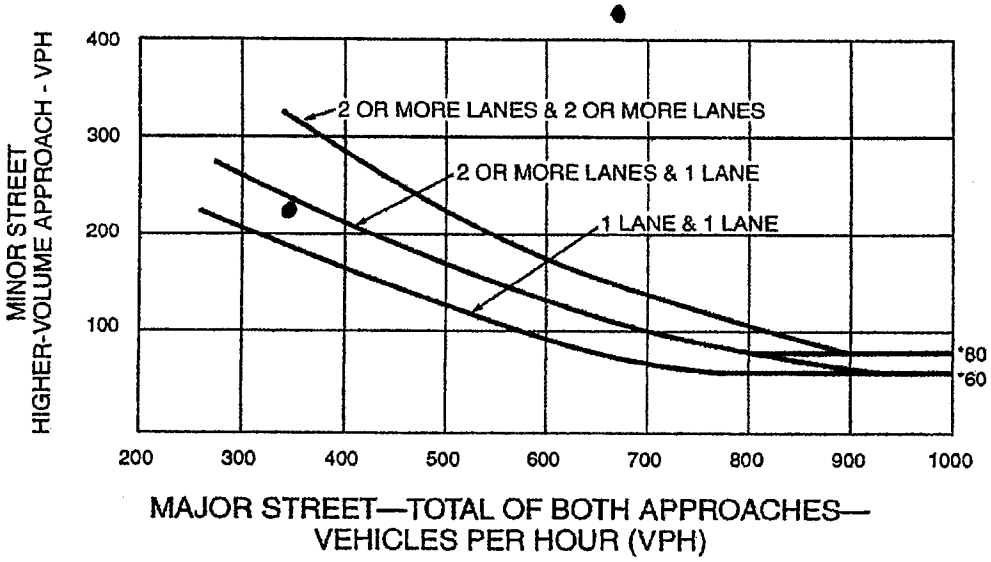
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

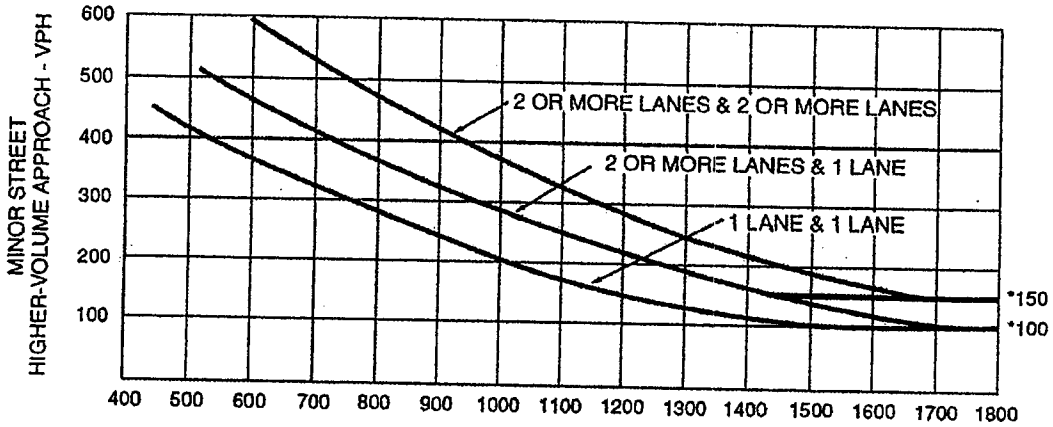
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Cumulative (2020) - Airway Road/Paseo De Las Americas

Figure 4C-3. Warrant 3, Peak Hour

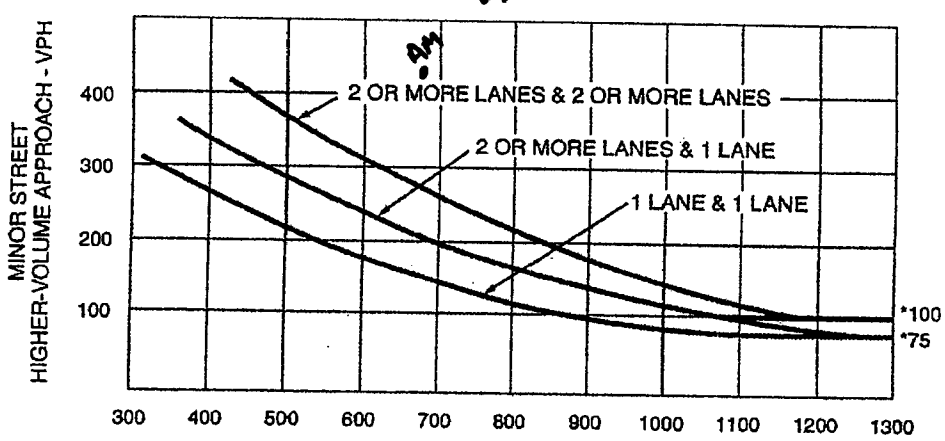


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Siempre Viva Road/Michael Faraday Drive

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	8AM	4PM	5PM	Hour
Both Approaches - Major Street		X	213	192	322	297	
Higher Approach - Minor Street	X		16	39	50	89	

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

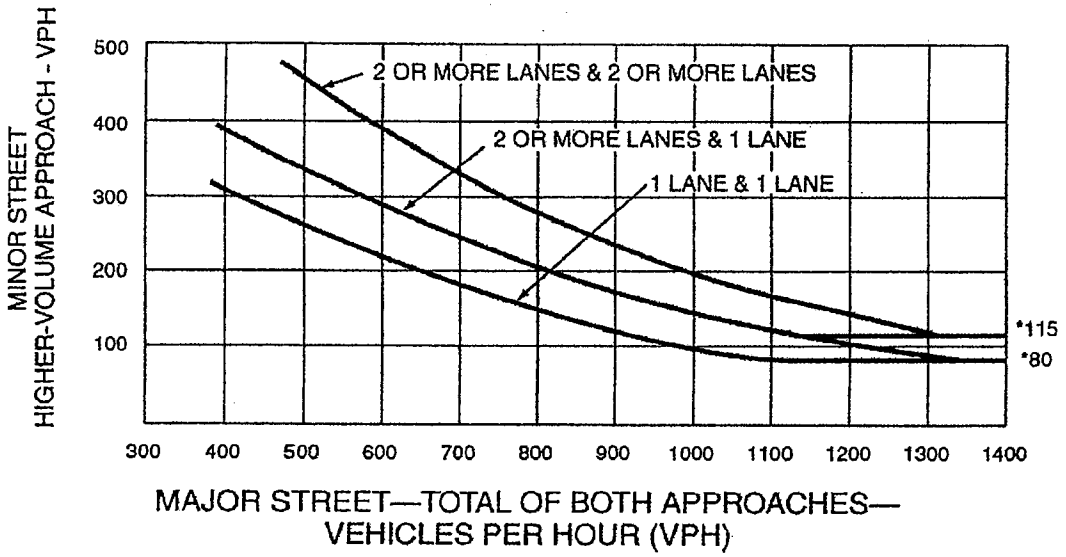
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	PM	Hour
Both Approaches - Major Street		X	192	328	
Higher Approach - Minor Street	X		39	67	

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

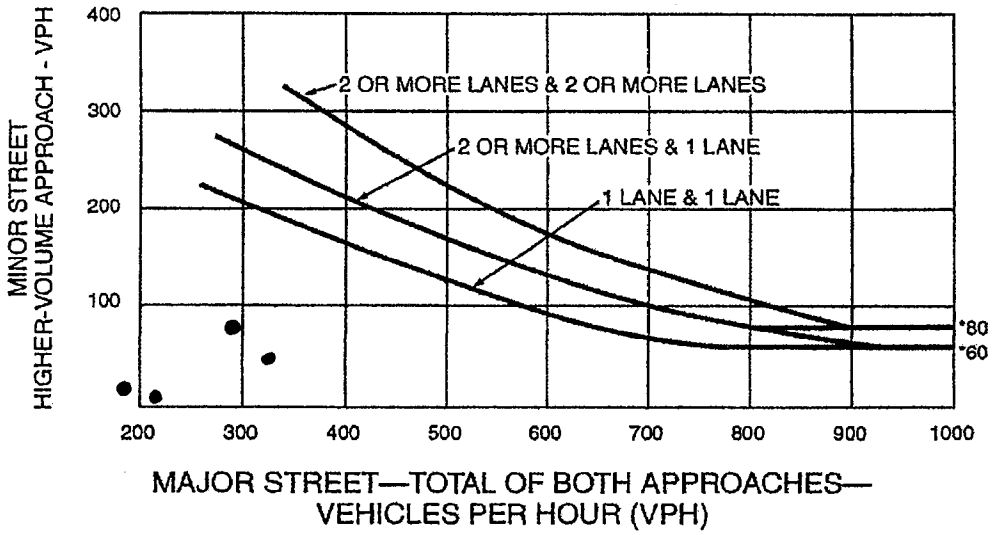
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

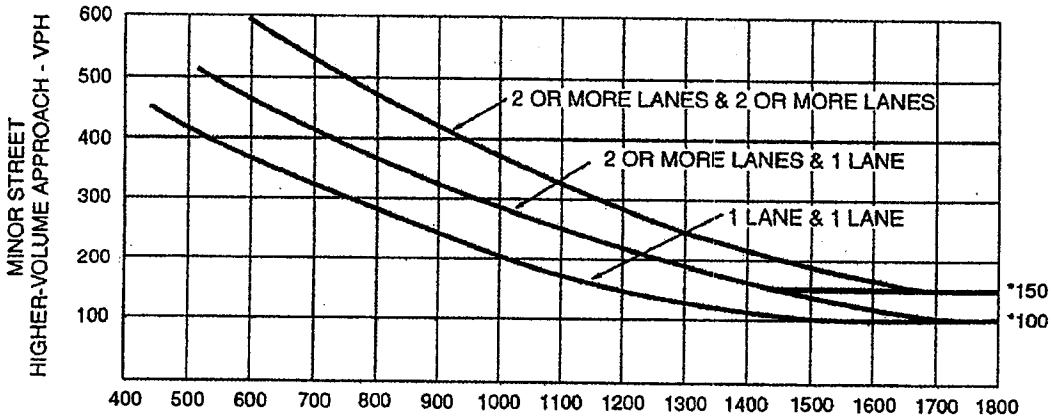
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing - Siempre Viva Road/Michael Faraday Drive

Figure 4C-3. Warrant 3, Peak Hour

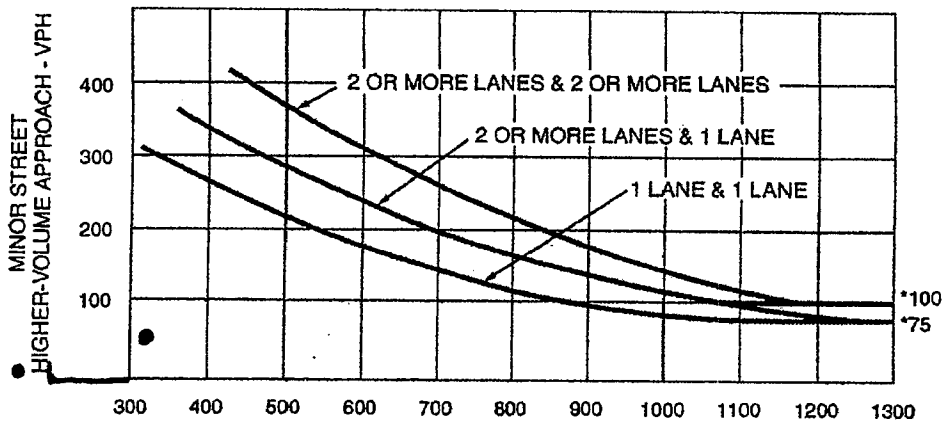


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	8AM	4PM	5PM	Hour
Both Approaches - Major Street		X	561	506	689	636	
Higher Approach - Minor Street	X		16	39	50	89	

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☒

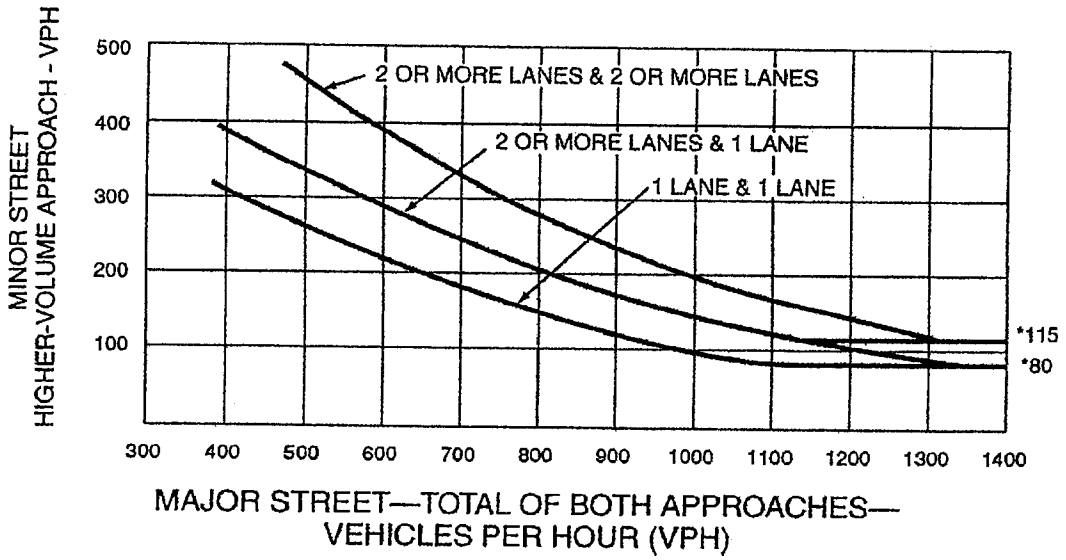
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	AM	PM	Hour
Both Approaches - Major Street		X	506	702	
Higher Approach - Minor Street	X		39	67	

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

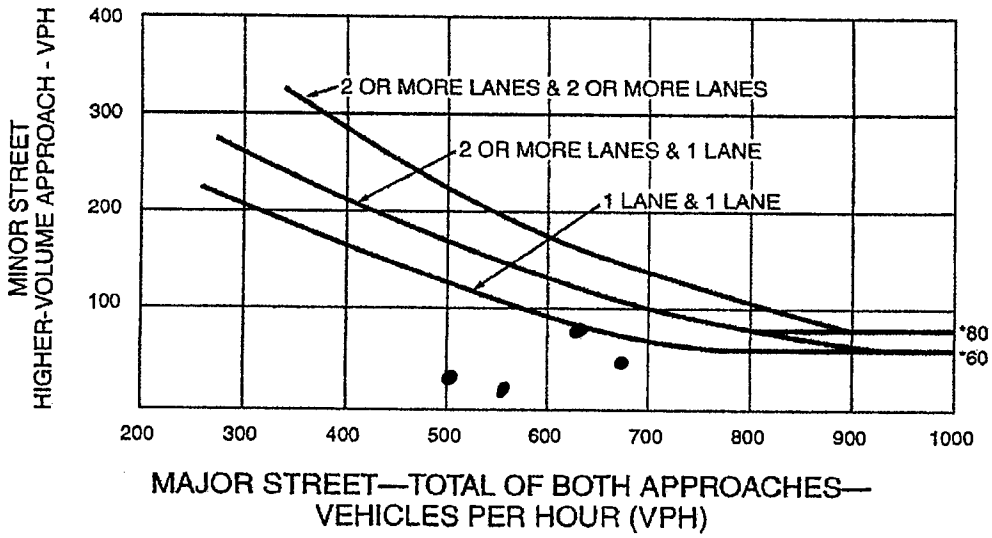
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

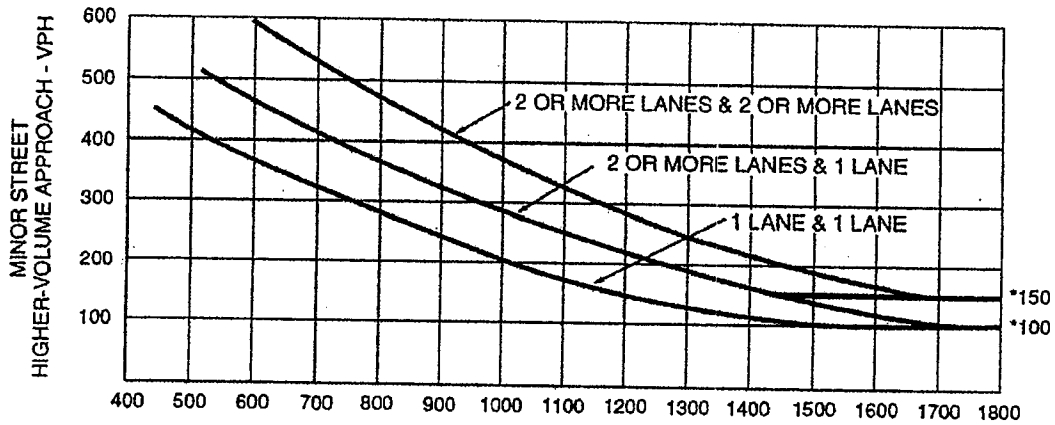
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing + Phases 1-2 - Siempre Viva Road/Michael Faraday Drive

Figure 4C-3. Warrant 3, Peak Hour

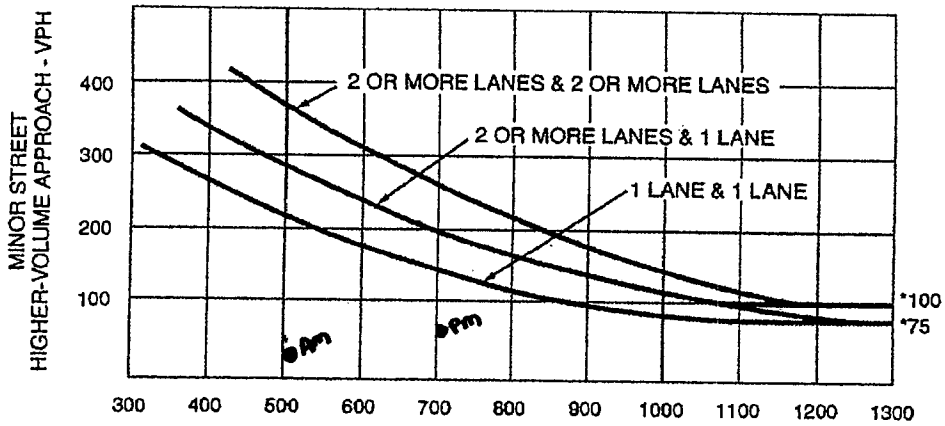


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7AM	8AM	4PM	5PM	Hour
Both Approaches - Major Street		X	1376	1240	1482	1367	
Higher Approach - Minor Street	X		37	90	134	239	

*All plotted points fall above the curves in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the curves in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

PART B **SATISFIED YES ☒ NO ☐**

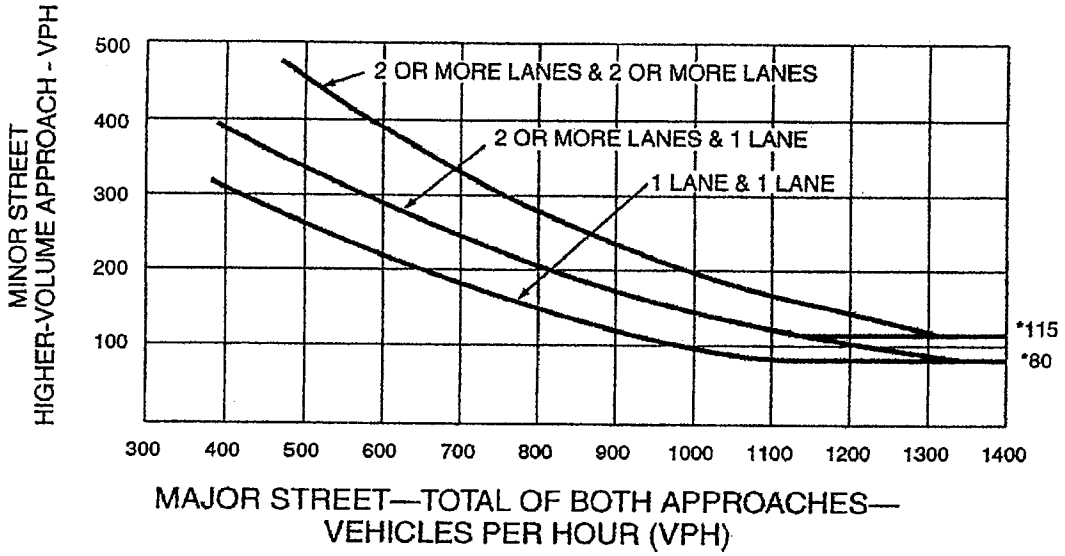
APPROACH LANES	One	2 or More	AM	PM	Hour
Both Approaches - Major Street		X	1240	1510	
Higher Approach - Minor Street	X		90	180	

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☐
OR, The plotted point falls above the curve in Figure 4C-4.	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Cumulative (2020) - Siempre Viva Road/Michael Faraday Drive

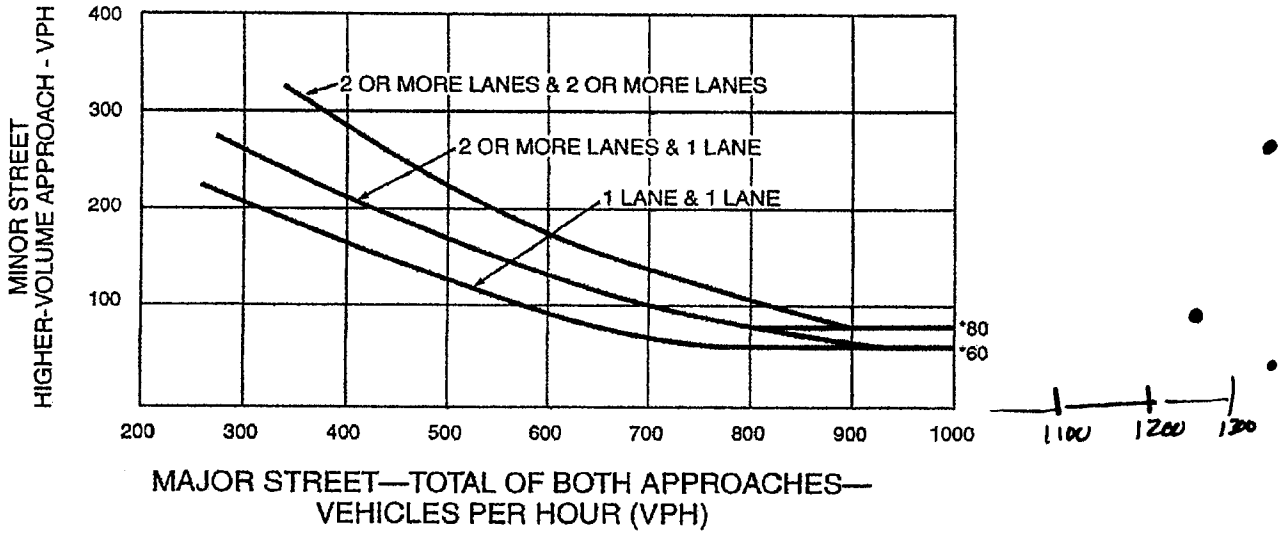
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

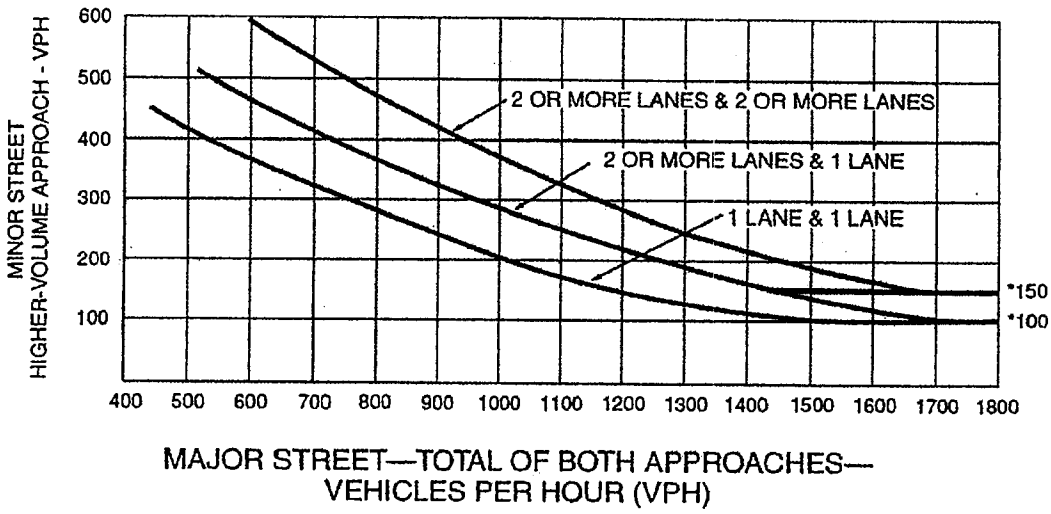
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Cumulative (2020) - Siempre Viva Road/Michael Faraday Drive

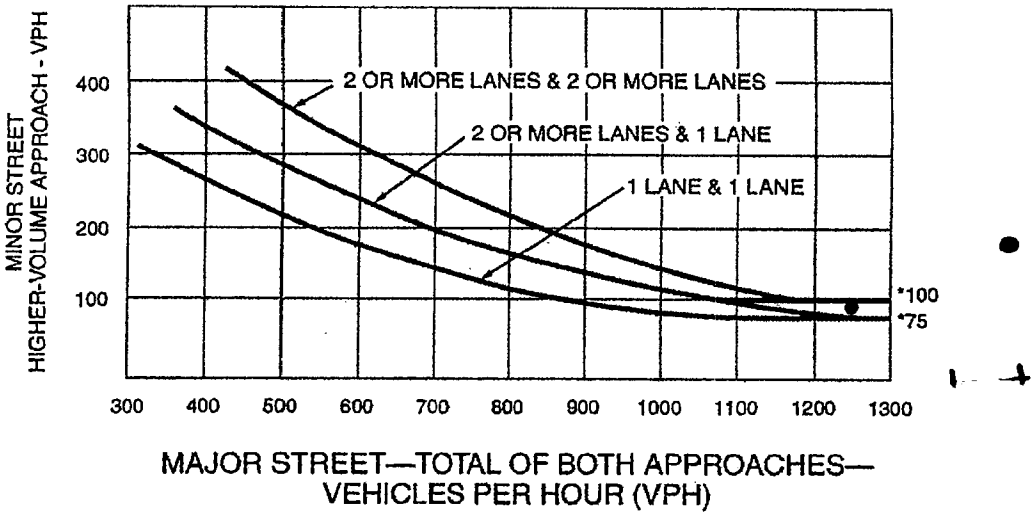
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

APPENDIX K

- Mitigation Analysis

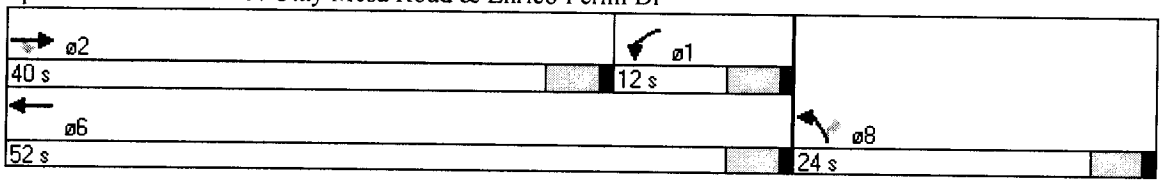
Existing + Phases 1-2 Mitigation

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	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
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Satd. Flow (RTOR)		865				47
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	341	890	81	103	295	34
Adj. Flow (vph)	467	1219	111	141	404	47
Lane Group Flow (vph)	467	1219	111	141	404	47
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	40.0	40.0	12.0	52.0	24.0	24.0
Act Effct Green (s)	39.0	39.0	7.7	48.6	19.4	19.4
Actuated g/C Ratio	0.51	0.51	0.10	0.64	0.26	0.26
v/c Ratio	0.49	0.99	0.62	0.12	0.89	0.11
Control Delay	17.3	29.4	49.0	5.8	49.4	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	29.4	49.0	5.8	49.4	9.2
LOS	B	C	D	A	D	A
Approach Delay	26.0			24.9	45.2	
Approach LOS	C			C	D	

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 38 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 29.5 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

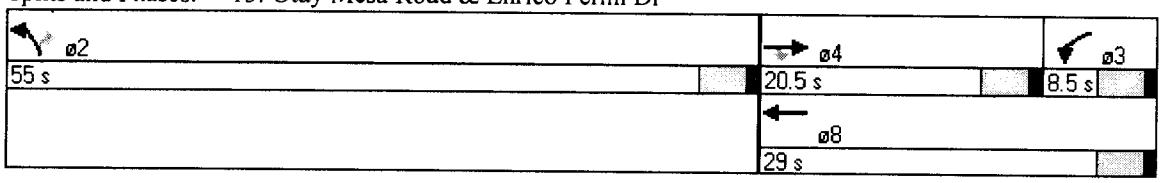


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Satd. Flow (RTOR)		278				97
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	78	242	29	426	930	84
Adj. Flow (vph)	90	278	33	490	1070	97
Lane Group Flow (vph)	90	278	33	490	1070	97
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Total Split (s)	20.5	20.5	8.5	29.0	55.0	55.0
Act Effct Green (s)	16.6	16.6	7.7	24.2	51.8	51.8
Actuated g/C Ratio	0.20	0.20	0.09	0.29	0.62	0.62
v/c Ratio	0.25	0.52	0.20	0.91	0.98	0.10
Control Delay	33.3	14.2	38.9	52.8	35.6	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	14.2	38.9	52.8	35.6	1.0
LOS	C	B	D	D	D	A
Approach Delay	18.8			51.9	32.7	
Approach LOS	B			D	C	

Intersection Summary

Cycle Length: 84
Actuated Cycle Length: 84
Offset: 64 (76%), Referenced to phase 2:NBL and 6:, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 35.1 — Intersection LOS: D
Intersection Capacity Utilization 68.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Cum 2020 w/SR-905 [1A&1B] -Mitigation

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	60	820	10	30	350	20	10	10	10	10	5	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	891	11	33	380	22	11	11	11	11	5	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								0			0	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	402			902			1307	1495	451	1049	1489	201
vC1, stage 1 conf vol							1027	1027		457	457	
vC2, stage 2 conf vol							280	467		592	1033	
vCu, unblocked vol	402			902			1307	1495	451	1049	1489	201
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			96			92	93	98	95	96	97
cM capacity (veh/h)	1153			749			141	157	556	200	150	806

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	65	594	308	33	254	149	33	38
Volume Left	65	0	0	33	0	0	11	11
Volume Right	0	0	11	0	0	22	11	22
cSH	1153	1700	1700	749	1700	1700	197	324
Volume to Capacity	0.06	0.35	0.18	0.04	0.15	0.09	0.17	0.12
Queue Length 95th (ft)	4	0	0	3	0	0	14	10
Control Delay (s)	8.3	0.0	0.0	10.0	0.0	0.0	26.9	17.6
Lane LOS	A			B			D	C
Approach Delay (s)	0.6			0.8			26.9	17.6
Approach LOS							D	C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	460	10	10	630	10	10	5	30	20	10	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	500	11	11	685	11	11	5	33	22	11	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								0			0	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	696			511			984	1266	255	1041	1266	348
vC1, stage 1 conf vol							549	549		712	712	
vC2, stage 2 conf vol							435	717		329	554	
vCu, unblocked vol	696			511			984	1266	255	1041	1266	348
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			95	97	96	90	95	90
cM capacity (veh/h)	896			1051			219	207	744	212	210	648

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	22	333	178	11	457	239	49	98
Volume Left	22	0	0	11	0	0	11	22
Volume Right	0	0	11	0	0	11	33	65
cSH	896	1700	1700	1051	1700	1700	409	384
Volume to Capacity	0.02	0.20	0.10	0.01	0.27	0.14	0.12	0.25
Queue Length 95th (ft)	2	0	0	1	0	0	10	25
Control Delay (s)	9.1	0.0	0.0	8.5	0.0	0.0	15.0	17.5
Lane LOS	A			A			C	C
Approach Delay (s)	0.4			0.1			15.0	17.5
Approach LOS							C	C

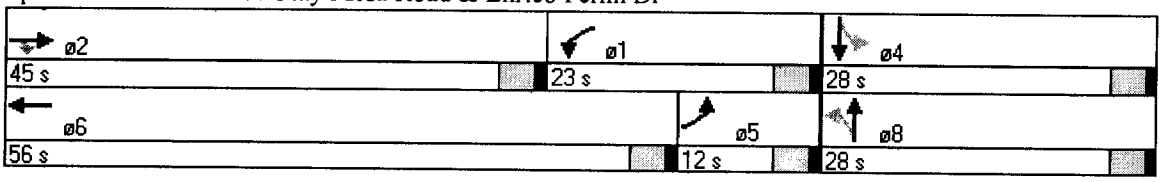
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.989			0.889			0.925	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1842	0	1770	1656	0	1770	1723	0
Flt Permitted	0.950			0.950			0.722			0.167		
Satd. Flow (perm)	1770	1863	1583	1770	1842	0	1345	1656	0	311	1723	0
Satd. Flow (RTOR)			146		6			145			27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	70	640	130	240	260	20	120	90	260	20	20	20
Adj. Flow (vph)	96	877	178	329	356	27	164	123	356	27	27	27
Lane Group Flow (vph)	96	877	178	329	383	0	164	479	0	27	54	0
Turn Type	Prot		Perm	Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8			4		
Total Split (s)	12.0	45.0	45.0	23.0	56.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Act Effct Green (s)	7.8	42.0	42.0	19.0	55.4		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.08	0.44	0.44	0.20	0.58		0.24	0.24		0.24	0.24	
v/c Ratio	0.67	1.08	0.23	0.94	0.36		0.51	0.94		0.36	0.12	
Control Delay	53.4	63.8	0.7	69.9	8.8		35.6	51.6		45.3	17.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.4	63.8	0.7	69.9	8.8		35.6	51.6		45.3	17.6	
LOS	D	E	A	E	A		D	D		D	B	
Approach Delay		53.1			37.0			47.5			26.8	
Approach LOS		D			D			D			C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 47 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 46.5 — Intersection LOS: D
Intersection Capacity Utilization 77.7% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.993			0.867			0.934	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1850	0	1770	1615	0	1770	1740	0
Flt Permitted	0.950			0.950			0.557			0.365		
Satd. Flow (perm)	1770	1863	1583	1770	1850	0	1038	1615	0	680	1740	0
Satd. Flow (RTOR)			83		4			286			44	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	420	70	200	420	20	160	30	240	20	90	70
Adj. Flow (vph)	24	500	83	238	500	24	190	36	286	24	107	83
Lane Group Flow (vph)	24	500	83	238	524	0	190	322	0	24	190	0
Turn Type	Prot		Perm	Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4				2			6		
Total Split (s)	9.5	37.0	37.0	23.0	50.5	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Act Effct Green (s)	5.5	28.4	28.4	16.4	45.0		35.2	35.2		35.2	35.2	
Actuated g/C Ratio	0.06	0.31	0.31	0.18	0.49		0.38	0.38		0.38	0.38	
v/c Ratio	0.23	0.87	0.15	0.75	0.58		0.48	0.41		0.09	0.27	
Control Delay	46.6	46.2	5.5	45.2	16.9		18.3	2.8		23.6	18.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	46.6	46.2	5.5	45.2	16.9		18.3	2.8		23.6	18.4	
LOS	D	D	A	D	B		B	A		C	B	
Approach Delay		40.6			25.8			8.6			19.0	
Approach LOS		D			C			A			B	

Intersection Summary

Cycle Length: 92
Actuated Cycle Length: 92
Offset: 64 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 25.2 — Intersection LOS: C
Intersection Capacity Utilization 66.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

ø2	ø4	ø3
32 s	37 s	23 s

ø6	ø7	ø8
32 s	9.5 s	50.5 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.941			0.946			0.977			0.945	0.850
Flt Protected	0.950	0.984			0.992			0.981			0.984	
Satd. Flow (prot)	1681	1639	0	0	1748	0	0	1785	0	0	1646	1504
Flt Permitted	0.950	0.984			0.992			0.981			0.984	
Satd. Flow (perm)	1681	1639	0	0	1748	0	0	1785	0	0	1646	1504
Satd. Flow (RTOR)		36			30			9			26	253
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	640	140	190	30	90	80	70	80	30	50	50	290
Adj. Flow (vph)	696	152	207	33	98	87	76	87	33	54	54	315
Lane Group Flow (vph)	526	529	0	0	218	0	0	196	0	0	170	253
Turn Type	Split			Split			Split			Split		Perm
Protected Phases	2	2		6	6		8	8		4	4	
Permitted Phases												4
Total Split (s)	36.0	36.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	20.0	20.0	20.0
Act Effct Green (s)	39.2	39.2			14.1			13.8			12.9	12.9
Actuated g/C Ratio	0.41	0.41			0.15			0.14			0.13	0.13
v/c Ratio	0.77	0.77			0.77			0.74			0.70	0.60
Control Delay	31.1	29.2			52.4			54.2			48.3	11.3
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	31.1	29.2			52.4			54.2			48.3	11.3
LOS	C	C			D			D			D	B
Approach Delay		30.2			52.4			54.2			26.2	
Approach LOS		C			D			D			C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 69 (72%), Referenced to phase 2:EBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 34.3 — Intersection LOS: C
Intersection Capacity Utilization 73.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

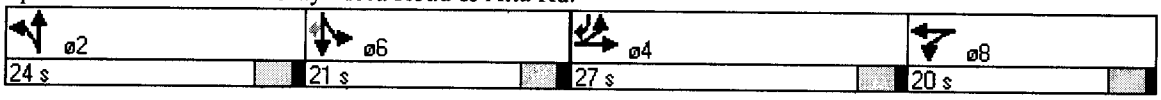
ø2	ø6	ø4	ø8
36 s	20 s	20 s	20 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.950			0.961			0.984			0.991	0.850
Flt Protected	0.950	0.977			0.991			0.967			0.982	
Satd. Flow (prot)	1681	1642	0	0	1774	0	0	1772	0	0	1722	1504
Flt Permitted	0.950	0.977			0.991			0.967			0.982	
Satd. Flow (perm)	1681	1642	0	0	1774	0	0	1772	0	0	1722	1504
Satd. Flow (RTOR)		26			20			7			3	424
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	400	50	90	30	90	50	180	50	30	50	80	410
Adj. Flow (vph)	435	54	98	33	98	54	196	54	33	54	87	446
Lane Group Flow (vph)	294	293	0	0	185	0	0	283	0	0	150	437
Turn Type	Split			Split			Split			Split		pm+ov
Protected Phases	4	4		8	8		2	2		6	6	4
Permitted Phases												6
Total Split (s)	27.0	27.0	0.0	20.0	20.0	0.0	24.0	24.0	0.0	21.0	21.0	27.0
Act Effct Green (s)	22.0	22.0			13.0			17.8			23.3	49.3
Actuated g/C Ratio	0.24	0.24			0.14			0.19			0.25	0.54
v/c Ratio	0.73	0.71			0.69			0.81			0.34	0.44
Control Delay	27.6	23.4			46.9			53.3			32.7	1.8
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	27.6	23.4			46.9			53.3			32.7	1.8
LOS	C	C			D			D			C	A
Approach Delay		25.5			46.9			53.3			9.7	
Approach LOS		C			D			D			A	

Intersection Summary

Cycle Length: 92
Actuated Cycle Length: 92
Offset: 29 (32%), Referenced to phase 6:SBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 27.1 — Intersection LOS: C
Intersection Capacity Utilization 67.7% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd.

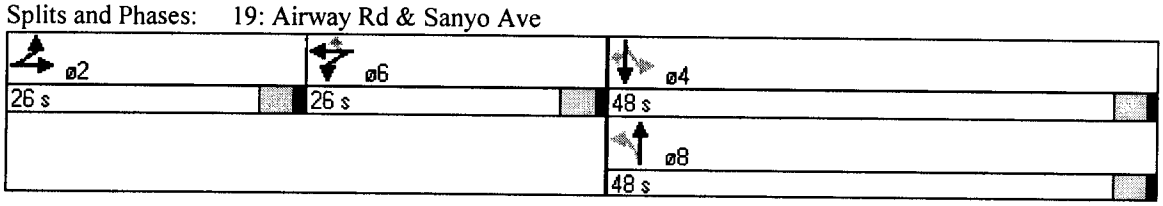


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978				0.850		0.981				0.850
Flt Protected		0.996		0.950			0.950				0.982	
Satd. Flow (prot)	0	1814	0	1770	1863	1583	1770	1827	0	0	1829	1583
Flt Permitted		0.996		0.950			0.175				0.842	
Satd. Flow (perm)	0	1814	0	1770	1863	1583	326	1827	0	0	1568	1583
Satd. Flow (RTOR)		9				385		9				154
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	180	40	20	400	350	40	70	10	210	360	140
Adj. Flow (vph)	22	198	44	22	440	385	44	77	11	231	396	154
Lane Group Flow (vph)	0	264	0	22	440	385	44	88	0	0	627	154
Turn Type	Split			Split		Perm	Perm			Perm		Perm
Protected Phases	2	2		6	6			8			4	
Permitted Phases						6	8			4		4
Total Split (s)	26.0	26.0	0.0	26.0	26.0	26.0	48.0	48.0	0.0	48.0	48.0	48.0
Act Effct Green (s)		18.2		28.0	28.0	28.0	41.8	41.8			41.8	41.8
Actuated g/C Ratio		0.18		0.28	0.28	0.28	0.42	0.42			0.42	0.42
v/c Ratio		0.78		0.04	0.84	0.53	0.32	0.11			0.96	0.20
Control Delay		53.8		20.4	40.2	5.5	26.4	15.4			54.7	3.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		53.8		20.4	40.2	5.5	26.4	15.4			54.7	3.5
LOS		D		C	D	A	C	B			D	A
Approach Delay		53.8			23.9			19.1			44.6	
Approach LOS		D			C			B			D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 78 (78%), Referenced to phase 6:WBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 35.5 — Intersection LOS: D
Intersection Capacity Utilization 72.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 19: Airway Rd & Sanyo Ave

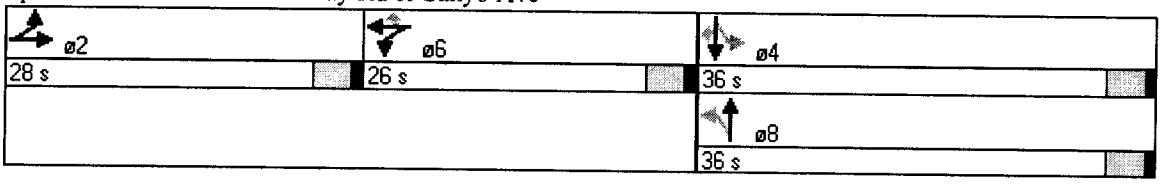


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.994				0.850
Flt Protected		0.986			0.997		0.950				0.983	
Satd. Flow (prot)	0	1822	0	0	1857	1583	1770	1852	0	0	1831	1583
Flt Permitted		0.986			0.997		0.403				0.689	
Satd. Flow (perm)	0	1822	0	0	1857	1583	751	1852	0	0	1283	1583
Satd. Flow (RTOR)		3				512		3				91
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	100	230	20	20	370	470	50	230	10	100	190	80
Adj. Flow (vph)	114	261	23	23	420	534	57	261	11	114	216	91
Lane Group Flow (vph)	0	398	0	0	443	534	57	272	0	0	330	91
Turn Type	Split			Split		Perm	Perm			Perm		Perm
Protected Phases	2	2		6	6			8			4	
Permitted Phases						6	8			4		4
Total Split (s)	28.0	28.0	0.0	26.0	26.0	26.0	36.0	36.0	0.0	36.0	36.0	36.0
Act Effct Green (s)		22.5			29.0	29.0	26.5	26.5			26.5	26.5
Actuated g/C Ratio		0.25			0.32	0.32	0.29	0.29			0.29	0.29
v/c Ratio		0.87			0.74	0.62	0.26	0.50			0.87	0.17
Control Delay		52.5			24.9	5.8	25.2	28.2			53.1	5.4
Queue Delay		0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Delay		52.5			24.9	5.8	25.2	28.2			53.1	5.4
LOS		D			C	A	C	C			D	A
Approach Delay		52.5			14.5			27.7			42.8	
Approach LOS		D			B			C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 10 (11%), Referenced to phase 6:WBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 29.2 — Intersection LOS: C
Intersection Capacity Utilization 81.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 19: Airway Rd & Sanyo Ave

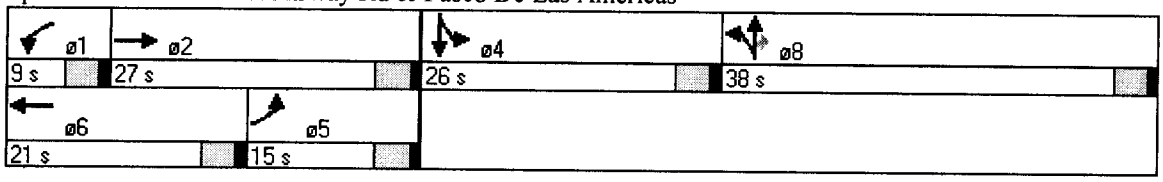


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.994				0.850		0.905	
Flt Protected	0.950			0.950				0.961			0.998	
Satd. Flow (prot)	1770	3398	0	1770	3518	0	0	1790	1583	0	1682	0
Flt Permitted	0.950			0.950				0.961			0.998	
Satd. Flow (perm)	1770	3398	0	1770	3518	0	0	1790	1583	0	1682	0
Satd. Flow (RTOR)		48			3				33		109	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	90	220	80	20	260	10	320	70	30	10	70	190
Adj. Flow (vph)	100	244	89	22	289	11	356	78	33	11	78	211
Lane Group Flow (vph)	100	333	0	22	300	0	0	434	33	0	300	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Total Split (s)	15.0	27.0	0.0	9.0	21.0	0.0	38.0	38.0	38.0	26.0	26.0	0.0
Act Effct Green (s)	10.1	39.9		6.0	32.0			27.7	27.7		16.3	
Actuated g/C Ratio	0.10	0.40		0.06	0.32			0.28	0.28		0.16	
v/c Ratio	0.56	0.24		0.21	0.27			0.88	0.07		0.82	
Control Delay	44.9	19.1		49.6	30.3			53.2	8.3		43.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	44.9	19.1		49.6	30.3			53.2	8.3		43.2	
LOS	D	B		D	C			D	A		D	
Approach Delay		25.0			31.6			50.0			43.2	
Approach LOS		C			C			D			D	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 37.7 — Intersection LOS: D
Intersection Capacity Utilization 63.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 20: Airway Rd & Paseo De Las Americas

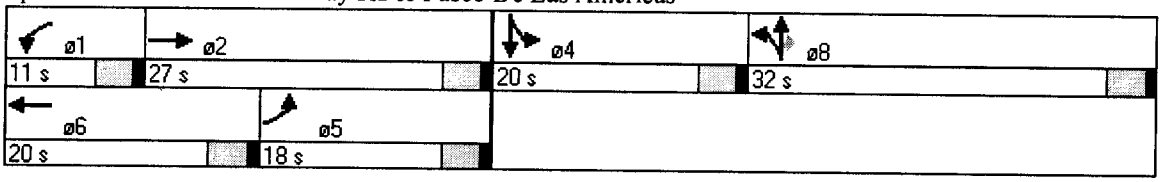


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.992				0.850		0.932	
Flt Protected	0.950			0.950				0.960			0.997	
Satd. Flow (prot)	1770	3380	0	1770	3511	0	0	1788	1583	0	1731	0
Flt Permitted	0.950			0.950				0.960			0.997	
Satd. Flow (perm)	1770	3380	0	1770	3511	0	0	1788	1583	0	1731	0
Satd. Flow (RTOR)		73			6				34		49	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	110	160	70	60	340	20	430	80	30	10	70	80
Adj. Flow (vph)	126	184	80	69	391	23	494	92	34	11	80	92
Lane Group Flow (vph)	126	264	0	69	414	0	0	586	34	0	183	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Total Split (s)	18.0	27.0	0.0	11.0	20.0	0.0	32.0	32.0	32.0	20.0	20.0	0.0
Act Effct Green (s)	12.6	25.2		6.7	19.6			32.2	32.2		11.8	
Actuated g/C Ratio	0.14	0.28		0.07	0.22			0.36	0.36		0.13	
v/c Ratio	0.51	0.26		0.52	0.54			0.92	0.06		0.68	
Control Delay	35.6	18.3		54.6	35.4			50.8	8.0		39.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	35.6	18.3		54.6	35.4			50.8	8.0		39.3	
LOS	D	B		D	D			D	A		D	
Approach Delay		23.9			38.1			48.5			39.3	
Approach LOS		C			D			D			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 38.8 — Intersection LOS: D
Intersection Capacity Utilization 66.6% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 20: Airway Rd & Paseo De Las Americas

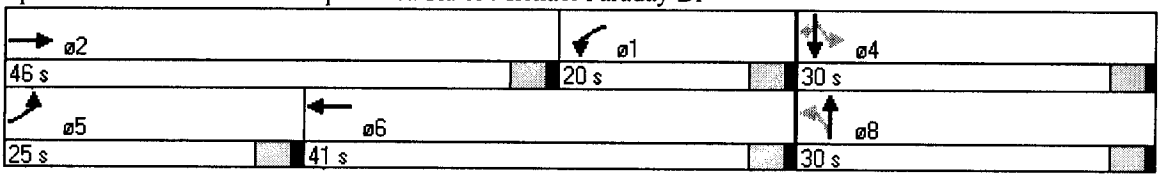


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.990			0.985				0.850
Flt Protected	0.950			0.950				0.968			0.964	
Satd. Flow (prot)	1770	3525	0	1770	3504	0	0	1776	0	0	1796	1583
Flt Permitted	0.950			0.950				0.793			0.786	
Satd. Flow (perm)	1770	3525	0	1770	3504	0	0	1455	0	0	1464	1583
Satd. Flow (RTOR)		4			9			7				63
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	60	690	20	30	410	30	60	20	10	30	10	50
Adj. Flow (vph)	76	873	25	38	519	38	76	25	13	38	13	63
Lane Group Flow (vph)	76	898	0	38	557	0	0	114	0	0	51	63
Turn Type	Prot			Prot			Perm			Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Total Split (s)	25.0	46.0	0.0	20.0	41.0	0.0	30.0	30.0	0.0	30.0	30.0	30.0
Act Effct Green (s)	8.8	64.7		12.0	65.9			11.3			11.3	11.3
Actuated g/C Ratio	0.09	0.67		0.12	0.69			0.12			0.12	0.12
v/c Ratio	0.47	0.38		0.17	0.23			0.64			0.29	0.26
Control Delay	40.4	7.5		23.8	2.3			54.0			42.4	14.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	40.4	7.5		23.8	2.3			54.0			42.4	14.0
LOS	D	A		C	A			D			D	B
Approach Delay		10.1			3.6			54.0			26.7	
Approach LOS		B			A			D			C	

Intersection Summary

Cycle Length: 96
Actuated Cycle Length: 96
Offset: 78 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 11.8 — Intersection LOS: B
Intersection Capacity Utilization 44.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 33: Siempre Viva Rd & Michael Faraday Dr

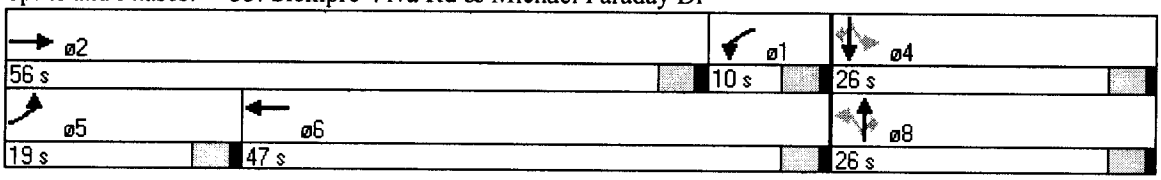


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.973			0.997			0.993	0.850			0.850
Flt Protected	0.950			0.950				0.961			0.971	
Satd. Flow (prot)	1770	3444	0	1770	3529	0	0	1689	1504	0	1809	1583
Flt Permitted	0.950			0.950				0.727			0.796	
Satd. Flow (perm)	1770	3444	0	1770	3529	0	0	1277	1504	0	1483	1583
Satd. Flow (RTOR)		46			3			2	307			151
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	120	280	60	20	1010	20	110	20	270	30	20	130
Adj. Flow (vph)	140	326	70	23	1174	23	128	23	314	35	23	151
Lane Group Flow (vph)	140	396	0	23	1197	0	0	158	307	0	58	151
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Total Split (s)	19.0	56.0	0.0	10.0	47.0	0.0	26.0	26.0	26.0	26.0	26.0	26.0
Act Effct Green (s)	11.9	64.5		5.9	52.6			15.5	15.5		15.5	15.5
Actuated g/C Ratio	0.13	0.70		0.06	0.57			0.17	0.17		0.17	0.17
v/c Ratio	0.61	0.16		0.20	0.59			0.73	0.60		0.23	0.39
Control Delay	41.9	2.5		43.7	16.0			54.2	9.3		30.5	7.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	41.9	2.5		43.7	16.0			54.2	9.3		30.5	7.0
LOS	D	A		D	B			D	A		C	A
Approach Delay		12.8			16.6			24.5			13.5	
Approach LOS		B			B			C			B	

Intersection Summary

Cycle Length: 92
Actuated Cycle Length: 92
Offset: 19 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 17.0 — Intersection LOS: B
Intersection Capacity Utilization 64.5% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 33: Siempre Viva Rd & Michael Faraday Dr



APPENDIX L

- Caltrans Striping Concepts for Otay Mesa Rd btwn Piper Ranch and Harvest
- Proposed Improvements for Otay Mesa Road btwn Sanyo and Enrico Fermi
- Caltrans Striping Concept for La Media Road btwn Otay Mesa and Airway
- Caltrans Striping Concepts for Airway Road btwn Harvest and Sanyo
- Caltrans Striping Concept for Britannia Blvd btwn Otay Mesa and Airway

Caltrans Striping Concepts for Otay Mesa Rd btwn Piper Ranch and Harvest

NOTES:

1. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
2. ALL CROSSWALKS SHALL BE 3 METERS WIDE, INSIDE WIDTH.
3. ALL CHEVRON AND DIAGONAL MARKINGS SHALL BE CONSTRUCTED AT A 45 DEGREE ANGLE FROM THE ETW.
4. EXACT LOCATION OF MARKINGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
5. FOR DETAIL 25 Mod, 25A Mod AND DETAIL 27B Mod, SEE SHEET PDD-1.
6. ALL CONCRETE BARRIERS SHALL BE INSTALLED WITH BARRIER MARKERS (SEE SHEET PDD-1).
7. ALL GUARD RAILING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF THREE FLEXIBLE GUARD RAILING DELINEATORS (TYPE F) (SEE CONSTRUCTION DETAIL SHEET C-57).

LEGEND:

- • OBJECT MARKER, TYPE Q
- ⊥F TYPE F DELINEATOR, CLASS 1
- ⊥F* MODIFIED DELINEATOR TO BE MOUNTED ON CONCRETE BARRIER OR WALL. (F* DENOTES REFLECTIVE COLOR OF MODIFIED DELINEATOR ONLY). SEE STANDARD PLANS.
- CHANGE OF PAVEMENT DELINEATION DETAILS
- (X) DETAIL NUMBER PER CALTRANS STANDARD PLANS
- (P) PAINT TRAFFIC STRIPE
- BL→ BIKE LANE PAVEMENT MARKING

Caltrans Metric

REGISTERED CIVIL ENGINEER 08SEP06 DATE

Ronald R. Fromknecht No. 45704 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

PLANS APPROVAL DATE

California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

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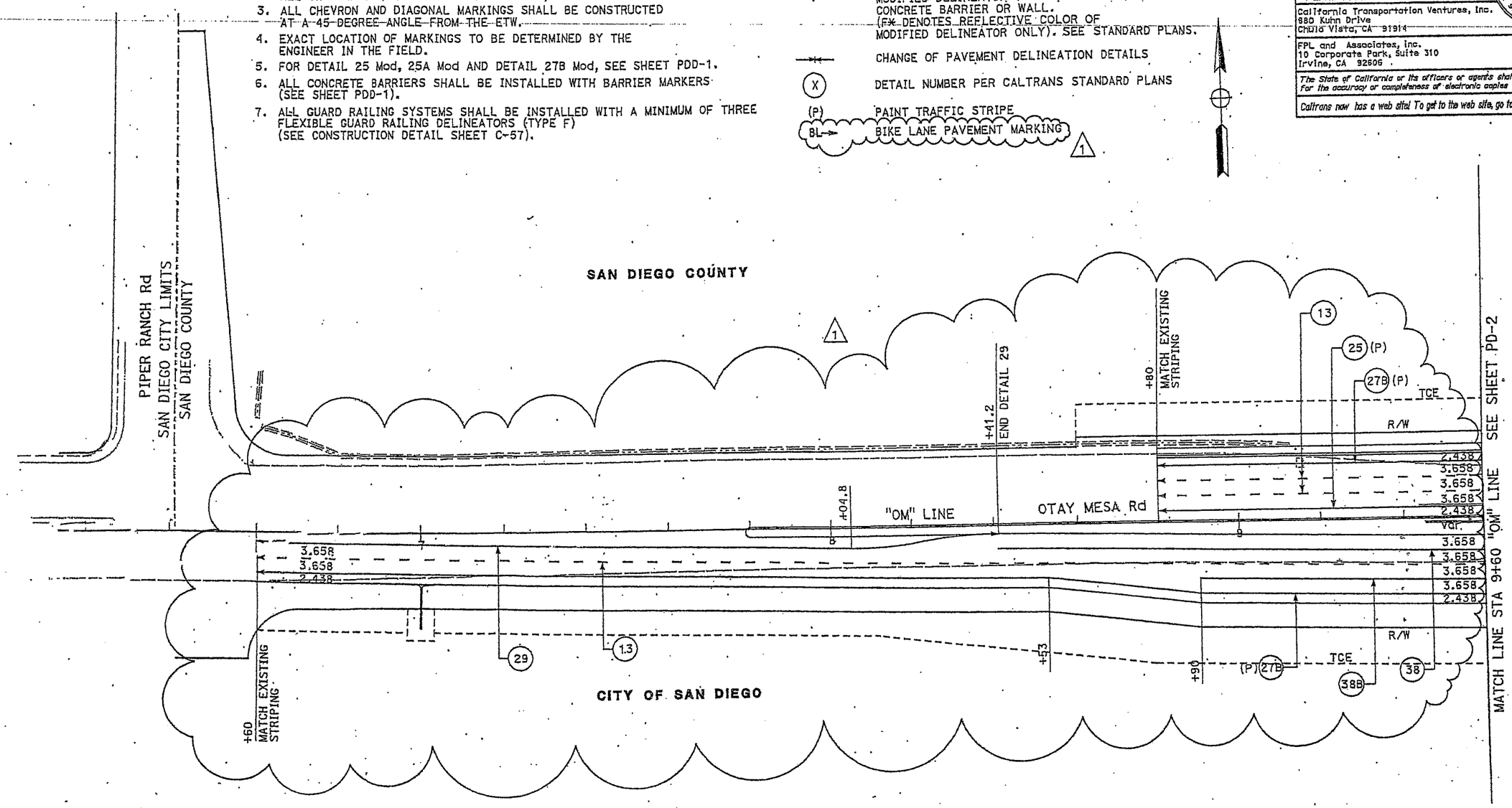

PAVEMENT DELINEATION PLAN

SCALE 1:500

L-2 PD-1

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

FOR REDUCED PLANS ORIGINAL 0 20 40 60 80.

ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONSTRUCTION	09SEP05
1	RFR C-044	XXXXXX06

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN OVERSIGHT: RAMON MARTINEZ

CALCULATED/DESIGNED BY | CHECKED BY | DATE | REVISED BY | DATE REVISED

LAST REVISION 09-08-06 | DATE PLOTTED => 9/12/2006 | TIME PLOTTED => 10:42:48 AM

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USERNAME => Eddie Tang

SEGMENT 1A

11	SD	125	2.7/8.2	

Ronald R Fromknecht 08SEP06
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER Ronald R. Fromknecht No. 45704 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

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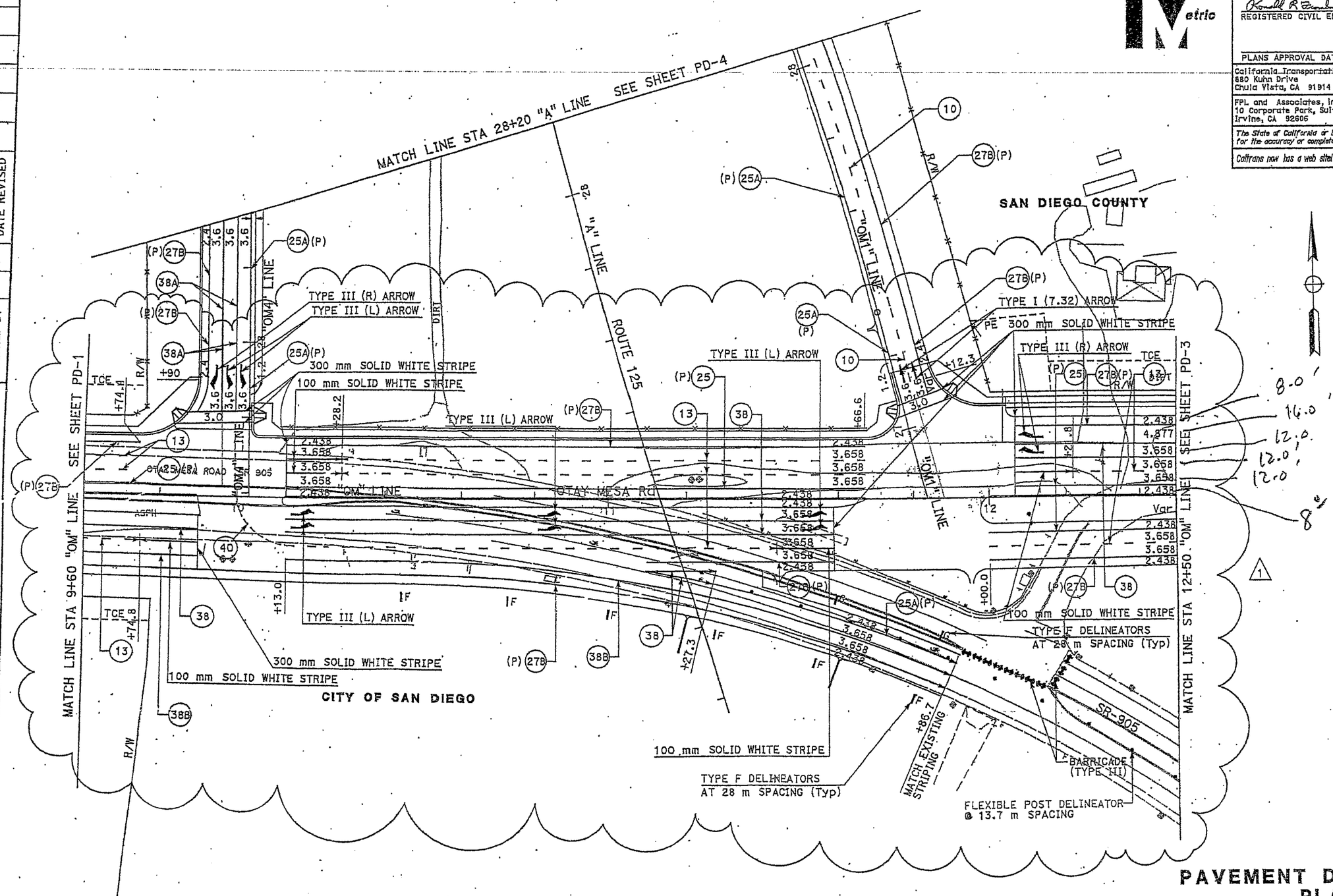
Caltrans Metric



PAVEMENT DELINEATION PLAN

SCALE 1:500

L-3
PD-2

ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONSTRUCTION	09SEP05
1	RFR C-044	XXXXXX06

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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LAST REVISION 09-08-06 | DATE PLOTTED => 9/12/2006 | TIME PLOTTED => 10:56:26 AM

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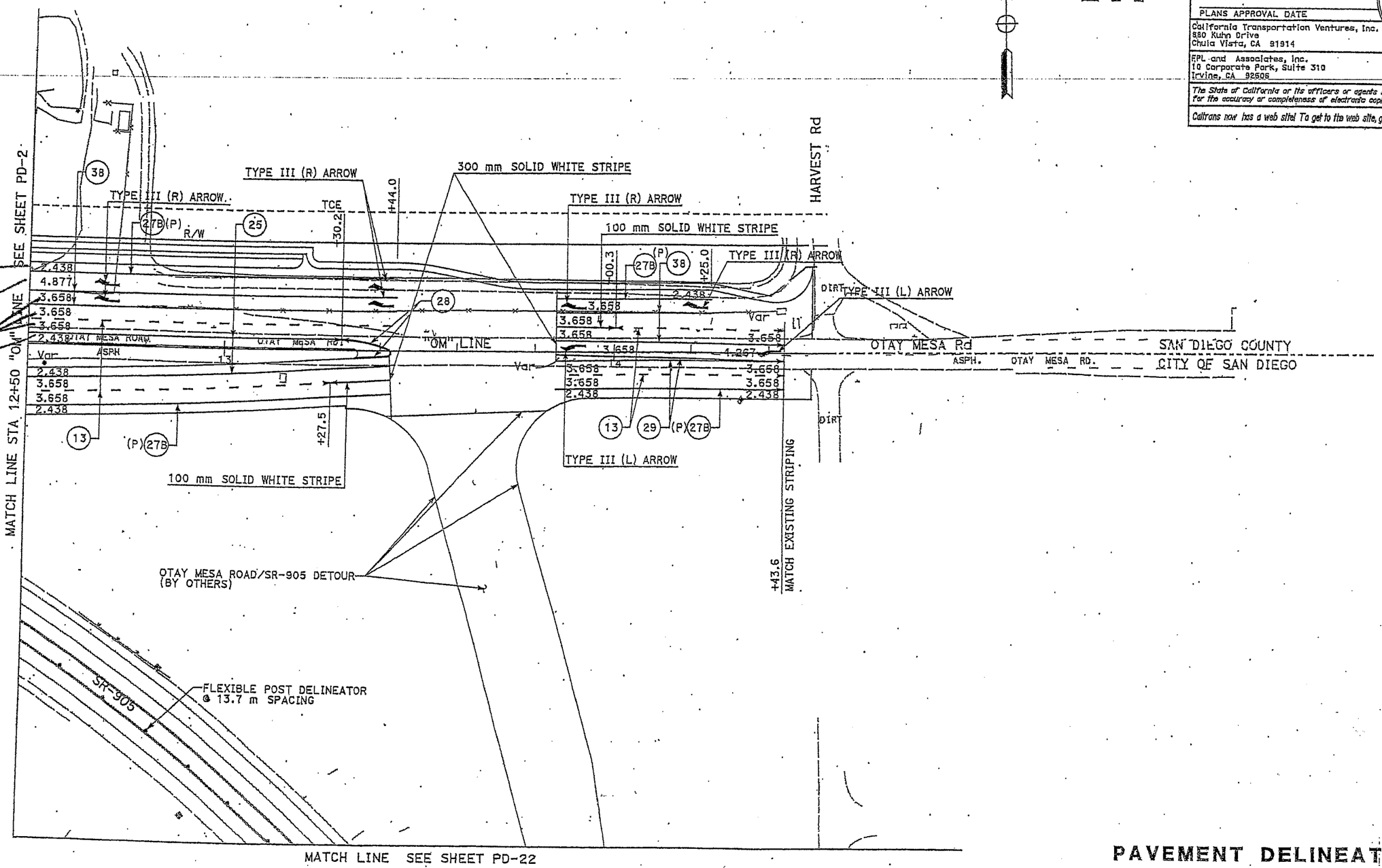

PLANS APPROVAL DATE

Ronald R. Fromknecht
No. 45704
Exp. 12-31-06
CIVIL
STATE OF CALIFORNIA

California Transportation Ventures, Inc.
880 Kuhn Drive
Chula Vista, CA 91914

FPL and Associates, Inc.
10 Corporate Park, Suite 310
Irvine, CA 92606

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DESIGN OVERSIGHT

RAMON MARTINEZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

ISSUE RECORD		
No.	PURPOSE	DATE
0	RELEASED FOR CONST. (RFR C-044)	XXXXXX06

PAVEMENT DELINEATION PLAN

SCALE 1:500

L-4

PD-3

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USERNAME => Eddie Tang
DGN FILE => ...\tanq03.dgn

CU 11274

EA 232301

SEGMENT 1A

LAST REVISION 09-08-06

DATE PLOTTED => 9/12/2006
TIME PLOTTED => 10:14:12 AM

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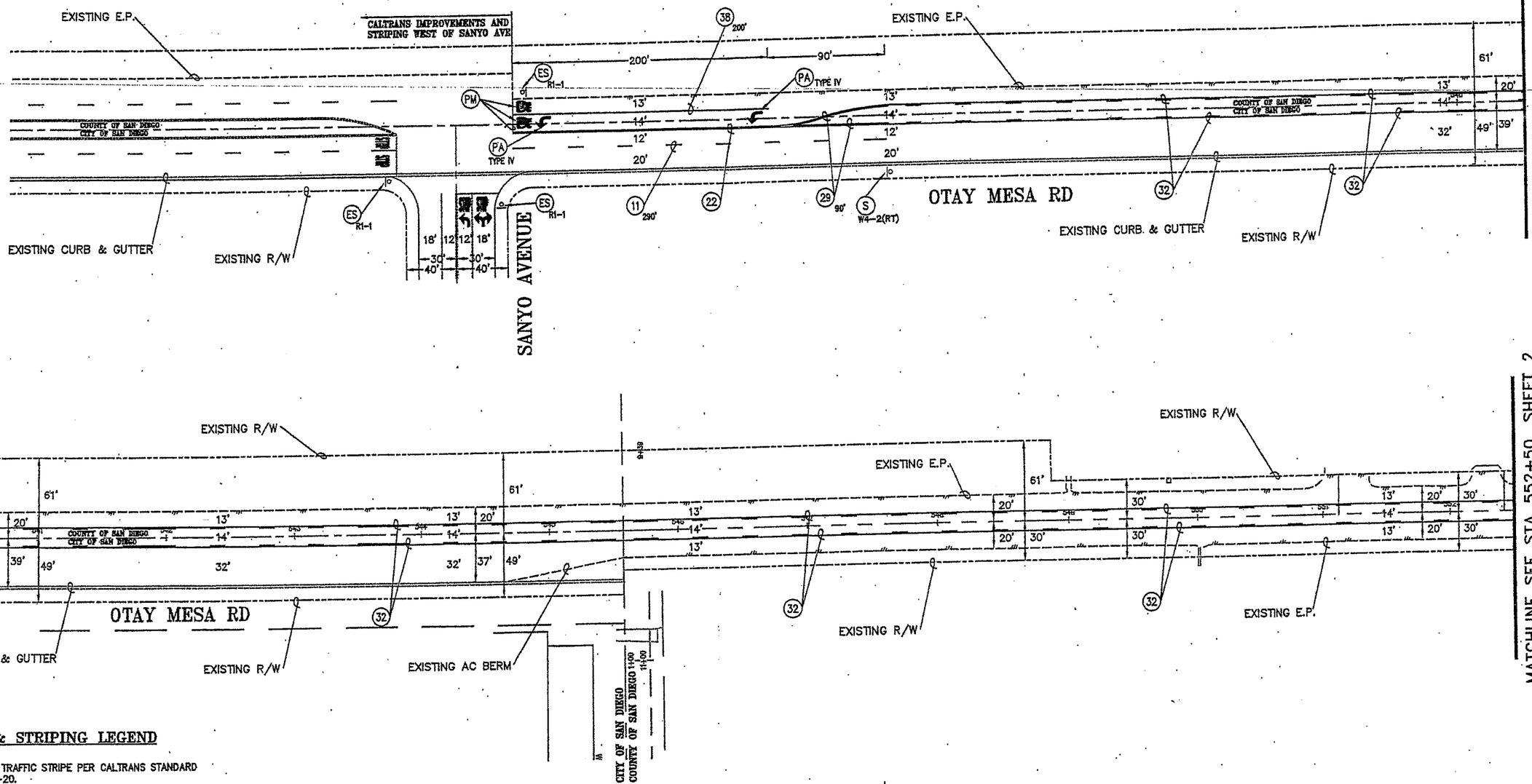
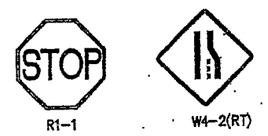
Proposed Improvements for Otay Mesa Road btwn Sanyo and Enrico Fermi



SIGNING & STRIPING LEGEND

- (N) = INSTALL TRAFFIC STRIPE PER CALTRANS STANDARD PLAN A-20.
  - N — REPRESENTS DETAIL NUMBER. (PER CALTRANS STD. PLAN A-20)
- (ES) = EXISTING SIGN SEE CALIFORNIA MUTCD
  - XX — REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (S) = INSTALL SIGN PER CALIFORNIA MUTCD
  - XX — REPRESENTS SIGN. (PER CALTRANS MUTCD)
- (PA) = INSTALL TYPE IV (LT OR RT) ARROW PER CALTRANS STANDARD PLAN A24A.
- (PM) = PAINT STOP LEGEND AND 12" WHITE LIMIT LINE.
- (11) = INSTALL 4" WHITE SKIP LINE, PER DETAIL 11 OF CALTRANS STANDARD PLAN.
- (22) = INSTALL DOUBLE YELLOW CENTERLINE WITH PAVEMENT MARKERS PER DETAIL 22 OF CALTRANS STANDARD PLAN.
- (29) = INSTALL DOUBLE YELLOW MEDIAN WITH PAVEMENT MARKERS PER DETAIL 29 OF CALTRANS STANDARD PLAN.
- (32) = INSTALL TWO WAY LEFT TURN LANE PER DETAIL 32 OF CALTRANS STANDARD PLAN.
- (38) = INSTALL CHANNELIZING LANE WITH PAVEMENT MARKERS PER DETAIL 38 CALTRANS STANDARD PLAN.

SIGNS LEGEND



SCALE: 1" = 40'

0 40 80

PLANS PREPARED UNDER THE SUPERVISION OF:

BILL E. DARNELL R.C.E. No. 22338 DATE
DESIGN ENGINEER LICENSE EXPIRES 9-30-09

Darnell & ASSOCIATES, INC.
1446 FRONT STREET, THIRD FLOOR
SAN DIEGO, CA 92101
(619) 233-9373

DWG:051202CP-1A.dwg DATE: 02-06-09 BY: SN/AM/SN

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK
DESCRIPTION: X
LOCATION: X
X
RECORD FROM: X
ELEVATION: X DATUM: X

PRIVATE CONTRACT

SHEET 1	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	2 SHEETS

CHANNELIZATION CONCEPT

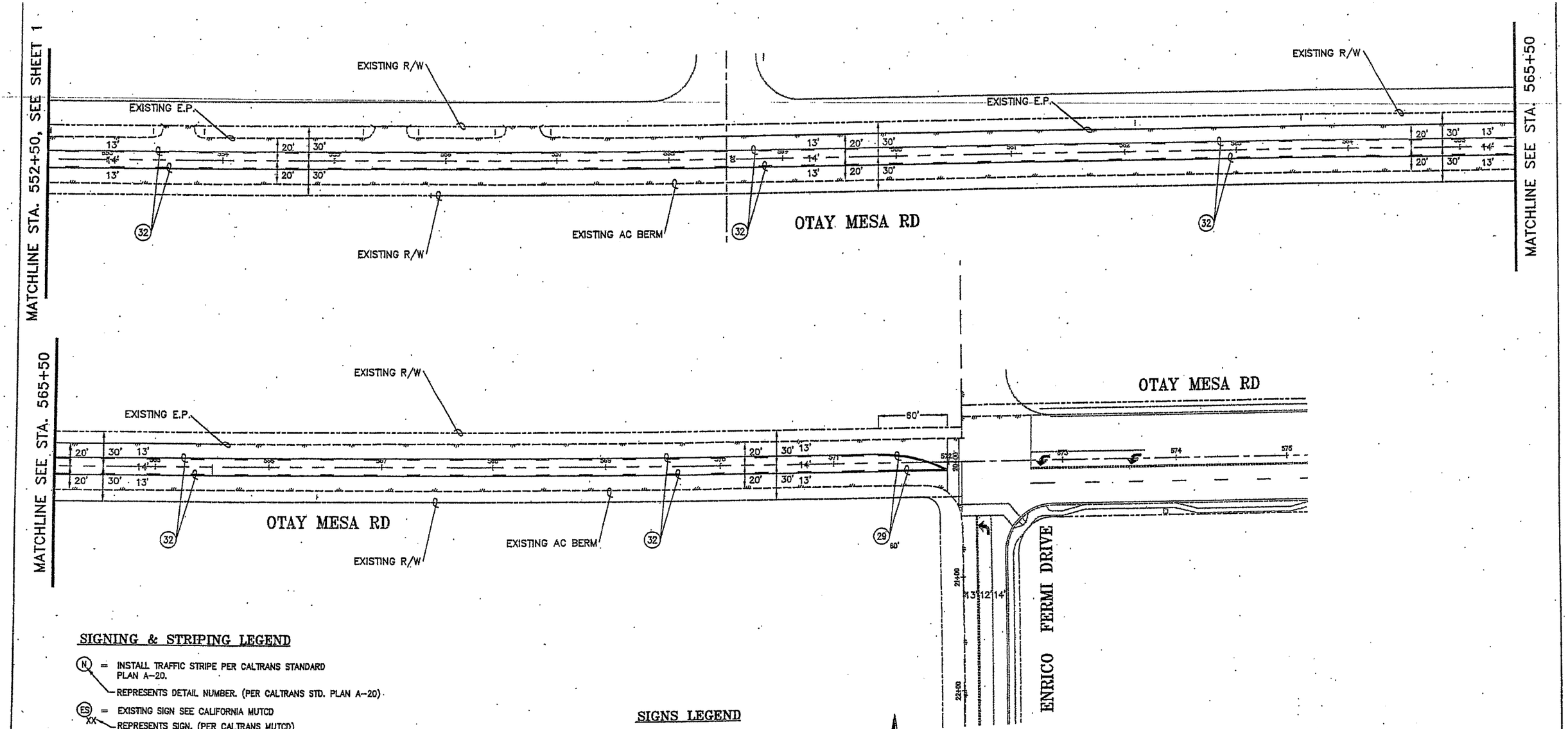
SANYO AVE TO ENRICO FERMI DRIVE

CALIFORNIA COORDIANTE INDEX 206-1791

Recommended for approval: | Approved: FOR DIRECTOR OF PUBLIC WORKS

Engineer of work: By: Date: R.C.E. | Checked by: Approved date:

L-6



SIGNING & STRIPING LEGEND

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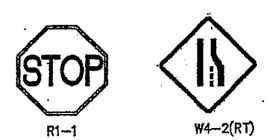
SIGNS LEGEND



SCALE: 1" = 40'

0 40 80

PLANS PREPARED UNDER THE SUPERVISION OF:

BILL E. DARNELL R.C.E. No. 22338 DATE
DESIGN ENGINEER LICENSE EXPIRES 9-30-09

Darnell & ASSOCIATES, INC.
1446 FRONT STREET, THIRD FLOOR
SAN DIEGO, CA 92101
(619) 233-9373

DWG:051202CP-1A.dwg | DATE 02-06-09 BY:SN/JM/SN

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: X
LOCATION: X
RECORD FROM: X
ELEVATION: X DATUM: X

PRIVATE CONTRACT

SHEET 2	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	2 SHEETS

CHANNELIZATION CONCEPT

SANYO AVE TO ENRICO FERMI DRIVE

CALIFORNIA COORDIANTE INDEX 206-1791

Recommended for approval: | Approved: FOR DIRECTOR OF PUBLIC WORKS

Engineer of work By Date R.C.E. | Checked by: | Approval date:

L-7

Caltrans Striping Concept for La Media Road btwn Otay Mesa and Airway

ST. ANDREWS Ave
"LM02" LINE
"LM03" LINE
"LM04" LINE
"E4" LINE
LA MEDIA RD
300 mm WHITE CROSSWALK
300 mm WHITE LIMIT LINE
200 mm WHITE CROSSHATCH
TYPE I ARROW (7.32)
TYPE IV ARROW (L) (4 EA)
TYPE IV ARROW (R) (3 EA)
"BIKE LANE" PACKAGE (3 EA)
TYPE IV ARROW (R) (2 EA)
TYPE IV ARROW (L) (2 EA)
TYPE VII ARROW (R) (2 EA)
"DIAMOND"
"DIAMOND" (3 EA)
TYPE I (7.32) ARROW (2 EA)

L-9

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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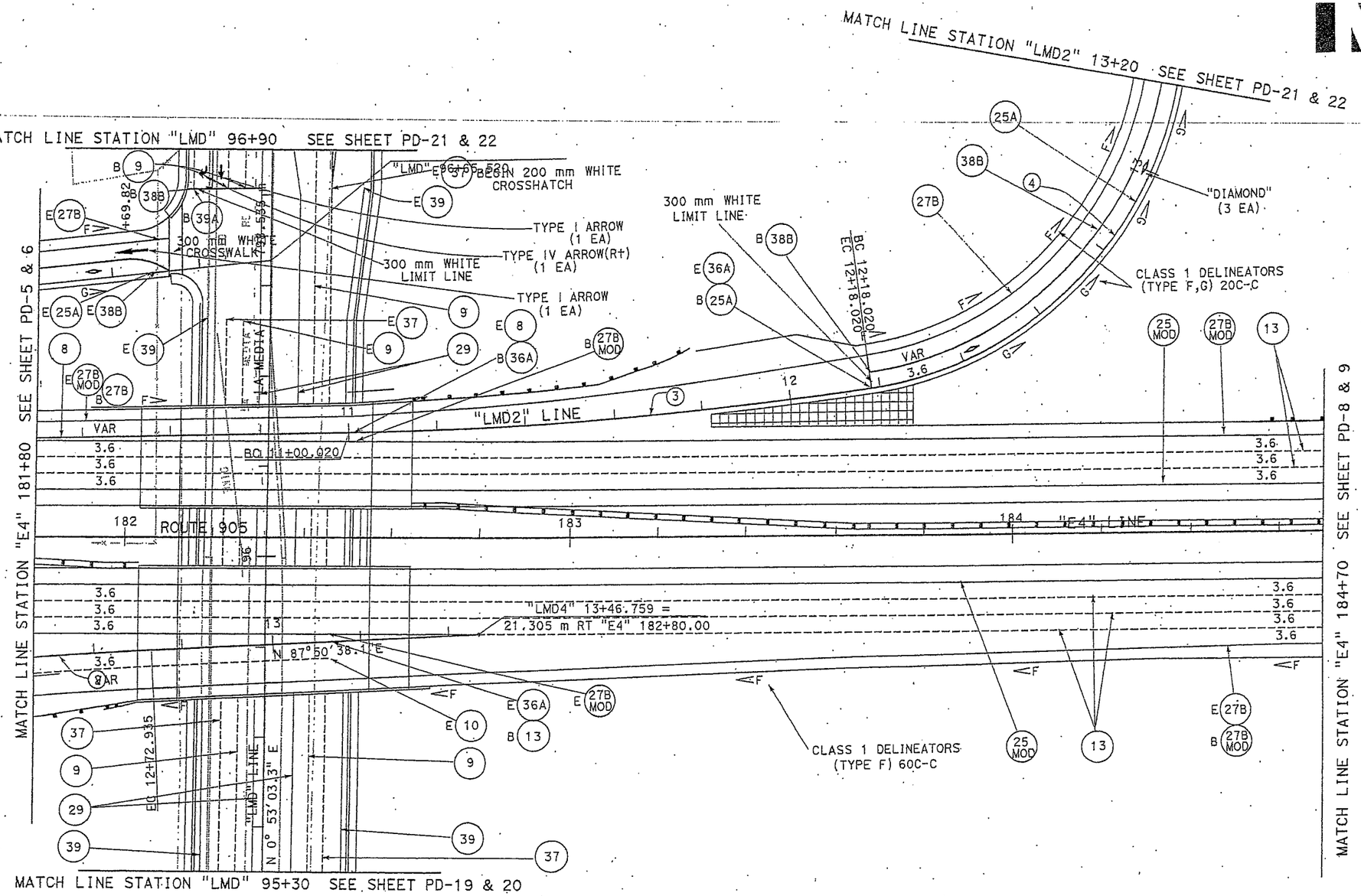

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ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.

SCALE 1:500

PAVEMENT DELINEATION AND SIGN PLAN

PD- 7

REVISED BY	DATE REVISED

CALCULATED/DESIGNED BY	MBH	DATE
CHECKED BY		

PROJECT ENGINEER J.P. SIMS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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LAST REVISION 02-09-06 | OTTED => 17-SEP-2007 | LOTTED => 13:42

CU 11227 | EA 091821

L-10

REGISTERED CIVIL ENGINEER DATE
PHASE 2 PLAN
9-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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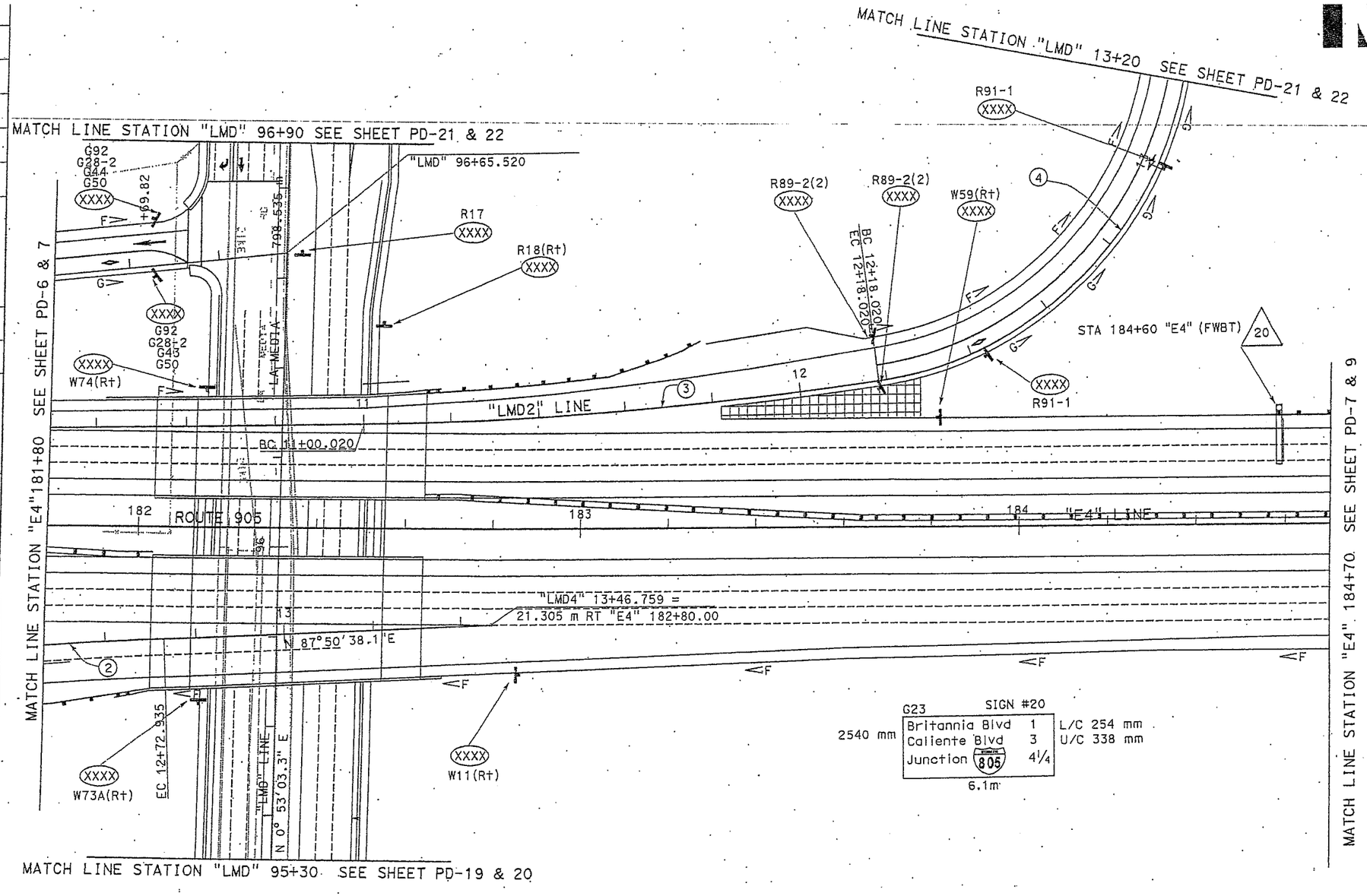

PAVEMENT DELINEATION AND SIGN PLAN

PD- 8

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SCALE 1:500

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DGN FILE => b09182na008.dgn

CU 11227 | EA 091821

LAST REVISION 02-09-06 | DATE PLOTTED => 17-SEP-2007 | TIME PLOTTED => 13:42

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Caltrans
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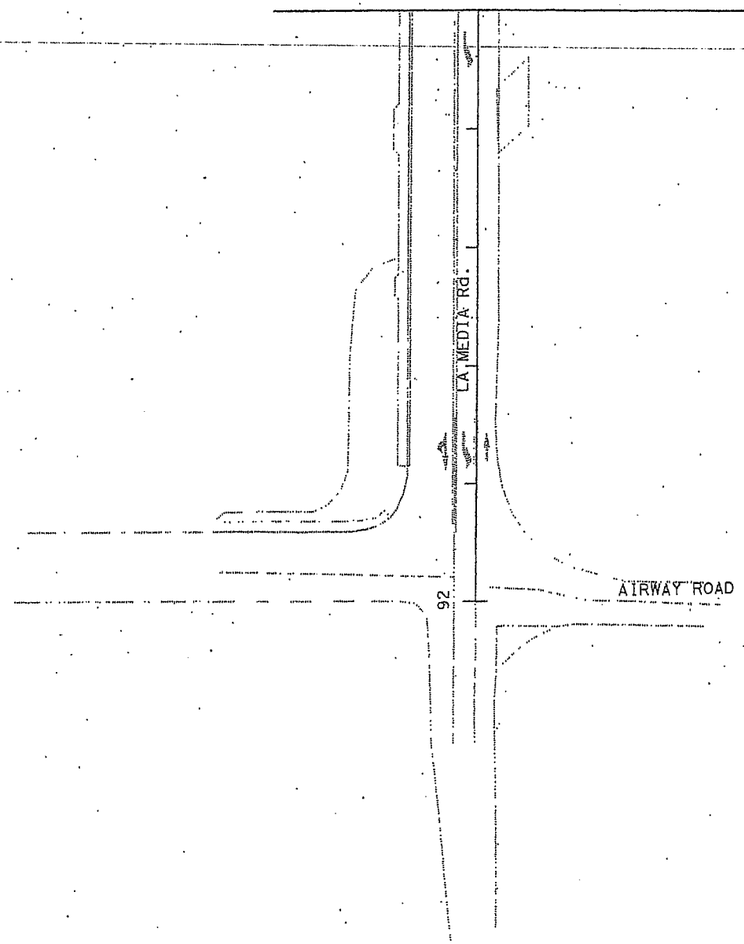
PROJECT ENGINEER J.P. SIMS

CALCULATED/DESIGNED BY | MBH | DATE | REVISED BY
CHECKED BY | | | DATE REVISED

L-11

MATCH LINE STATION "LMD" 93+00 SEE SHEET PD-19 & 20



REGISTERED CIVIL ENGINEER DATE
PHASE 2 PLAN
9-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
J.P. SIMS
No. 49715
Exp. 9-30-08
CIVIL
STATE OF CALIFORNIA

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CALCULATED/ DESIGNED BY	MBH
CHECKED BY	
DATE REVISED BY	
DATE REVISED	

PROJECT ENGINEER
J.P. SIMS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION AND SIGNS ONLY.

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FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trpierce
DGN FILE => b09182na018.dgn

PAVEMENT DELINEATION AND SIGN PLAN

SCALE 1:500

PD-18

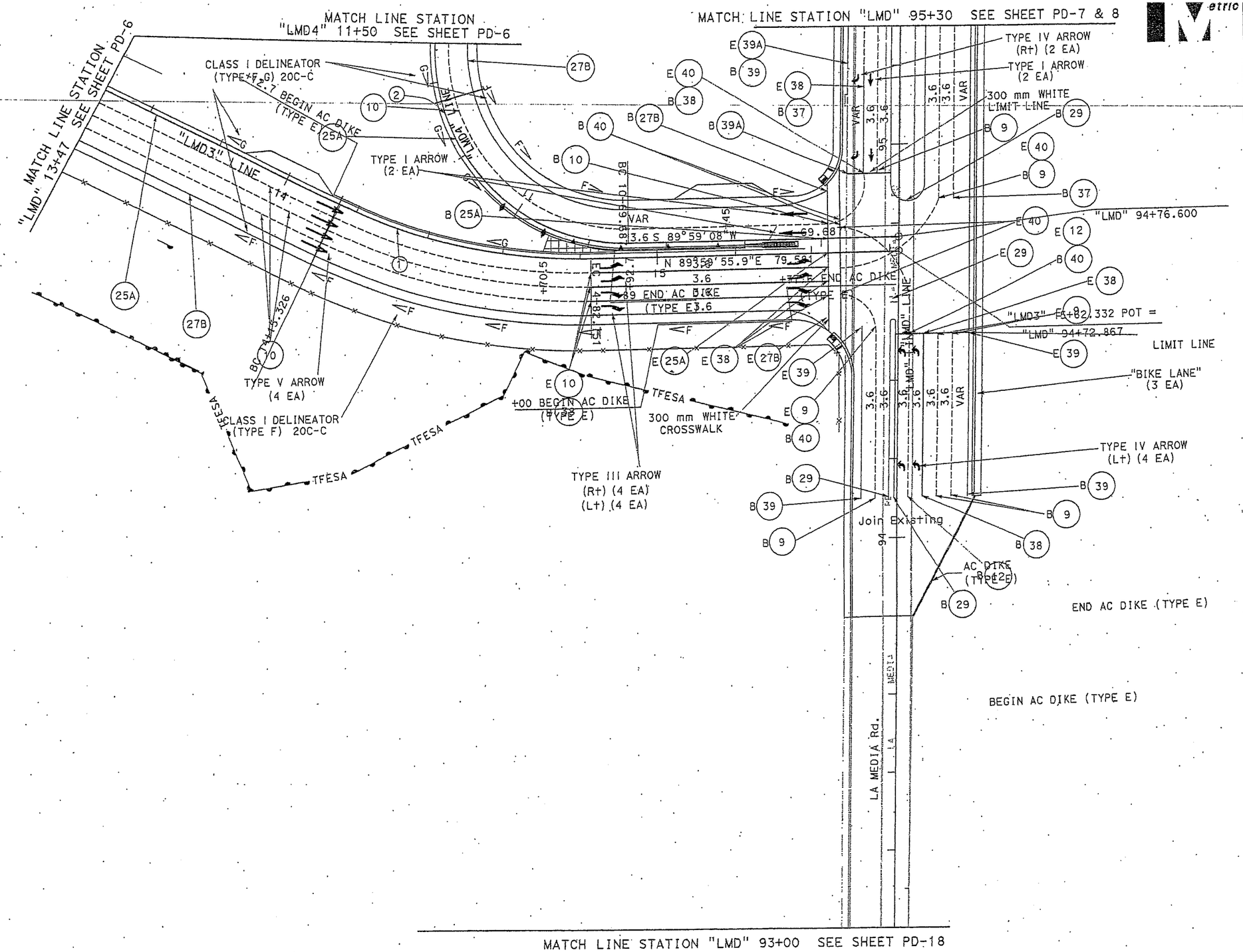
CU 11227

EA 091821

LAST REVISION 02-09-06

DATE PLOTTED => 17-SEP-2007
TIME PLOTTED => 13:44

L-12



REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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MBH		

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PROJECT ENGINEER **J.P. SIMS**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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PAVEMENT DELINEATION AND SIGN PLAN

PD-19

SCALE 1:500

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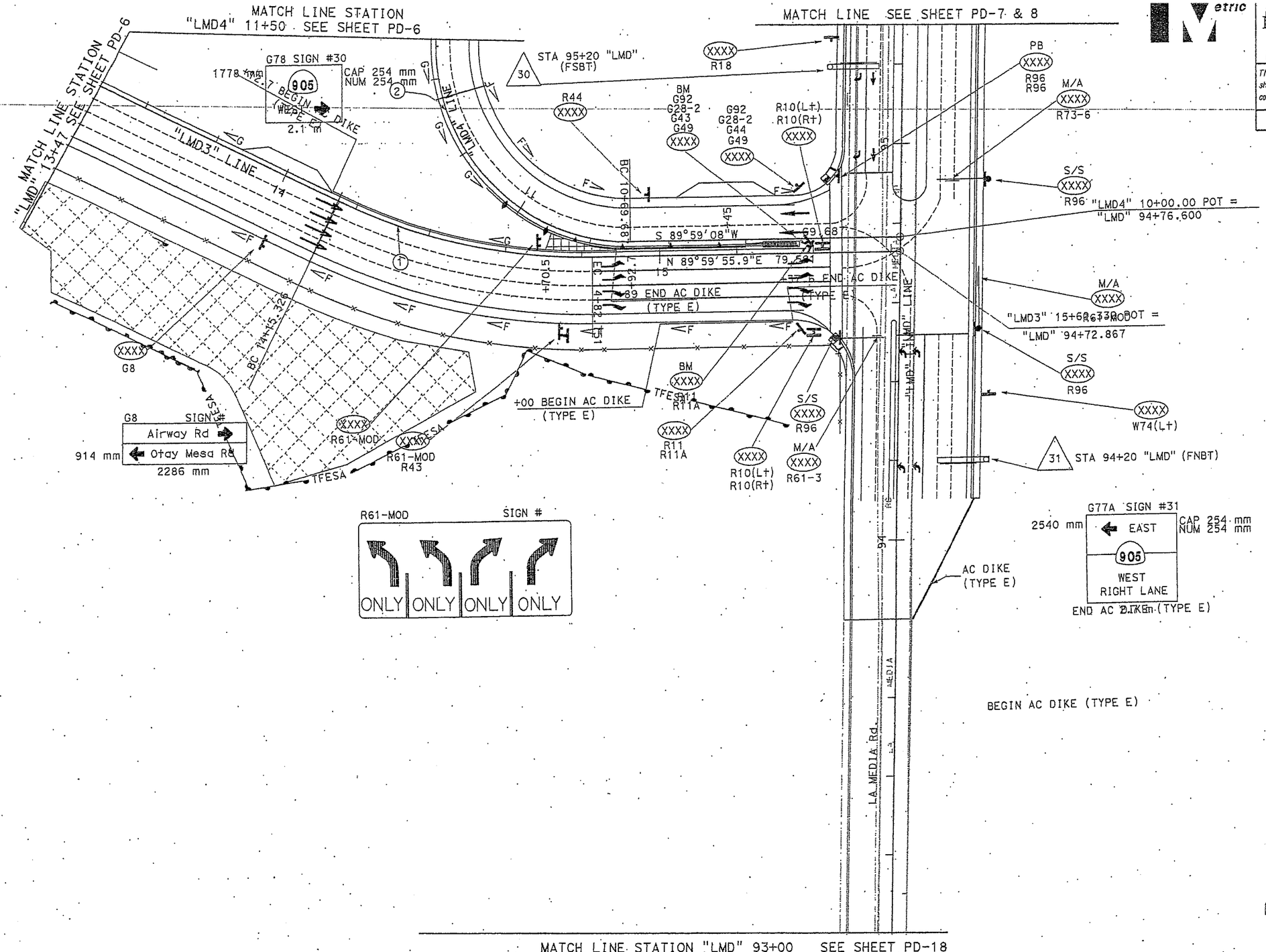
CU 11227 | EA 091821

LAST REVISION 02-09-06
PLOTTED => 17-SEP-2007
PLOTTED => 13:34

L-13



REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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PAVEMENT DELINEATION AND SIGN PLAN

PD- 20

SCALE 1:500

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DGN FILE => b09182ma020.dgn

CU 11227 | EA 091821

LAST REVISION 02-09-06 | DATE PLOTTED => 17-SEP-2007 | TIME PLOTTED => 13:44

L-14

REGISTERED CIVIL ENGINEER DATE
PHASE 2 PLAN
9-17-07
PLANS APPROVAL DATE

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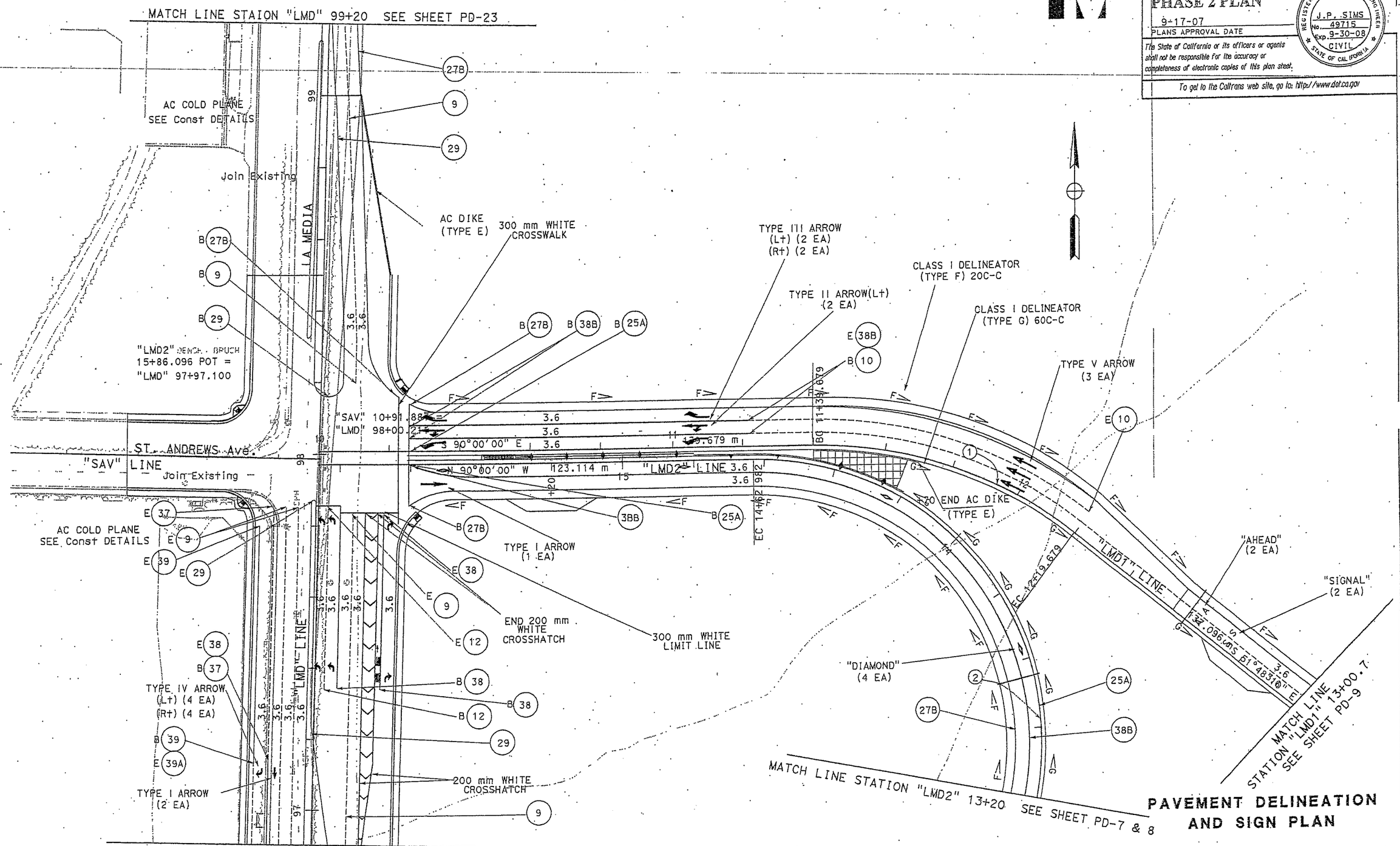

PAVEMENT DELINEATION AND SIGN PLAN

PD- 21

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.

SCALE 1:500

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MBH		

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CU 11227 | EA 091821

LAST REVISION 02-09-06 | OTTED => 17-SEP-2007 | LOTTED => 13:44

L-15

REGISTERED CIVIL ENGINEER DATE
PHASE 2 PLAN
9-17-07
PLANS APPROVAL DATE

J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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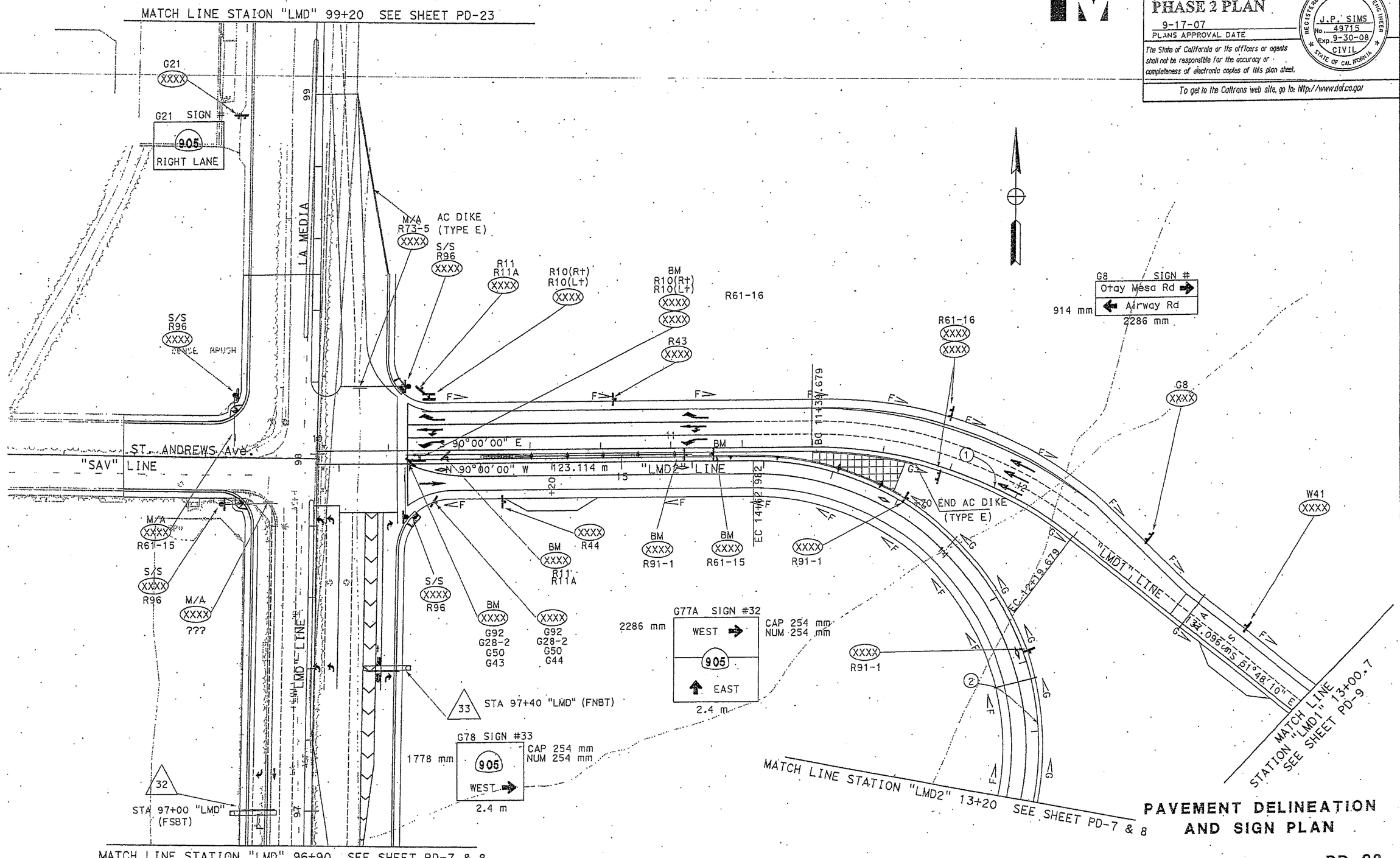

PAVEMENT DELINEATION AND SIGN PLAN

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SCALE 1:500

PD-22

REVISED BY	DATE REVISED
MBH	DATE
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PROJECT ENGINEER	J.P. SIMS
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TRAFFIC
Caltrans	

LAST REVISION 02-09-06 | DATE PLOTTED =>17-SEP-2007 TIME PLOTTED =>13:44

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USERNAME => trpierce
DGN FILE => b09182ma022.dgn

CU 11227 | EA 091821

L-16

Metric

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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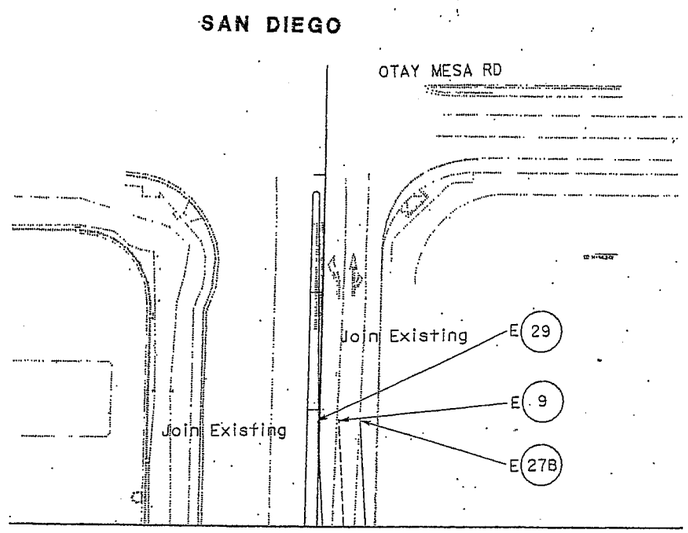

MATCH LINE STATION "LMD" 99+20 SEE SHEET PD-21

PAVEMENT DELINEATION AND SIGN PLAN

SCALE 1:500

L-17

PD-23

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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PROJECT ENGINEER J.P. SIMS

CALCULATED/ DESIGNED BY	MBH	DATE	REVISED BY
CHECKED BY			DATE REVISED

LAST REVISION 02-09-06

PLOTTED => 17-SEP-2007
PLOTTED => 13:44

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USERNAME => trpierce
DGN FILE => b09182na023.dgn

CU 11227

EA 091821

Caltrans Striping Concepts for Airway Road btwn Harvest and Sanyo

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

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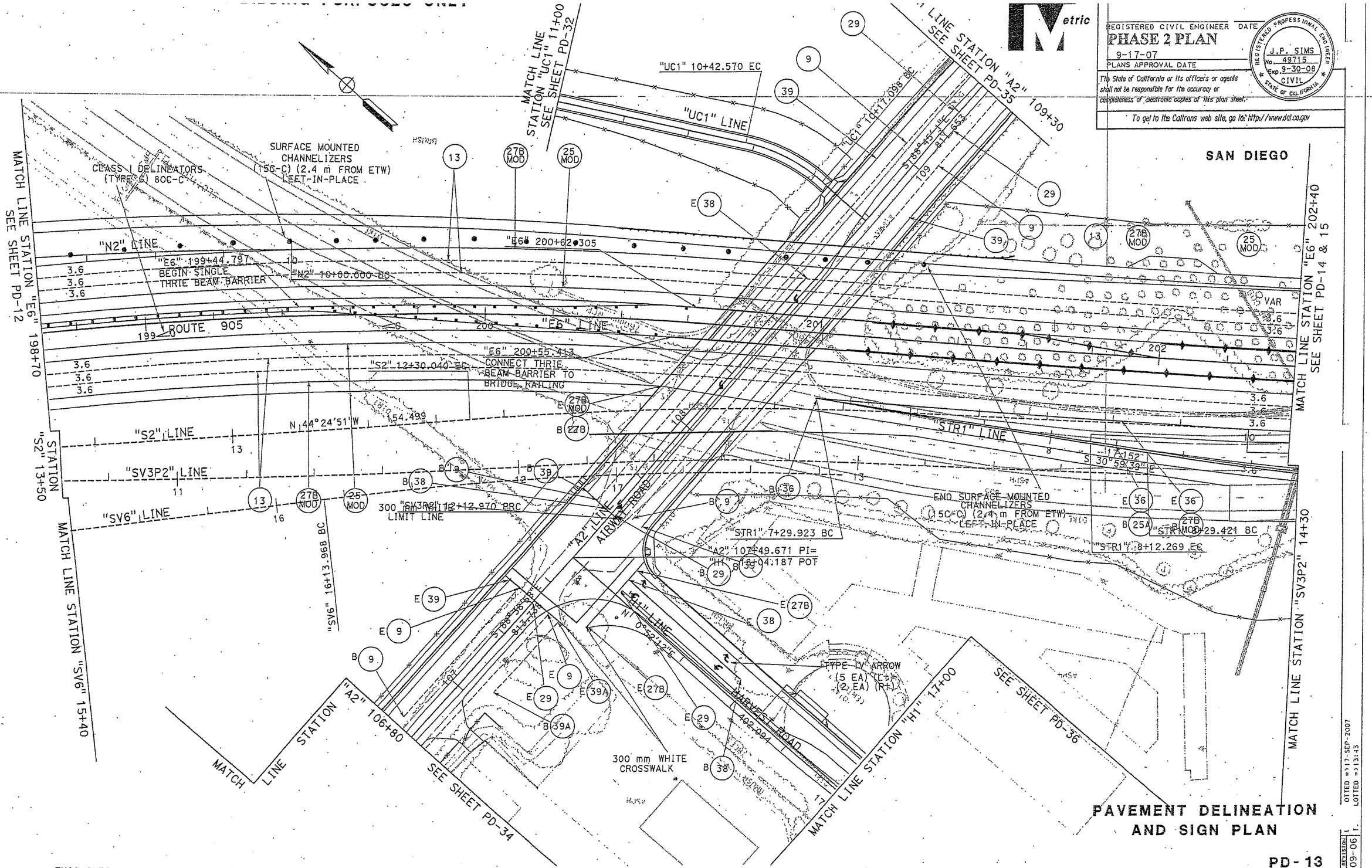
SAN DIEGO



PAVEMENT DELINEATION AND SIGN PLAN

PD-13

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SCALE 1:500

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans
PROJECT ENGINEER	J.P. SIMS
	TRAFFIC
CALCULATED/DESIGNED BY	MBH
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DATE REVISED	
REVISED BY	

LAST REVISION 02-09-06

OTTED => 17-SEP-2007
LOTTED => 13:43

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USERNAME => trgiarce
DGN FILE => b09182nd013.dgn

CU 11227

EA 091821

L-19

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

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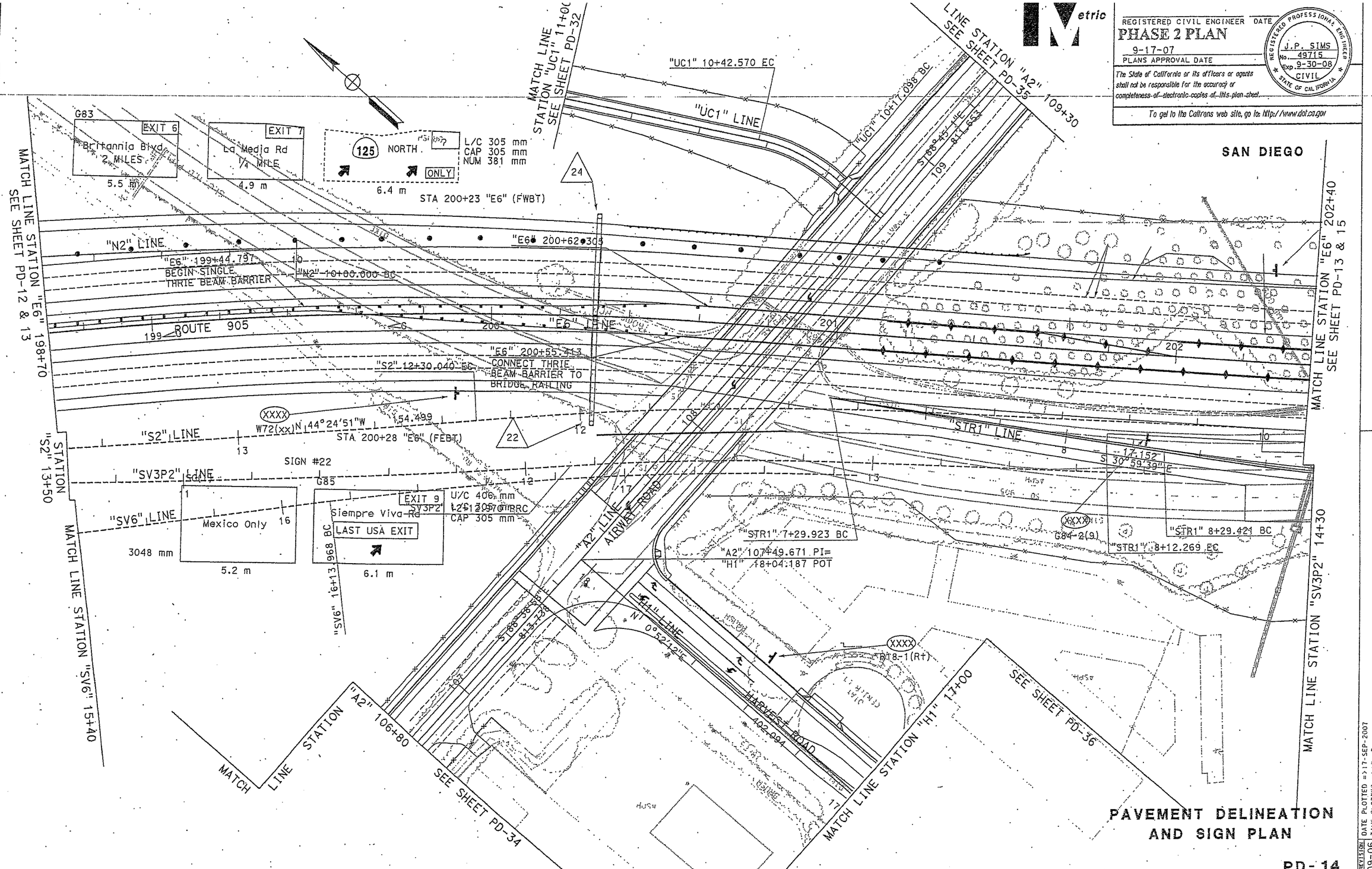

PAVEMENT DELINEATION AND SIGN PLAN

PD-14

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SCALE 1:500

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CHECKED BY			DATE REVISED

PROJECT ENGINEER **J.P. SIMS**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans **TRAFFIC**

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DGN FILE => b09132na014.dgn

CU 11227

EA 091821

LAST REVISION 02-09-06

DATE PLOTTED => 17-SEP-2007
TIME PLOTTED => 13:43

L-20

Metric

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
J.P. SIMS
No. 49715
Exp. 9-30-08
CIVIL
STATE OF CALIFORNIA

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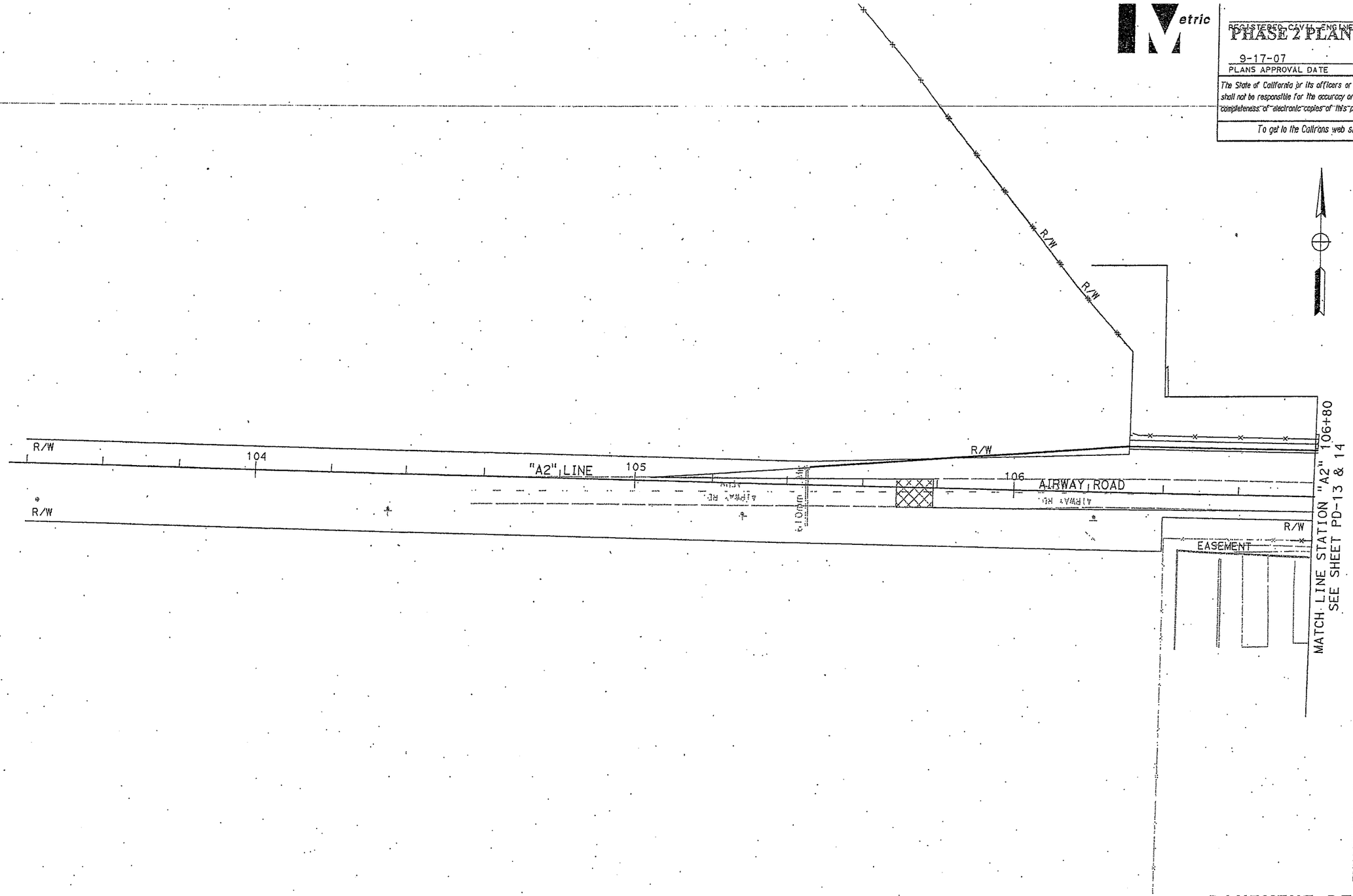

PAVEMENT DELINEATION AND SIGN PLAN

PD-34

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION AND SIGNS ONLY.

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SCALE 1:500

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REVISED	DATE REVISED
CALCULATED/DESIGNED BY	MBH
CHECKED BY	DATE

PROJECT ENGINEER
J.P. SIMS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC

LAST REVISION 02-09-06
DATE PLOTTED => 17-SEP-2007
TIME PLOTTED => 13:45

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

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DGN FILE => b09132nn034.dgn

CU 11227

EA 091821

L-21

11	SD	905	R13.9/R18.6	651	895

Caltrans Metric

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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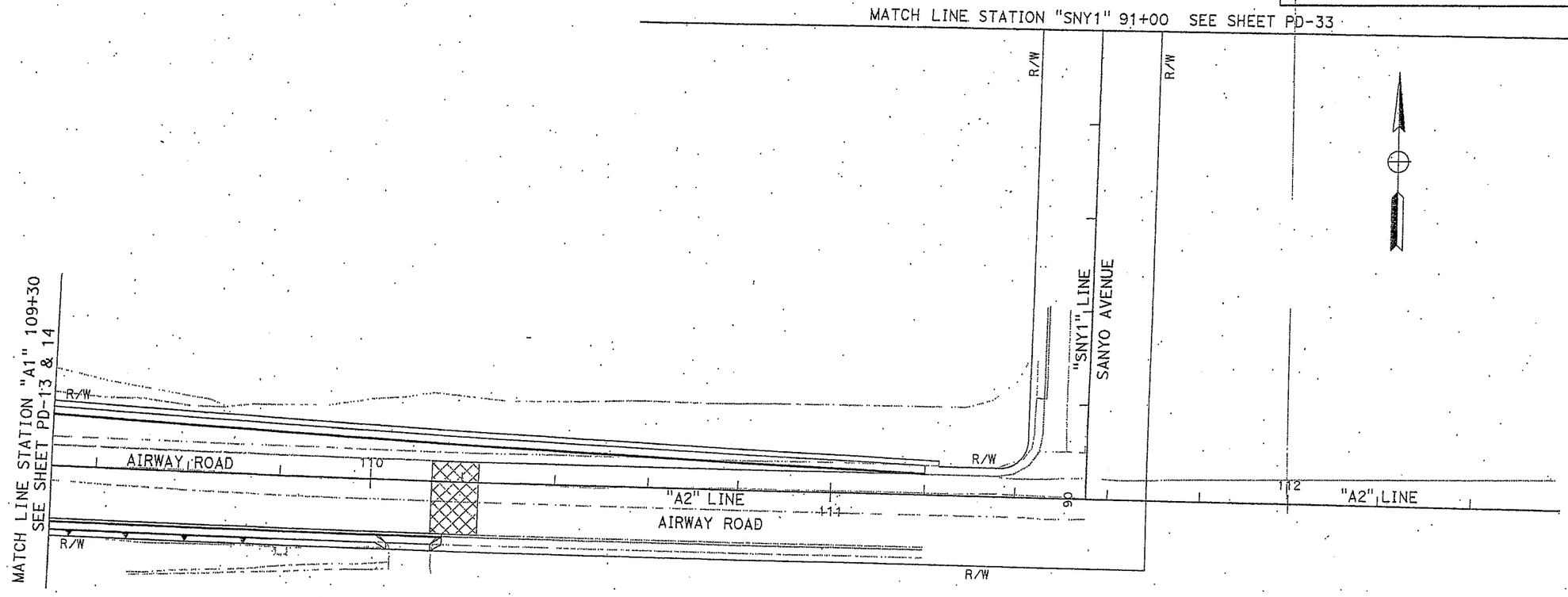

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SCALE 1:500

PAVEMENT DELINEATION AND SIGN PLAN

PD-35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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PROJECT ENGINEER J.P. SIMS

CALCULATED/DESIGNED BY MBH DATE

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REVISED BY DATE REVISED

LAST REVISION 02-09-06

OTTED => 17-SEP-2007

LOTTED => 13:45

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => tcpierce

DGN FILE => b09182nd035.dgn

CU 11227

EA 091821

L-22

Caltrans Striping Concept for Britannia Blvd btwn Otay Mesa Rd and Airway Rd

PRELIMINARY FOR BIDDING PURPOSES ONLY

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	633	895

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

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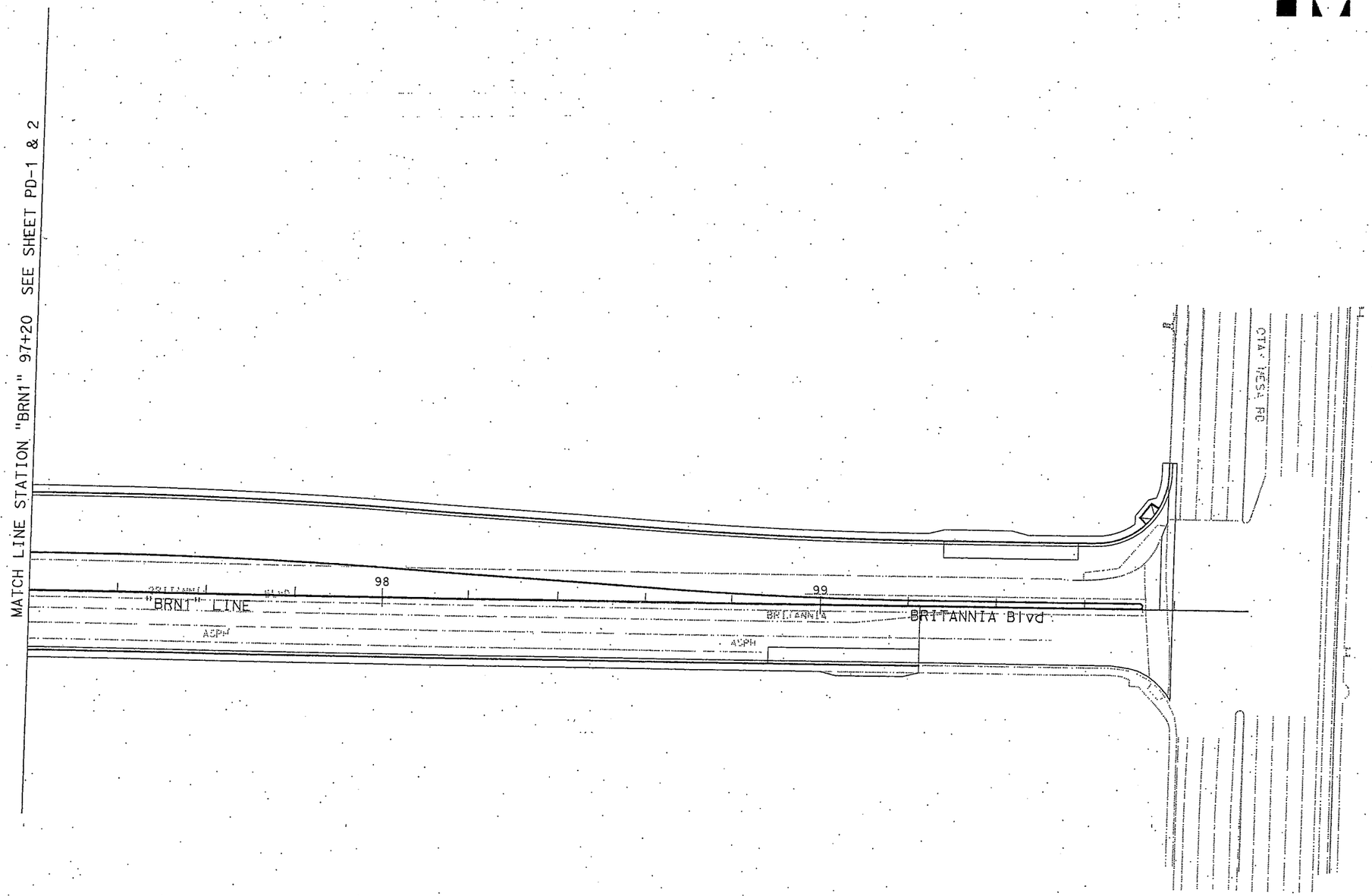

PAVEMENT DELINEATION AND SIGN PLAN

THIS SHEET ACCURATE FOR PAVEMENT DELINEATION AND SIGNS ONLY.

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SCALE 1:500 L-24 PD-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans TRAFFIC

PROJECT ENGINEER J.P. SIMS

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LAST REVISION 02-09-06

PLOTTED => 17-SEP-2007 PLOTTED => 13:43

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => frpierce DGN FILE => b09i82na017.dgn

CU 11227

EA 091821

PRELIMINARY FOR BIDDING PURPOSES ONLY

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	617	895

REGISTERED CIVIL ENGINEER DATE
PHASE 2 PLAN
9-17-07
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 EXP. 9-30-08 CIVIL STATE OF CALIFORNIA

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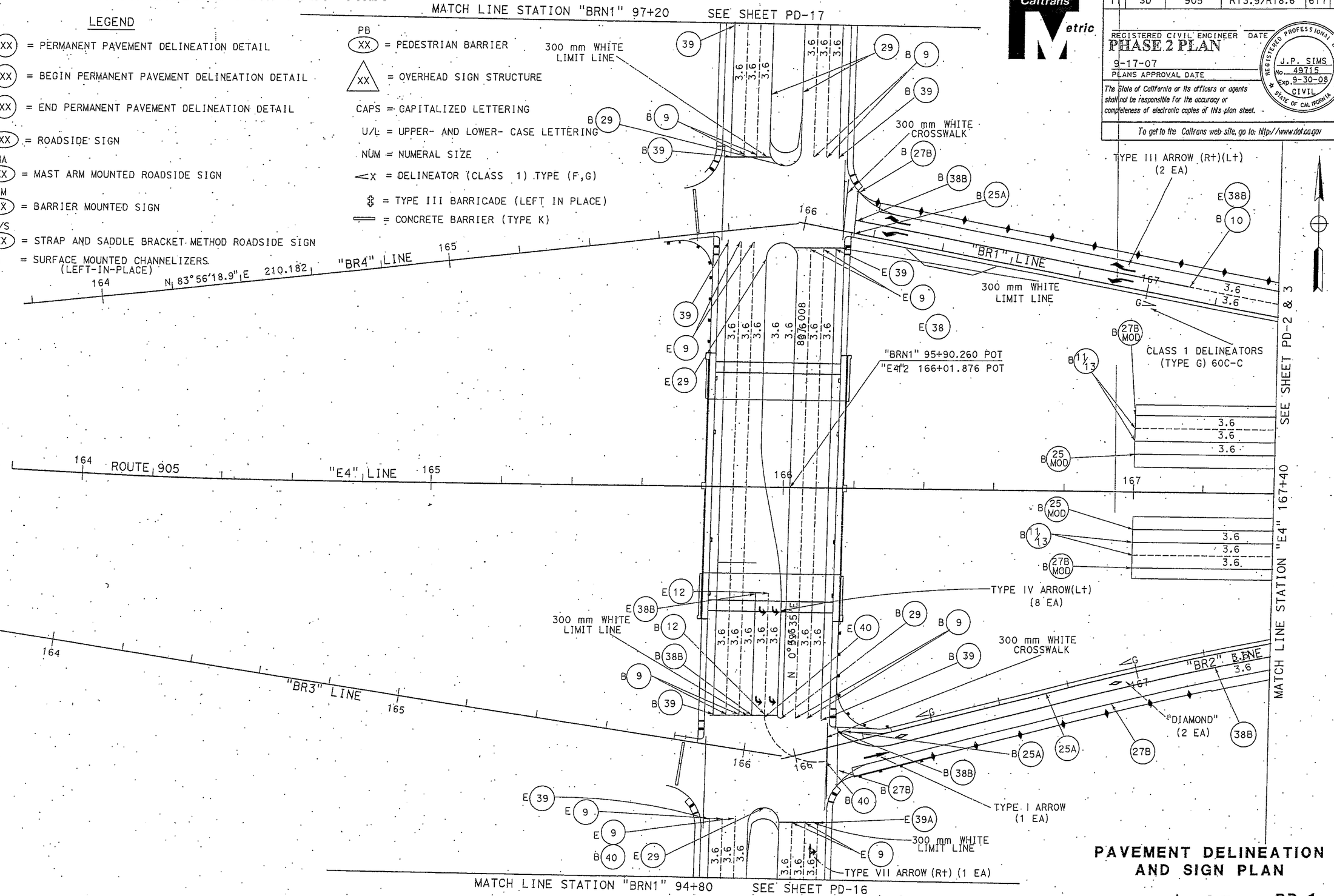
Caltrans Metric

LEGEND

- (XX) = PERMANENT PAVEMENT DELINEATION DETAIL
- B (XX) = BEGIN PERMANENT PAVEMENT DELINEATION DETAIL
- E (XX) = END PERMANENT PAVEMENT DELINEATION DETAIL
- (XX) = ROADSIDE SIGN
- MA (XX) = MAST ARM MOUNTED ROADSIDE SIGN
- BM (XX) = BARRIER MOUNTED SIGN
- S/S (XX) = STRAP AND SADDLE BRACKET METHOD ROADSIDE SIGN
- • = SURFACE MOUNTED CHANNELIZERS (LEFT-IN-PLACE)
- PB (XX) = PEDESTRIAN BARRIER
- (XX) = OVERHEAD SIGN STRUCTURE
- CAPS = CAPITALIZED LETTERING
- U/L = UPPER- AND LOWER- CASE LETTERING
- NUM = NUMERAL SIZE
- <X = DELINEATOR (CLASS 1) TYPE (F,G)
- = TYPE III BARRICADE (LEFT IN PLACE)
- = CONCRETE BARRIER (TYPE K)



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PAVEMENT DELINEATION AND SIGN PLAN

SCALE 1:500 L-25 PD-1

REVISED BY	DATE REVISED

CALCULATED/DESIGNED BY MBH DATE
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PROJECT ENGINEER J.P. SIMS

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USERNAME => fragnada
DGN FILE => p09182nd001.dgn

CU 11227 EA 091821

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	618	895

Caltrans Metric

REGISTERED CIVIL ENGINEER DATE

PHASE 2 PLAN

9-17-07

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.P. SIMS No. 49715 Exp. 9-30-08 CIVIL STATE OF CALIFORNIA

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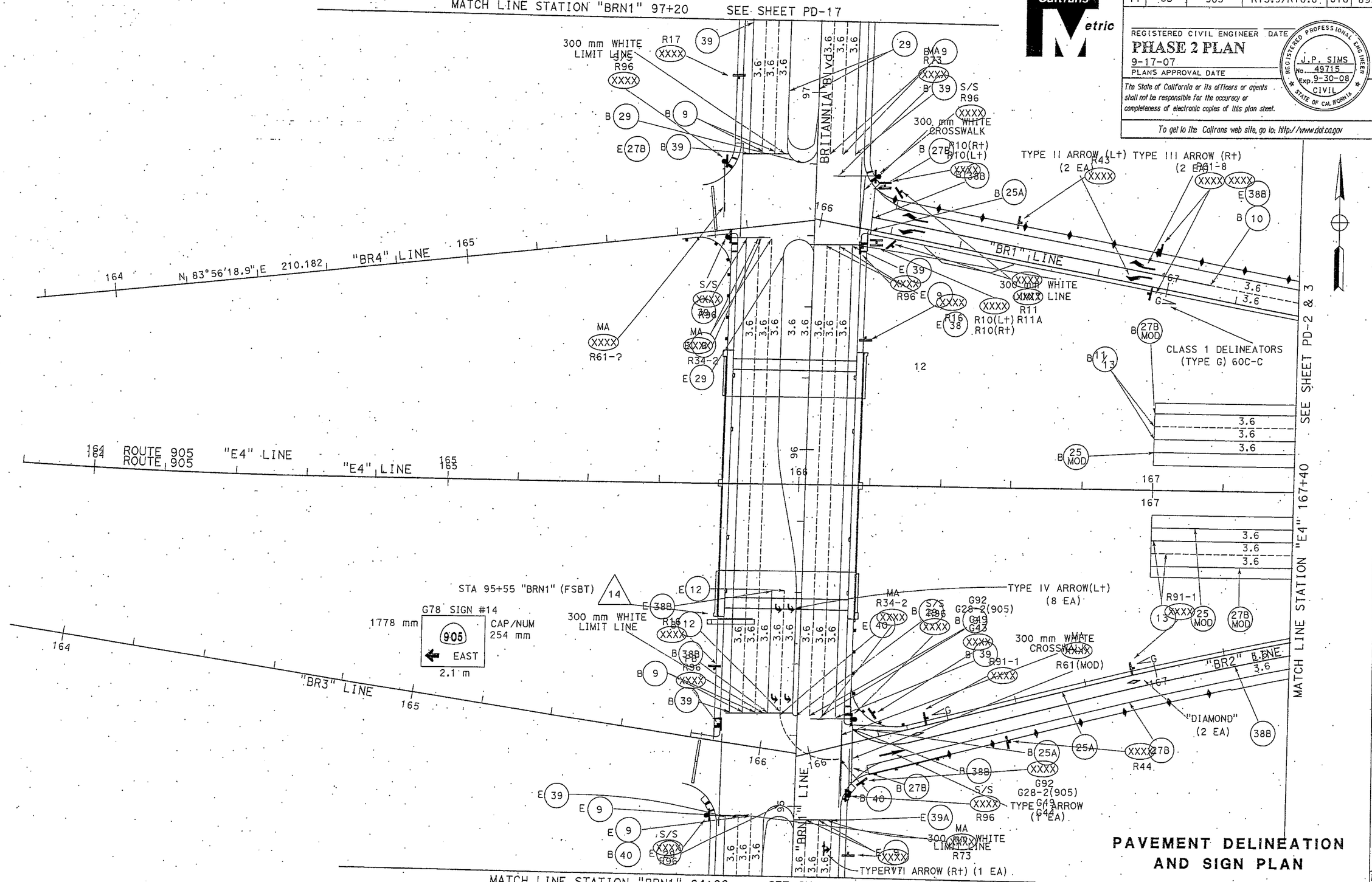

PAVEMENT DELINEATION AND SIGN PLAN

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SCALE 1:500 L-26 PD-2

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

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CU 11227 EA 091821

LAST REVISION 03/11/07 DATE PLOTTED => 17-SEP-2007 TIME PLOTTED => 10:57

PROJECT ENGINEER J.P. SIMS

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	905	R13.9/R18.6	632	895

Caltrans Metric

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PHASE 2 PLAN
9-17-07
PLANS APPROVAL DATE

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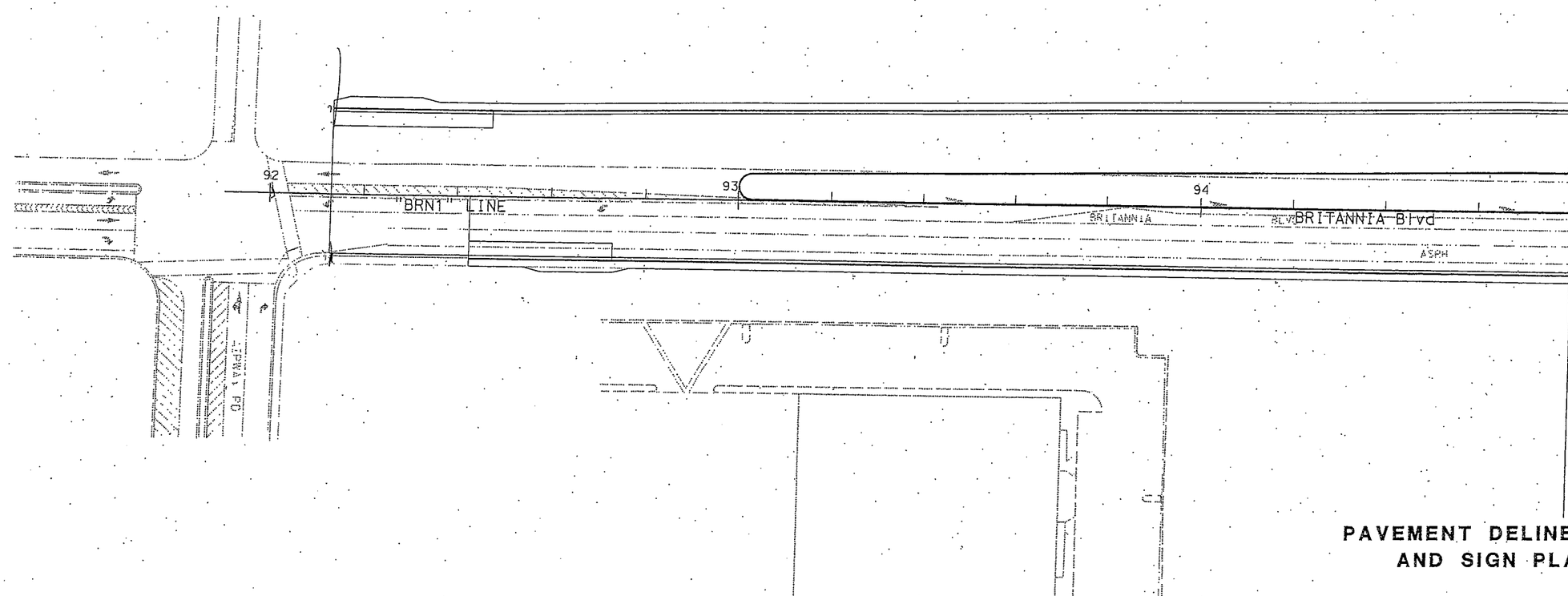

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC

PROJECT ENGINEER J.P. SIMS

CALCULATED/DESIGNED BY MBH
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DATE	REVISED BY	DATE REVISED

PAVEMENT DELINEATION AND SIGN PLAN

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SCALE 1:500 L-27 PD-16

LAST REVISION DATE PLOTTED => 17-SEP-2007
02-09-06 TIME PLOTTED => 13:43

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => tripierce
DGN FILE => b09192na016.dgn

CU 11227 EA 091821

APPENDIX M

- Approved Design Exception Request
- Hawano Drive North Access Memo

Approved Design Exception Request

County of San Diego

DEPARTMENT OF PUBLIC WORKS

RICHARD E. CROMPTON
DIRECTOR

5201 RUFFIN ROAD, SUITE D
SAN DIEGO, CALIFORNIA 92123-4310

(858) 694-2055 FAX: (858) 694-8928
Web Site: sdcounty.ca.gov/dpw/

October 7, 2011

KIMLEY-HORN AND ASSOCIATES, INC
Attn: Adam Corral, P.E.
401 B Street, Suite 600,
San Diego, CA 92101

REQUEST FOR DESIGN EXCEPTION TO A ROAD STANDARD AND/OR MODIFICATION TO PROJECT CONDITIONS – HAWANO DRIVE NORTH/ SOUTH CUL-DE-SACS ROADS AND DRIVEWAYS CENTERLINE SEPARATION, EAST OTAY MESA, TM 5566 – KIVA 10-0123176

Dear Mr. Corral:

Department of Public Works (DPW) reviewed your application package and Assessment of the Siempre Viva Road/ Hawano Drive North Access, prepared by Darnell & Associates, dated August 19, 2011 for the Exceptions Request to the Public Road Standards.

The requested design exceptions were as follows:

1. Allow modification of Public Road Standards, Sec. 4.5.J. for proposed Hawano Drive North and Hawano Drive South, Industrial/ Commercial Cul-De-Sac Roads to exceed the average daily vehicular trips (ADT) of 1,000 ADTs. The projected traffic for Hawano Drive North and Hawano Drive South is 5,319 ADT and 3,410 ADTs, respectively.

2. Allow modification of Public Road Standards, Section 6.1.C.3 to allow centerline separations of less than 600 feet into Alta Road, a circulation element road, between Siempre Viva Road, a circulation element road, and the proposed shared driveways on Lots 11-12; and between Airway Road, a circulation element road, and the proposed shared driveways on Lots 9-10.

DPW is able to support your request for design exceptions to the above project conditions. The project shall provide the following roads mitigation conditions:

1. The proposed Hawano Drive North cul-de-sac shall provide a 310-foot long left-turn pocket along the eastbound direction of Siempre Viva Road and place a 50-foot long no-parking/ red curb restriction at the northwest corner of the Siempre Viva Road/ Hawano Drive North intersection in order to accommodate the truck turning movements.
2. The Siempre Viva Road/ Hawano Drive North intersection shall be signalized.
3. The project's driveways along Alta Road shall be designed to have a maximum possible separation of 300 feet or more between other driveways or intersections. Adequate sight distance, in both directions shall be provided at each driveway pursuant to the prevailing speeds along, Alta Road. Hawano Drive North and Hawano Drive South to the satisfaction of the Director of Public Works.
4. Based on previous supported design exception requests for East Otay Mesa development, DPW will allow centerlines separation of a minimum 100-foot between driveways accessing Industrial/Commercial Cul-De-Sac Roads. Adequate sight distance in both directions shall be provided at each driveway pursuant to the prevailing speeds along Hawano Drive North and Hawano Drive South including driveways entering the cul-de-sacs to the satisfaction of the Director of Public Works.

It has been determined your request for design exceptions will not adversely affect the safety and flow of traffic in this area.

If you have any questions or need additional information related to this request, please contact Edwin M. Sinsay, Team Leader at (858) 694-2486 or via e-mail at edwin.sinsay@sdcounty.ca.gov.

Sincerely,

TROY BANKSTON, Deputy Director
Department of Public Works

CC: Gail Wright, Project Manager, Department of Planning and Land Use, M.S. 0650
Rosemary Rowan, Planning Manager, DPLU, M.S. 0650
Bob Goralka, County Traffic Engineer, DPW, M.S. 0338
Ricardo Jinich, Paragon, 4370 La Jolla Village Dr., Suite 640, San Diego, CA 92122
Bill Darnell, 2870 Fourth Avenue, Suite A, San Diego, CA 92103

Hawano Drive North Access Memo

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

DATE: August 19, 2011

TO: Dan Berkus, Paragon Management Company

FROM: Bill E. Darnell, P.E.
Vicki S. Haskell, P.E.

D&A Ref. No: 091201

RE: Hawano (TM 5566; ER 93-19-006OO) – Revised Assessment of the Siempre Viva Road/Hawano Drive North Access

In response to the County of San Diego's August 10, 2010 comment letter, Darnell & Associates, Inc. (D&A) has provided some additional analysis related to the Siempre Viva Road/Hawano Drive North Access. This revised memo provides the requested all-way stop-control warrant analysis, the buildout traffic volumes, and the updated queuing analysis which incorporates the projected truck demand.

As was addressed previously, D&A has carefully reviewed the traffic distribution and circulation for the proposed Hawano project to determine the access requirements for the Siempre Viva Road/Hawano Drive North intersection assuming that there would be a median break allowed on Siempre Viva Road. Minor revisions to the traffic distribution from what was previously illustrated in our March 30, 2011 traffic study report were made to allow for more project traffic utilization of the segment of Airway Road between Siempre Viva Road and Alta Road. Figure A provides an illustration of the updated existing plus project Phases 1-2 traffic volumes.

In their August 10, 2010 comment letter, the County asked for an illustration of the buildout peak hour traffic volumes that would exist at the Siempre Viva Road/Hawano Drive North Access. To estimate the peak hour buildout traffic volumes, D&A referenced the 2035 peak hour traffic volumes (with the two interchange alternative) from the November 2010 *Traffic Technical Report for State Route 11 and the Otay Mesa East Port of Entry* which was prepared by VRPA Technologies. Specifically, the peak hour volumes at the Siempre Viva Road/Alta Road intersection were utilized to determine the through traffic at the Siempre Viva Road/Hawano Drive North Access. Figure B provides an illustration of the buildout plus project Phases 1-2 traffic volumes.

The Siempre Viva Road/Hawano Drive North intersection was reanalyzed under existing plus project Phases 1-2 conditions and buildout plus project Phases 1-2 conditions utilizing the Synchro version 6 software.

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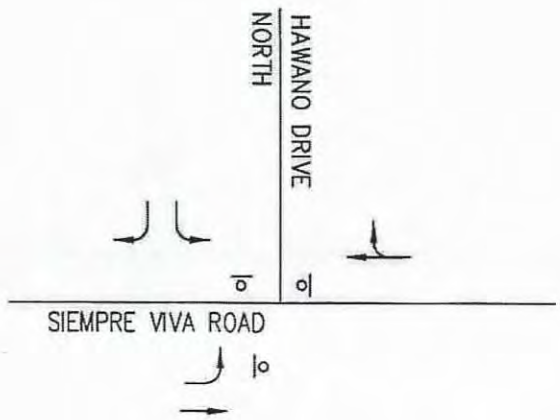
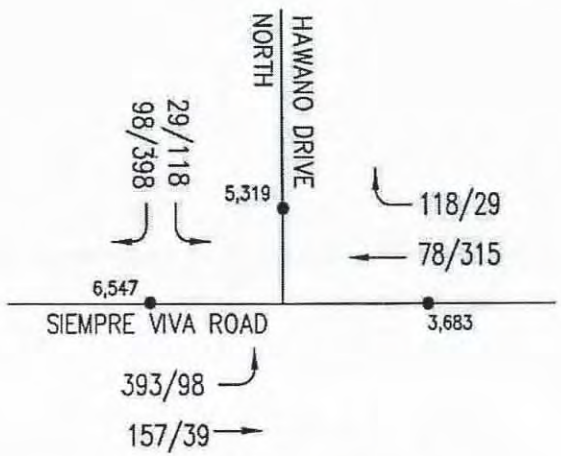


TRAVEL LANES



TRAFFIC VOLUMES

LEGEND

- TRAVEL LANE/DIRECTION OF TRAVEL
- STOP SIGN
- XX/YY - AM/PM PEAK HOUR TURN VOLUME
- ● Z,ZZZ - AVERAGE DAILY TRAFFIC

Darnell & ASSOCIATES, INC.

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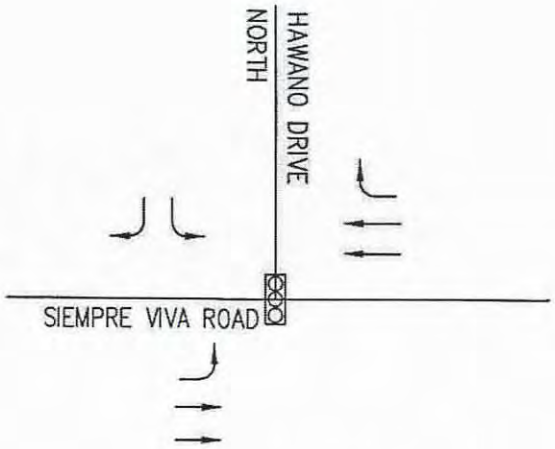
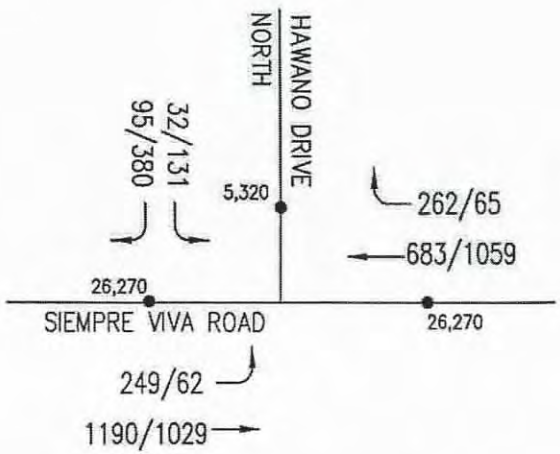
FIGURE A

EXISTING PLUS PROJECT PHASES 1-2 CONDITIONS AT SIEMPRE VIVA ROAD/ HAWANO DRIVE NORTH



TRAVEL LANES



TRAFFIC VOLUMES

LEGEND

- TRAVEL LANE/DIRECTION OF TRAVEL
- TRAFFIC SIGNAL
- XX/YY – AM/PM PEAK HOUR TURN VOLUME
- ● Z,ZZZ – AVERAGE DAILY TRAFFIC

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FIGURE B

BUILDOUT PLUS PROJECT PHASES 1-2 CONDITIONS AT SIEMPRE VIVA ROAD/ HAWANO DRIVE NORTH

The analysis found that under existing plus project Phases 1-2 conditions, all critical movements at the Siempre Viva Road/Hawano Drive North intersection can operate at an acceptable level of service (LOS) C or better during both the AM and PM peak hours with all-way stop-control with the lane configurations depicted in Figure A. Daily signal warrant analysis found that the installation of a traffic signal at the Siempre Viva Road/Hawano Drive North intersection under existing plus Phases 1-2 project conditions, and is therefore, not recommended. Further, the all-way stop-control analysis found that all-way stop-control is warranted at the Siempre Viva Road/Hawano Drive North intersection under existing plus project Phases 1-2 conditions. A copy of the synchro, signal warrant, and all-way stop-control warrant worksheets have been attached to the back of this memo.

Under buildout conditions, the signal warrant analysis found that a traffic signal would be warranted at the Siempre Viva Road/Hawano Drive North intersection. Further, due to the unbalanced traffic volumes that would occur on the approaches (there would be significantly higher traffic volumes on Siempre Viva Road than Hawano Drive North) under buildout conditions, all-way stop-control would not be recommended under buildout conditions. Analysis found that under buildout conditions the southbound left turn movement would operate at an unacceptable LOS E during the AM peak hour and LOS F during the PM peak hour if the intersection was only stop-controlled on the Hawano Drive North (southbound) approach. Therefore, it is recommended that under buildout conditions the Siempre Viva Road/Hawano Drive North intersection be signalized. The analysis found that if signalized, the Siempre Viva Road/Hawano Drive North intersection will operate at an acceptable LOS A during the AM peak hour and LOS B during the PM peak hour under buildout plus project Phases 1-2 conditions with the lane configurations depicted in Figure B. A copy of the synchro, signal warrant, and all-way stop-control warrant worksheets have been attached to the back of this memo.

To determine how long the eastbound left turn lane would need to be, D&A conducted a queuing analysis at the Siempre Viva Road/Hawano Drive North intersection. The queuing analysis was conducted utilizing SimTraffic; a simulation software which uses the input values from the Synchro program. The queuing analysis was conducted for the AM and PM peak hours for the existing plus project Phases 1-2 and buildout plus project Phases 1-2 conditions. Ten (10) simulation runs were conducted for each scenario. To respond to the County's comments, the revised queuing analysis included the following vehicle mix: 78% passenger cars, 8% 2-axle trucks; 4% 3-axle trucks; and 10% 4+-axle trucks. The 2-axle and 3-axle trucks were assumed to have a vehicle length of 35 feet while the 4+-axle trucks were assumed to have a vehicle length of 53 feet. Table 1 provides a summary of the queuing analysis.

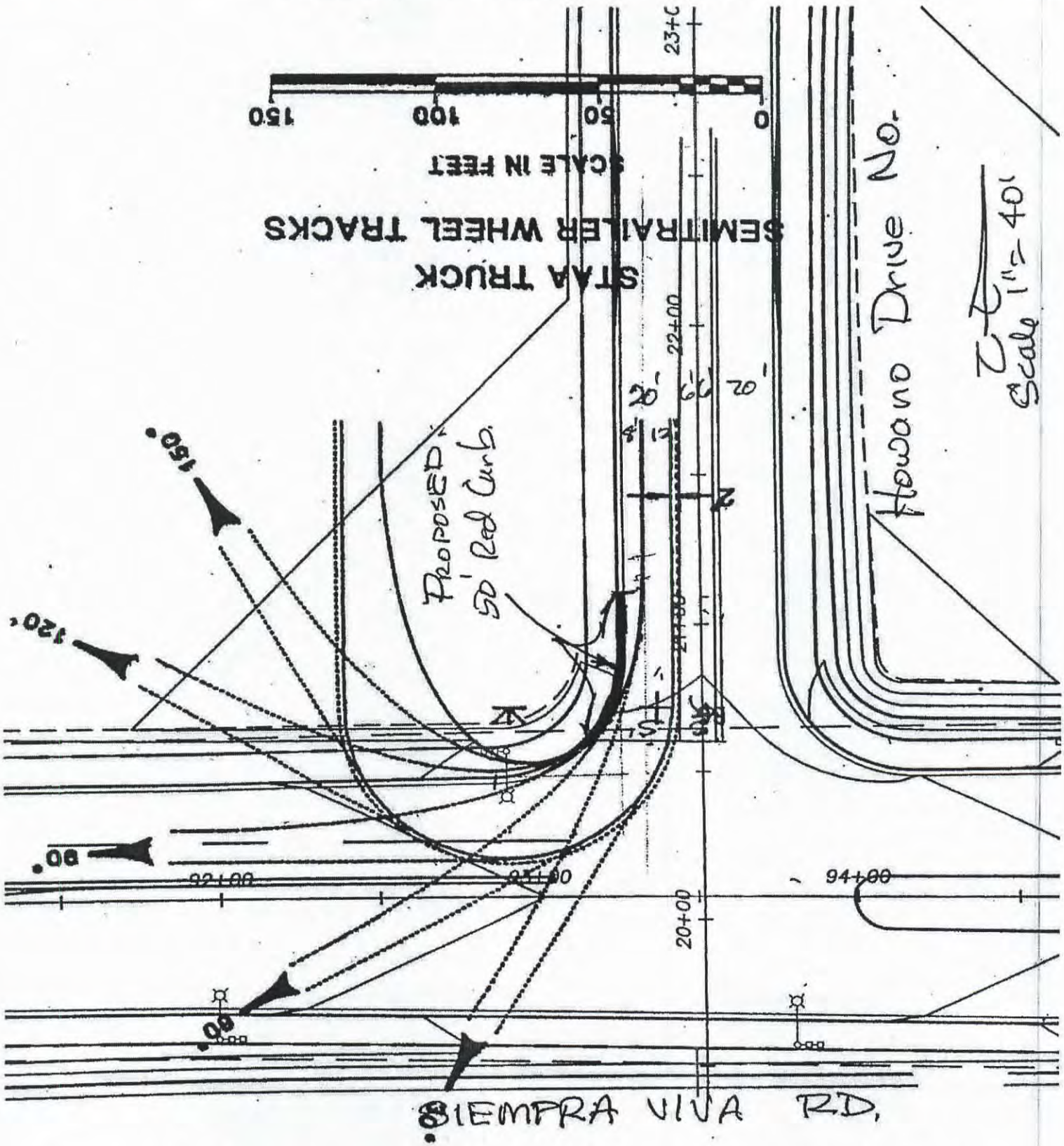
Table 1 - Summary of Queuing Analysis													
Peak Hour	Movement	95th Percentile Queue (Feet)											
		Run											
		1	2	3	4	5	6	7	8	9	10	Average	Max
Existing Plus Project Phases 1-2													
AM	EBL	107	107	107	97	116	135	90	92	89	76	*102*	135
PM	EBL	56	41	63	47	54	57	57	53	45	57	*53*	63
Buildout Plus Project Phases 1-2													
AM	EBL	296	280	215	214	238	222	310	247	294	256	*257*	310
PM	EBL	85	94	82	60	80	75	61	71	78	96	*78*	96

EBL = Eastbound Left
95% Percentile Queue = Is the Maximum Back of Queue with the 95-percentile Traffic Volumes
Average = Average of the 95% Percentile Queue Observed; Max = Maximum 95% Percentile Queue Observed

As shown in Table 1, the maximum 95th-percentile queue observed for the eastbound left turn movement was 310 feet. Therefore, it is recommended that the eastbound left turn lane at the Siempre Viva Road/Hawano Drive North Drive intersection be at least 310 feet long.

D&A also looked at the truck turning movements exiting Hawano Drive North onto Siempre Viva Road to determine whether no parking/red curb restrictions would be required on the northwest corner of the intersection. As illustrated in Figure C, a review of the truck turning movements found that approximately 50 feet of no parking/red curb restrictions would be required at the northwest corner of the Siempre Viva Road/Hawano Drive North intersection in order to adequately accommodate the truck turning movements.

Please feel free to contact the office if you have any questions.



BED 8/5/2011

Figure C - Truck Turning Movements at ~~Siempre Viva Rd~~/ Hawano Dr North

ATTACHMENT

- **Existing Plus Project Phases 1-2 Analysis**
- **Buildout Plus Project Phases 1-2 Analysis**

Existing Plus Project Phases 1-2 Analysis

-All Way Stop Control Warrants

-

TRAFFIC WARRANT FOR MULTI-WAY STOP CONTROLLED INTERSECTION – ADOPTED FROM MUTCD 2009 EDITION (SECTION 2B.07)

Intersection: **Siempre Viva Road/Hawano Drive North**
Condition/Year: **Existing Plus Project Phases 1-2**

I) SUPPORT

Support Criteria			
1. Is the volume of traffic on the intersecting roads approximately equal?	Peak Hour Volume on Major Street (Siempre Viva Rd)	Peak Hour Volume on Minor Street (Hawano Drive North)	YES
	EB Approach: AM 550, PM 137 WB Approach AM 196, PM 344	SB Approach: AM 127, PM 516	
2. Is there is a safety concern associated with pedestrians, bicyclists, and all other users?	No	Comments: This intersection currently does not exist, however, there is not anticipated to be a high volume of pedestrians or bicycle activity in this area	
3. Can all-way stop control be useful as a safety measure at the intersection?	No	Comments:	

II) GUIDANCE

A. Traffic Signal Warrant

See Attached Signal Warrants. As shown in the attached signal warrants, a traffic signal will not be warranted at this intersection based on average daily volumes.

B. Crash Warrants

Crash History				
Intersection	No. of Crashes	No. of Years	No. of crashes[1] correctable by All-Way Stop	No. of crashes[1] correctable by All-Way Stop >= 5 in 12 month period
Siempre Viva Road @ Hawano Drive North	**N/A**			
[1] Such crashes include right-and left turn collisions and right-angle collisions				

C. Minimum Volumes

1. Eight Hour Vehicular Volume on Major Street											
Street	Approach	Hourly Volume								Avg.	>= 300 vph
		7-8 AM	8-9 AM	9-10 AM	2-3 PM	3-4 PM	4-5 PM	5-6 PM	7-8 PM		
Siempre Viva Rd	Major Street (Total of both approaches)	746	723	602	302	386	481	405	336	**498**	**YES**
vph = vehicles per hour Note: Since this intersection does not currently exist, the volumes were estimated based on the existing traffic splits on Siempre Viva Road at Paseo De Las Americas											

2. Eight Hour Vehicular, Pedestrian and Bicycle Volume on Minor Street													
Street	Approach	Travel Mode	Hourly Volume								Avg.	>= 200 uph	Avg. Delay to Veh. Tr.[1]
			7-8 AM	8-9 AM	9-10 AM	2-3 PM	3-4 PM	4-5 PM	5-6 PM	7-8 PM			
Hawano Dr. North	Minor Street (Total of both approaches)	Veh.	127	123	103	323	414	516	435	360	**300**	**YES**	AM Peak SBL Delay = 36.5 sec/veh
		Ped.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.		
		Cyc.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.		
		Total	127	123	103	323	414	516	435	360	**300**		
uph = units per hour; Veh. Tr. = Vehicular Traffic; Nom. = Nominal Avg. Delay to Veh. Tr.[1] = Average delay to minor-street vehicular traffic should be at least 30 seconds per vehicle during the highest hour.													

3. 85th Percentile Approach Speed of Major Street					
Street	Approach	85th Percentile Approach Speed of Major Street	> 40 mph or 65 km/h	If YES is any of the minimum vehicular warrant satisfied	
				70 % of 300 vph	70 % of 200 uph
Siempre Viva Rd	Major Street (Total of both approaches)	55 mph (a)	**YES**	**YES**	**YES**

vph = vehicles per hour; uph = units per hour; mph = miles per hour; km/h = kilometers per hour
(a) Since the roadway is not constructed yet the 85th percentile speed was assumed to be the design speed of the roadway

A. No. of Criteria Satisfied to 80 percent

No. of Criteria Satisfied to 80 percent			
Intersection	B	C1	C2
Siempre Viva Road @ Hawano Drive North	**YES**	**YES**	**YES**

Criterion C.3 is excluded from this condition.

III) OPTION

Option Criteria			
	Criterion	Criterion Satisfied	Comments
A.	Need to control left-turn conflicts	YES	There are 393 EBL and 118 SBL projected under existing plus project conditions
B.	Need to control vehicle/ pedestrian conflicts near locations that generate high pedestrian volumes	NO	
C.	Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and	NO	
D.	An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection.	NO	

Criterion C.3 is excluded from this condition.

All-Way Stop Control 100 % Warrant Satisfied:	**YES**
All-Way Stop Control 70 % Warrant Satisfied:	**YES**

-Signal Warrants

-

Siempre Viva Road / Hawano Dr North

Existing + Project Phases 1-2

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 4)

COUNT DATE _____
CALC XH DATE 8-18-11
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Siempre Viva Rd
Minor St: Hawano Dr Nort

Critical Approach Speed _____ mph
Critical Approach Speed 55 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒ or ☐ } RURAL (R)
In built up area of isolated community of < 10,000 population..... ☐
☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More		7-8	8-9	9-10	2-3	3-4	4-5	5-6	6-7	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	746	723	602	302	386	481	415	336	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	127	123	103	323	414	516	435	360	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

Same as above

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More										Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)									
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)									

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☐
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	No	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

Siempre Viva Road / Hawaro Dr North
Existing + Project Phases 1-2

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6	Hour
Both Approaches - Major Street		X	746	723	481	465	
Higher Approach - Minor Street		X	127	123	516	435	

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) **SATISFIED YES ☒ NO ☐**

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

PART B **SATISFIED YES ☒ - pm NO ☐**

APPROACH LANES	One	2 or More	AM	pm Hour
Both Approaches - Major Street			746	481
Higher Approach - Minor Street			127	516

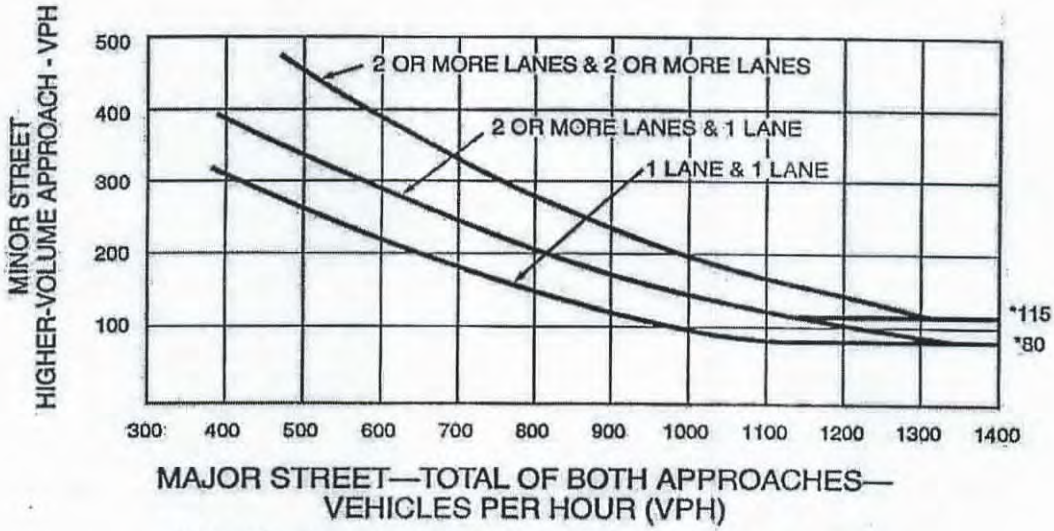
The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Existing + Project Phases 1-2

Siempre Viva / Hawaro Dr N

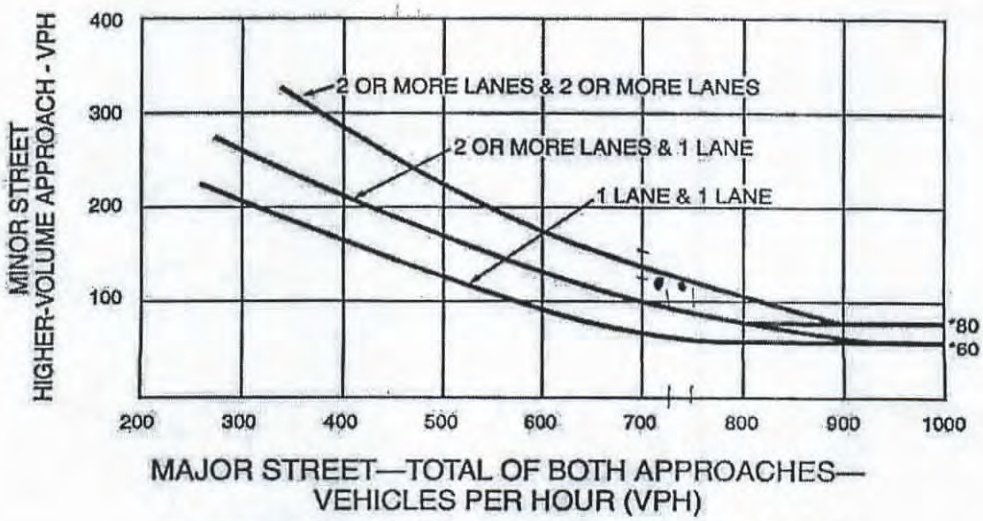
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

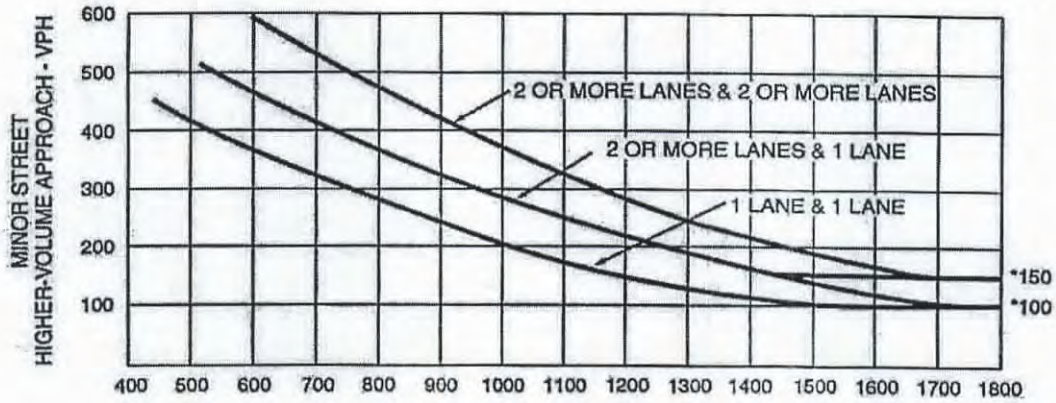
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Existing + Project
Phases 1-2
Siempre Viva/
Hawano Dr N

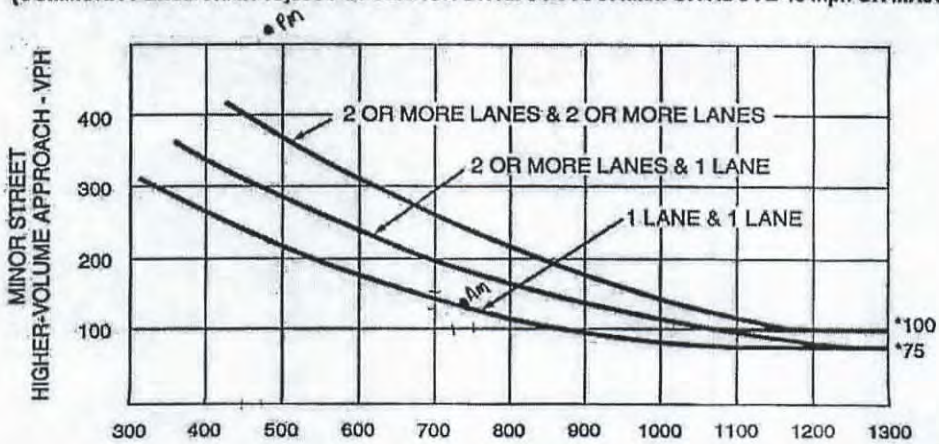
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC VH DATE 8-18-11
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Siempre Vira Rd
Minor St: Hawano Dr Nort

Critical Approach Speed 55 mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....X.....	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume Satisfied _____ Not Satisfied X	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach Major Street / Minor Street	Urban	Rural	Urban	Rural
1 / 1	8,000	5,600	2,400	1,680
2 or More / 1	9,600	6,720	2,400	1,680
2 or More / 2 or More	9,600	6,720	3,200	2,240
1 / 2 or More	8,000	5,600	3,200	2,240
	5,115		2,660	
CONDITION B - Interruption of Continuous Traffic Satisfied _____ Not Satisfied X	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach Major Street / Minor Street	Urban	Rural	Urban	Rural
1 / 1	12,000	8,400	1,200	850
2 or More / 1	14,400	10,080	1,200	850
2 or More / 2 or More	14,400	10,080	1,600	1,120
1 / 2 or More	12,000	8,400	1,600	1,120
	5,115		2,660	
Combination of CONDITIONS A + B Satisfied _____ Not Satisfied X No one condition satisfied, but following conditions fulfilled 80% or more..... No (A) No (B)	2 CONDITIONS 80%		2 CONDITIONS 80%	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

-Synchro Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	393	157	78	118	29	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	427	171	85	128	32	107
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	213				1174	149
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213				1174	149
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	69				78	88
cM capacity (veh/h)	1357				145	898

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	427	171	213	32	107
Volume Left	427	0	0	32	0
Volume Right	0	0	128	0	107
cSH	1357	1700	1700	145	898
Volume to Capacity	0.31	0.10	0.13	0.22	0.12
Queue Length 95th (ft)	34	0	0	20	10
Control Delay (s)	8.9	0.0	0.0	36.5	9.5
Lane LOS	A			E	A
Approach Delay (s)	6.3		0.0	15.7	
Approach LOS				C	

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	98	39	315	29	118	393
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	107	42	342	32	128	427
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	374				614	358
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	374				614	358
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				69	38
cM capacity (veh/h)	1185				415	686

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	107	42	374	128	427
Volume Left	107	0	0	128	0
Volume Right	0	0	32	0	427
cSH	1185	1700	1700	415	686
Volume to Capacity	0.09	0.02	0.22	0.31	0.62
Queue Length 95th (ft)	7	0	0	32	109
Control Delay (s)	8.3	0.0	0.0	17.5	18.5
Lane LOS	A			C	C
Approach Delay (s)	6.0		0.0	18.3	
Approach LOS				C	

Intersection Summary			
Average Delay	10.2		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	393	157	78	118	29	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	427	171	85	128	32	107

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total (vph)	427	171	213	32	107
Volume Left (vph)	427	0	0	32	0
Volume Right (vph)	0	0	128	0	107
Hadj (s)	0.53	0.03	-0.33	0.53	-0.67
Departure Headway (s)	5.7	5.2	5.1	7.0	5.8
Degree Utilization, x	0.67	0.24	0.30	0.06	0.17
Capacity (veh/h)	620	681	685	476	569
Control Delay (s)	18.3	8.6	10.2	9.2	8.7
Approach Delay (s)	15.5		10.2	8.8	
Approach LOS	C		B	A	

Intersection Summary			
Delay	13.4		
HCM Level of Service	B		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	98	39	315	29	118	393
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	107	42	342	32	128	427

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total (vph)	107	42	374	128	427
Volume Left (vph)	107	0	0	128	0
Volume Right (vph)	0	0	32	0	427
Hadj (s)	0.53	0.03	-0.02	0.53	-0.67
Departure Headway (s)	7.2	6.7	6.0	6.6	5.4
Degree Utilization, x	0.21	0.08	0.62	0.24	0.64
Capacity (veh/h)	467	499	581	526	637
Control Delay (s)	10.9	9.0	18.4	10.4	16.4
Approach Delay (s)	10.4		18.4	15.0	
Approach LOS	B		C	C	

Intersection Summary			
Delay	15.5		
HCM Level of Service	C		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Buildout Plus Project Phases 1-2 Analysis

-All Way Stop Control Warrants

TRAFFIC WARRANT FOR MULTI-WAY STOP CONTROLLED INTERSECTION – ADOPTED FROM MUTCD 2009 EDITION (SECTION 2B.07)

Intersection: **Siempre Viva Road/Hawano Drive North**
Condition/Year: **Buildout Plus Project Phases 1-2**

I) SUPPORT

Support Criteria			
1. Is the volume of traffic on the intersecting roads approximately equal?	Peak Hour Volume on Major Street (Siempre Viva Rd)	Peak Hour Volume on Minor Street (Hawano Drive North)	NO
	EB Approach: AM 1,439; PM 945 WB Approach AM 1,091; PM 1,124	SB Approach: AM 127, PM 511	
2. Is there is a safety concern associated with pedestrians, bicyclists, and all other users?	No	Comments: This intersection currently does not exist, however, there is not anticipated to be a high volume of pedestrians or bicycle activity in this area	
3. Can all-way stop control be useful as a safety measure at the intersection?	No	Comments:	

II) GUIDANCE

A. Traffic Signal Warrant

See Attached Signal Warrants. As shown in the attached signal warrants, a traffic signal will be warranted under buildout plus project conditions based on average daily conditions, the estimated four-hour volumes, and the estimated peak hour volume conditions.

B. Crash Warrants

Crash History				
Intersection	No. of Crashes	No. of Years	No. of crashes[1] correctable by All-Way Stop	No. of crashes[1] correctable by All-Way Stop >= 5 in 12 month period
Siempre Viva Road @ Hawano Drive North	N/A			
[1] Such crashes include right-and left turn collisions and right-angle collisions				

C. Minimum Volumes

1. Eight Hour Vehicular Volume on Major Street											
Street	Approach	Hourly Volume								Avg.	>= 300 vph
		7-8 AM	8-9 AM	9-10 AM	2-3 PM	3-4 PM	4-5 PM	5-6 PM	7-8 PM		
Siempre Viva Rd	Major Street (Total of both approaches)	2,384	2,310	1,925	1,388	1,779	2,215	1,866	1,545	**1,927**	**YES**
vph = vehicles per hour Note: Since this intersection does not currently exist, the volumes were estimated based on the existing traffic splits on Siempre Viva Road at Paseo De Las Americas											

2. Eight Hour Vehicular, Pedestrian and Bicycle Volume on Minor Street													
Street	Approach	Travel Mode	Hourly Volume								Avg.	>= 200 uph	Avg. Delay to Veh. Tr.[1]
			7-8 AM	8-9 AM	9-10 AM	2-3 PM	3-4 PM	4-5 PM	5-6 PM	7-8 PM			
Hawano Dr. North	Minor Street (Total of both approaches)	Veh.	127	123	103	320	410	511	430	356	**298**	**YES**	AM Peak SBL Delay = 36.5 sec/veh
		Ped.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.		
		Cyc.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.		
		Total	127	123	103	323	414	516	435	360	**300**		
uph = units per hour; Veh. Tr. = Vehicular Traffic; Nom. = Nominal Avg. Delay to Veh. Tr.[1] = Average delay to minor-street vehicular traffic should be at least 30 seconds per vehicle during the highest hour.													

3. 85th Percentile Approach Speed of Major Street					
Street	Approach	85th Percentile Approach Speed of Major Street	> 40 mph or 65 km/h	If YES is any of the minimum vehicular warrant satisfied	
				70 % of 300 vph	70 % of 200 uph
Siempre Viva Rd	Major Street (Total of both approaches)	55 mph (a)	**YES**	**YES**	**YES**
vph = vehicles per hour; uph = units per hour; mph = miles per hour; km/h = kilometers per hour (a) Since the roadway is not constructed yet the 85th percentile speed was assumed to be the design speed of the roadway					

A. No. of Criteria Satisfied to 80 percent

No. of Criteria Satisfied to 80 percent			
Intersection	B	C1	C2
Siempre Viva Road @ Hawano Drive North	**YES**	**YES**	**YES**
Criterion C.3 is excluded from this condition.			

III) OPTION

Option Criteria			
Criterion		Criterion Satisfied	Comments
A.	Need to control left-turn conflicts	YES	There are 249 EBL and 131 SBL projected under buildout plus project conditions
B.	Need to control vehicle/ pedestrian conflicts near locations that generate high pedestrian volumes	NO	
C.	Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and	NO	
D.	An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection.	NO	
Criterion C.3 is excluded from this condition.			

All-Way Stop Control 100 % Warrant Satisfied: YES, However – since the traffic volumes are not balanced, an all-way stop-control is not recommended under buildout conditions. Rather, since a traffic signal is warranted, a traffic signal is recommended under buildout conditions.

All-Way Stop Control 70 % Warrant Satisfied: YES, However – since the traffic volumes are not balanced, an all-way stop-control is not recommended under buildout conditions. Rather, since a traffic signal is warranted, a traffic signal is recommended under buildout conditions.

-Signal Warrants

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 4)

Buildout + Project

COUNT DATE _____

CALC KH DATE 8-18-11

CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Siempre Viva Rd

Minor St: Hawano Dr North

Critical Approach Speed _____ mph

Critical Approach Speed 55 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒ or ☐ } RURAL (R)

In built up area of isolated community of < 10,000 population..... ☐

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More		7-8	8-9	9-10	2-3	3-4	4-5	5-6	6-7	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	2381	2316	1925	1388	1979	2215	1866	1545	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	127	123	103	320	410	511	436	356	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☒ NO ☐

Same as above

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More										Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)									
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)									

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME	No	Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC	✓	
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 4)

Buildout + Hawano Phases 1-2

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☒ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	7-8	8-9	4-5	5-6	Hour
Both Approaches - Major Street		X	2384	2310	2215	1866	
Higher Approach - Minor Street		X	127	123	511	430	

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☒	No ☐

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) **SATISFIED YES ☒ NO ☐**

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND pm - 2.6 veh-hrs	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	AM	PM Hour
Both Approaches - Major Street		X	2384	2215
Higher Approach - Minor Street		X	127	511

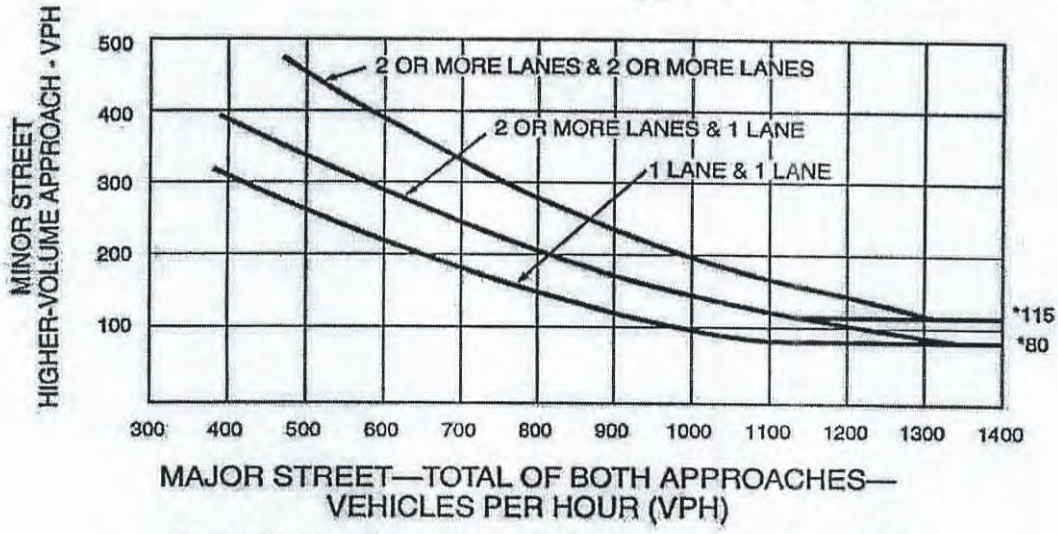
The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Buildout + Project

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

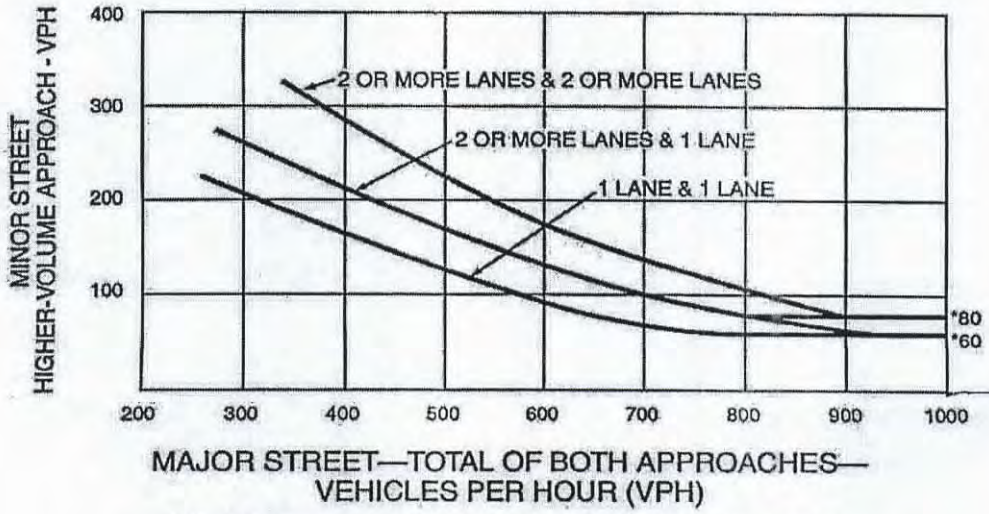
Siempre Viva / Hawano Dr North



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

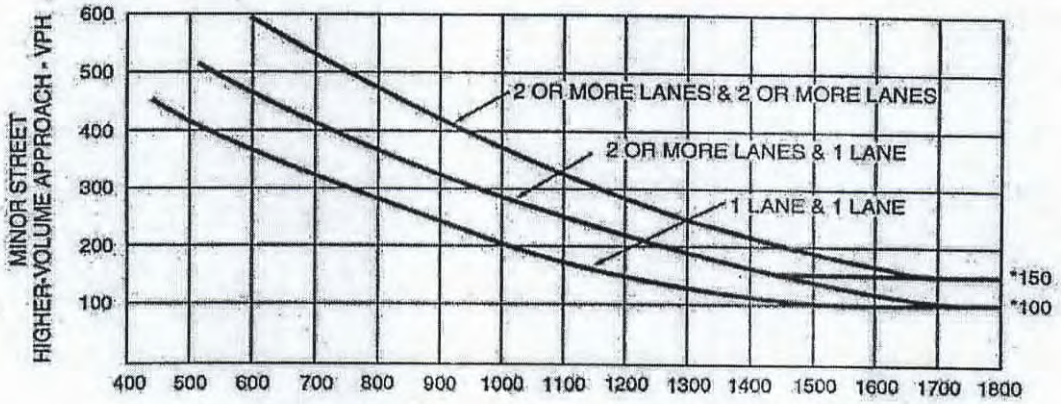


*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Buildout + Project

Figure 4C-3. Warrant 3, Peak Hour

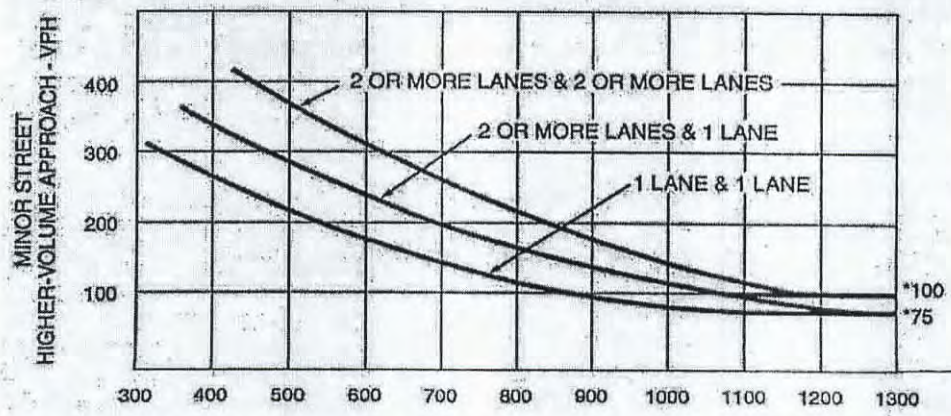
Siempre Viva / Hawaro Drive North



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Buildout + Hawano Phases 1-2

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____
CALC VH DATE 8-04-11
CHK _____ DATE _____

DIST ____ CO ____ RTE ____ PM ____

Major St: Siempre Viva Rd
Minor St: Hawano Dr North

Critical Approach Speed _____ mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☒ or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)
☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

	Minimum Requirements EADT			
URBAN..... RURAL....X.....	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume Satisfied X Not Satisfied _____				
Number of lanes for moving traffic on each approach Major Street / Minor Street	Urban	Rural	Urban	Rural
1..... / 1.....	8,000	5,600	2,400	1,680
2 or More..... / 1.....	9,600	6,720	2,400	1,680
2 or More..... / 2 or More.....	9,600	6,720	3,200	2,240
1..... / 2 or More.....	8,000	5,600	3,200	2,240
		26,270		2660
CONDITION B - Interruption of Continuous Traffic Satisfied X Not Satisfied _____	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach Major Street / Minor Street	Urban	Rural	Urban	Rural
1..... / 1.....	12,000	8,400	1,200	850
2 or More..... / 1.....	14,400	10,080	1,200	850
2 or More..... / 2 or More.....	14,400	10,080	1,600	1,120
1..... / 2 or More.....	12,000	8,400	1,600	1,120
		26,270		2660
Combination of CONDITIONS A + B Satisfied X Not Satisfied _____ No one condition satisfied, but following conditions fulfilled 80% or more..... X (A) X (B)	2 CONDITIONS 80%		2 CONDITIONS 80%	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

-Synchro Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	249	1190	683	262	32	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	262	1253	719	276	34	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)			624			
pX, platoon unblocked	0.95				0.95	0.95
vC, conflicting volume	995				1869	359
vC1, stage 1 conf vol					719	
vC2, stage 2 conf vol					1151	
vCu, unblocked vol	942				1863	273
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	62				73	85
cM capacity (veh/h)	688				123	688

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	262	626	626	359	359	276	34	100
Volume Left	262	0	0	0	0	0	34	0
Volume Right	0	0	0	0	0	276	0	100
cSH	688	1700	1700	1700	1700	1700	123	688
Volume to Capacity	0.38	0.37	0.37	0.21	0.21	0.16	0.27	0.15
Queue Length 95th (ft)	45	0	0	0	0	0	26	13
Control Delay (s)	13.4	0.0	0.0	0.0	0.0	0.0	45.1	11.1
Lane LOS	B						E	B
Approach Delay (s)	2.3			0.0			19.7	
Approach LOS							C	

Intersection Summary

Average Delay	2.3		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	62	1029	1059	65	131	380
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	65	1083	1115	68	138	400
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)			624			
pX, platoon unblocked	0.84				0.84	0.84
vC, conflicting volume	1183				1787	557
vC1, stage 1 conf vol					1115	
vC2, stage 2 conf vol					672	
vCu, unblocked vol	1026				1746	280
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	88				23	33
cM capacity (veh/h)	564				179	601

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	65	542	542	557	557	68	138	400
Volume Left	65	0	0	0	0	0	138	0
Volume Right	0	0	0	0	0	68	0	400
cSH	564	1700	1700	1700	1700	1700	179	601
Volume to Capacity	0.12	0.32	0.32	0.33	0.33	0.04	0.77	0.67
Queue Length 95th (ft)	10	0	0	0	0	0	127	124
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0	71.7	22.1
Lane LOS	B						F	C
Approach Delay (s)	0.7			0.0			34.8	
Approach LOS							D	

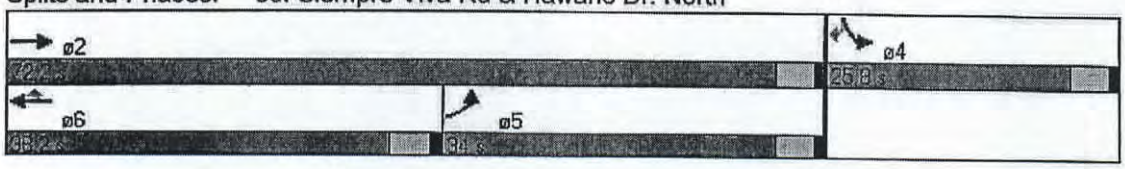
Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Satd. Flow (RTOR)				276		100
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	249	1190	683	262	32	95
Adj. Flow (vph)	262	1253	719	276	34	100
Lane Group Flow (vph)	262	1253	719	276	34	100
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Total Split (s)	34.0	72.2	38.2	38.2	25.8	25.8
Act Effct Green (s)	30.0	82.1	48.1	48.1	7.9	7.9
Actuated g/C Ratio	0.31	0.84	0.49	0.49	0.08	0.08
v/c Ratio	0.48	0.42	0.41	0.30	0.24	0.45
Control Delay	31.4	2.6	7.4	1.4	45.5	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	2.6	7.4	1.4	45.5	15.7
LOS	C	A	A	A	D	B
Approach Delay		7.6	5.7		23.3	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 98
Actuated Cycle Length: 98
Offset: 26 (27%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 7.7 — Intersection LOS: A
Intersection Capacity Utilization 46.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 85: Siempre Viva Rd & Hawano Dr. North

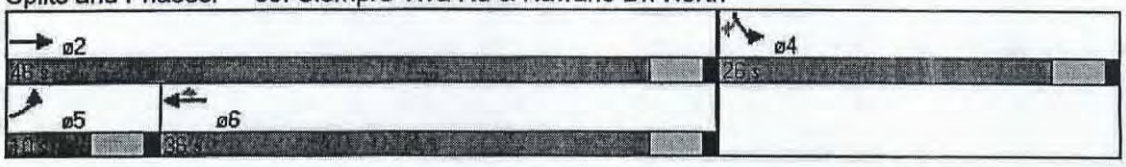


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	931	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	931	1583
Satd. Flow (RTOR)				68		194
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	62	1029	1059	65	131	380
Adj. Flow (vph)	65	1083	1115	68	138	400
Lane Group Flow (vph)	65	1083	1115	68	138	400
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Total Split (s)	10.0	46.0	36.0	36.0	26.0	26.0
Act Effct Green (s)	7.0	48.3	41.4	41.4	15.7	15.7
Actuated g/C Ratio	0.10	0.67	0.58	0.58	0.22	0.22
v/c Ratio	0.38	0.46	0.55	0.07	0.68	0.80
Control Delay	37.3	7.3	4.7	0.4	41.4	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	7.3	4.7	0.4	41.4	25.6
LOS	D	A	A	A	D	C
Approach Delay		9.0	4.4		29.7	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 72
Actuated Cycle Length: 72
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 59.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 85: Siempre Viva Rd & Hawano Dr. North



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	931	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	931	1583
Satd. Flow (RTOR)				68		194
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	62	1029	1059	65	131	380
Adj. Flow (vph)	65	1083	1115	68	138	400
Lane Group Flow (vph)	65	1083	1115	68	138	400
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Total Split (s)	10.0	46.0	36.0	36.0	26.0	26.0
Act Effct Green (s)	7.0	48.3	41.4	41.4	15.7	15.7
Actuated g/C Ratio	0.10	0.67	0.58	0.58	0.22	0.22
v/c Ratio	0.38	0.46	0.55	0.07	0.68	0.80
Control Delay	37.3	7.3	4.7	0.4	41.4	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	7.3	4.7	0.4	41.4	25.6
LOS	D	A	A	A	D	C
Approach Delay		9.0	4.4		29.7	
Approach LOS		A	A		C	

Intersection Summary

Cycle Length: 72
Actuated Cycle Length: 72
Offset: 3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 59.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 85: Siempre Viva Rd & Hawano Dr. North

APPENDIX N

- Responses to County Comments

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

M E M O R A N D U M

DATE: December 5, 2011

TO: Dan Berkus, Paragon Management Company
Jeramey Harding, T&B Planning

FROM: Bill E. Darnell, P.E.
Vicki S. Haskell, P.E.

D&A Ref. No: 091201

RE: Hawano (TM 5566; ER 93-19-006OO) – Responses to County Comments Dated June 17, 2011

Darnell & Associates, Inc. (D&A) has reviewed the County of San Diego's June 17, 2011 comments on our March 30, 2011 Traffic Study for Hawano (TM 5566; ER 93-19-006OO). The attached table summarizes the County's comments and D&A's written responses to each of the comments. These responses have been incorporated into our December 2011 iteration of the traffic study.

Please feel free to contact the office if you have any questions.

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Phone: 619-233-9373 • Fax: 619-233-4034
E-mail: office@darnell-assoc.com

HAWANO (TM 5566, ER 93-19-006OO)
RESPONSES TO COUNTY OF SAN DIEGO JUNE 17, 2011 TRAFFIC RELATED COMMENTS

Item No.	Subject Area	Issue, Revision or Information Required	Issue Resolution Summary (Response To Comment)	Location where Revision can be Found in Revised Document
24-15	Traffic Study	The TIS should note that if there is a future change in the proposed phasing of the project's lot development plan that change could require revisions to the traffic analysis to determine if the change alters the project's impact and mitigation findings.	Comment is acknowledged. A note has been added to the trip generation section of the traffic study to indicate that if the phasing of the project's lot development plan changes, a new traffic study may be required to assess the potential changes to the project's impacts and mitigation findings.	Section II, Page 11
24-16	Traffic Study	The TIS should update the information regarding the SR-11 ramp interchanges (Pg.6). Caltrans has identified that the preferred SR-11 Interchange Alternative includes a full interchange at Enrico Fermi Drive and half interchange at Siempre Viva Road. It should be noted that until the SR-11 Final EIR is certified that the proposed SR-11 design is still subject to change.	The discussion on the SR-11 interchange has been accordingly updated, however, since the build out analysis is based on the assumptions included in the East Otay Mesa Specific Plan the buildout analysis still includes the SR-11 with the two full interchanges.	Section I, Page 6
24-17	Traffic Study	The consultant should review the identification of jurisdiction for the roadway segments (Ex. Table 5). Some study area roadway segments appear to be located within both the City and County jurisdictions although not indicated in the TIS table (Ex Otay Mesa Road from Sanyo Avenue to Enrico Fermi Drive)	The jurisdictions of the roadway segments have been updated accordingly.	Tables 5, 13,17,25, and 31
24-18	Traffic Study	Figure 35 (Pg.90) should create a designation for improvements up to the 4 lane Major standard (as identified by note "B" for Siempre Viva Road).	The intent of Figure 35 was to show that the project traffic could be accommodated by something less than the ultimate requirements of the Specific Plan. However, the graphic has been revised to reflect the ultimate requirements consistent with the Specific Plan requirements.	Figure 35
24-19	Traffic Study	Table 26 (Pg.88) classifications for Siempre Viva Road for Phases 1-2 should be identified as 4M (Major road) as indicated in footnote "c".	The intent of Table 26 was to show that the project traffic could be accommodated by something less than the ultimate requirements of the Specific Plan. However, the table has been revised to reflect the ultimate requirements consistent with the Specific Plan requirements.	Table 26
24-20	Traffic Study	The traffic consultant should coordinate with DPW Conditioning staff to confirm the project's required frontage and onsite road improvements are consistent with the Subdivision Ordinance and the East Otay Mesa Specific Plan. Onsite Circulation Element roads such as Siempre Viva Road would require full/ultimate improvements. For example, Table 26 indicates the onsite segment of Siempre Viva Road would be built to 2-lane Light Collector standards and that the applicant would dedicate and provide security for the full width Major Road improvements. Compliance with the Subdivision Ordinance would require that the onsite segment of Siempre Viva Road be improved to a 4-lane Major Road design prior to the Final Map for Phase 2.	The Tables and Figures describing the on-site circulation have been updated to reflect that upon completion of Phase 2 of the project all circulation element roads will be built out to their full circulation element standards.	Figure 35 and Table 26
24-21	Traffic Study	The TIS (Pg.103/104) should note that mitigation in the City of San Diego is required to be in place prior to Final Map for Phase One (not building permits) for the intersection improvements to Airway Road/Sanyo Avenue and Siempre Viva Road/Michael Faraday Drive.	The cumulative impact mitigation measures for Airway Road/Sanyo Avenue and Siempre Viva Road/Michael Faraday Drive have been revised accordingly.	Section VIII

HAWANO (TM 5566, ER 93-19-006OO)
RESPONSES TO COUNTY OF SAN DIEGO JUNE 17, 2011 TRAFFIC RELATED COMMENTS

Item No.	Subject Area	Issue, Revision or Information Required	Issue Resolution Summary (Response To Comment)	Location where Revision can be Found in Revised Document
24-22	Traffic Study/ Internal Access Roads - Phase I	The TIS should assess access alternatives that are consistent with the Specific Plan design standards for minimizing median cuts along Gateway roads. The proposed lot redesign for Phase 1 results in primary access (Hawano Drive North) onto Siempre Viva Road, which is a Circulation Element (CE) road and a Specific Plan Gateway road. The Hawano Drive North connection would require full access and a median cut opening along Siempre Viva Road. For Gateways roads classified as Major Roads, median cuts should be minimized according to the Specific Plan. The TIS indicates (Table 25) that Siempre Viva Road is projected to carry the highest volume of daily traffic when compared to the project's other frontage roads. Primary access onto Siempre Viva Road for the Phase 1 lots could create intersection design challenges due to the higher daily traffic volumes.	On October 7, 2011 The County of San Diego approved a Design Exception request which supported the proposed project design.	Appendix M
24-23	Traffic Study/ Internal Access Roads - Phase I	The TIS should assess access alternatives that reduce the number of proposed direct access points along Alta Road which is a Circulation Element (CE) road. The proposed lot redesign for Phase 1 would create three or more driveways along Alta Road between Airway Road and Siempre Viva Road. Direct access onto CE roads should be minimized to the extent possible. The access alternatives should assess lot design that would require less than four access points along Alta Road.	See Response to Item 24-22	Appendix M
24-24	Traffic Study/ Internal Access Roads - Phase I	The access alternatives should explore project access onto Airway Place, which is non-CE/Gateway road with relatively low projected traffic volumes.	See Response to Item 24-22	Appendix M
24-25	Traffic Study/ Internal Access Roads - Phase I	The TIS should discuss the adequacy of the proposed cul-de-sac design for Hawano Drive North in accommodating projected Phase 1 traffic. The proposed lot redesign for Phase 1 includes Hawano Drive North which has lengthy cul-de-sac design. The TIS indicates (Table 27) that Hawano Drive North will carry up to 5,500 trips per day which exceeds the 4,500 ADT threshold for a non-CE road and far exceeds the capacity assumption for a cul-de-sac as identified in the County's Public Road Standards.	See Response to Item 24-22	Appendix M
24-26	Traffic Study/General Information	Pending evaluation and approval of the project's Preliminary Drainage Study and Stormwater Management Plan, further improvements may be required to the surrounding area as mitigation for drainage impacts caused by this project.	Comment is acknowledged; no response is necessary.	N/A