Natomas Crossing

Project# P04-264

State Clearing House # 2007112088

Draft Environmental Impact Report
Appendices Volume II (D continued-F)

Prepared For The
City of Sacramento

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Prepared By

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Natomas Crossing

Appendices

Volume I

A. Notice of Preparation
B. Comments on the Notice of Preparation
C. Initial Study
D. Traffic Appendices

Volume II

D. Traffic Appendices (Continued)
E. Air Resources Impact Analysis
F. Noise Impact Analysis

APPENDIX D (CONTINUED)

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Scenario Report

Scenario:	Baseline Plus Project AM
Command:	Baseline Plus Project AM
Volume:	Baseline Plus Project AM
Geometry:	Baseline With Development
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 El Centro Road and Arena Boule	B	18.9	0.641	B	18.9	0.641	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	C	20.7	0.698	C	20.7	0.698	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	A	10.0	0.341	A	10.0	0.341	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	13.4	0.651	B	13.4	0.651	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	86.2	1.052	F	86.2	1.052	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	B	10.6	0.000	B	10.6	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	B	10.7	0.000	B	10.7	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	B	14.5	0.394	B	14.5	0.394	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	B	10.5	0.000	B	10.5	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	B	10.5	0.000	B	10.5	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	D	54.2	0.917	D	54.2	0.917	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	11.0	0.000	B	11.0	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	A	8.9	0.376	A	8.9	0.376	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	A	4.5	0.301	A	4.5	0.301	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	10.9	0.000	B	10.9	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	A	5.7	0.399	A	5.7	0.399	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	13.0	0.000	B	13.0	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	C	32.9	0.876	C	32.9	0.876	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	10.8	0.000	B	10.8	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	C	21.7	0.841	C	21.7	0.841	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	16.7	0.510	B	16.7	0.510	+ 0.000 D/V
# 24 Truxel Road and Arena Boulevar	B	19.2	0.588	B	19.2	0.588	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	B	17.4	0.343	B	17.4	0.343	+ 0.000 D/V

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Intersection	Base			Future			Change
		Del/	V/		Del/	V/	in
	LOS	Veh	C	LOS	Veh	C	

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                              Natomas Crossing
                           Baseline Plus Project
                               AM Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #1 El Centro Road and Arena Boulevard
********************************************************************************
Cycle (sec):          0                   Critical Vol./Cap.(X):         0.641
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        18.9
Optimal Cycle:        60                  Level Of Service:                  B
********************************************************************************
Street Name:               El Centro Road                  Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  1  0  1   1  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      76  216    88   191  329     3     2  496   198    66  346   131
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   76  216    88   191  329     3     2  496   198    66  346   131
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    76  216    88   191  329     3     2  496   198    66  346   131
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   76  216    88   191  329     3     2  496   198    66  346   131
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   76  216    88   191  329     3     2  496   198    66  346   131
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 1.00  0.85  0.95 1.00  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 1900  1615  1805 1900  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.06  0.05  0.11 0.17  0.00  0.00 0.26  0.12  0.04 0.18  0.08
Crit Moves:  ****                  ****                 ****        ****
Green/Cycle: 0.07 0.12  0.12  0.21 0.27  0.27  0.00 0.41  0.41  0.06 0.46  0.46
Volume/Cap:  0.64 0.49  0.45  0.49 0.64  0.01  0.39 0.64  0.30  0.64 0.39  0.18
Delay/Veh:   38.6 25.5  26.1  21.7 22.1  16.0  73.7 16.1  12.3  40.6 10.9   9.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  38.6 25.5  26.1  21.7 22.1  16.0  73.7 16.1  12.3  40.6 10.9   9.6
LOS by Move:    D    C     C     C    C     B     E    B     B     D    B     A
HCM2k95thQ:     5    5     4     7   12     0     1   16     5     5    9     3
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Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Duckhorn Drive and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.698
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.7
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Duckhorn Drive						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	2 0	0 1	0	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	81	16	326	196	71	42	35	859	63	220	406	254
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	16	326	196	71	42	35	859	63	220	406	254
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	16	326	196	71	42	35	859	63	220	406	254
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	16	326	196	71	42	35	859	63	220	406	254
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	16	326	196	71	42	35	859	63	220	406	254
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.94	0.94	0.95	0.95	0.85	0.92	0.95	0.85
Lanes:	1.00	1.00	1.00	2.00	0.63	0.37	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1805	1900	1615	3502	1127	667	1805	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.01	0.20	0.06	0.06	0.06	0.02	0.24	0.04	0.06	0.11	0.16
Crit Moves:			****	****				****		****		
Green/Cycle:	0.15	0.29	0.29	0.08	0.22	0.22	0.05	0.34	0.34	0.09	0.38	0.38
Volume/Cap:	0.29	0.03	0.70	0.70	0.29	0.29	0.41	0.70	0.11	0.70	0.29	0.41
Delay/Veh:	23.1	15.3	23.6	34.4	20.1	20.1	31.0	18.9	13.7	33.3	13.0	14.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.1	15.3	23.6	34.4	20.1	20.1	31.0	18.9	13.7	33.3	13.0	14.0
LOS by Move:	C	B	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	3	0	13	7	4	4	2	16	2	7	6	8

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Arena Boulevard and I-5 Southbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.341
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	10.0
Optimal Cycle:	60	Level Of Service:	A

Street Name:	I-5 Southbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	0 0	2	0 1	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	319	0	68	0	603	788	0	792	1071
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	319	0	68	0	603	788	0	792	1071
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	319	0	68	0	603	0	0	792	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	319	0	68	0	603	0	0	792	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	319	0	68	0	603	0	0	792	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.60	1.00	0.85	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	0.00	3.00	1.00
Final Sat.:	0	0	0	2278	0	1615	0	3610	1900	0	5187	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.00	0.04	0.00	0.17	0.00	0.00	0.15	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.41	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.34	0.00	0.10	0.00	0.34	0.00	0.00	0.31	0.00
Delay/Veh:	0.0	0.0	0.0	12.3	0.0	11.0	0.0	9.5	0.0	0.0	9.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	12.3	0.0	11.0	0.0	9.5	0.0	0.0	9.3	0.0
LOS by Move:	A	A	A	B	A	B	A	A	A	A	A	A
HCM2k95thQ:	0	0	0	5	0	2	0	7	0	0	7	0

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Arena Boulevard and I-5 Northbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.651
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	13.4
Optimal Cycle:	60	Level Of Service:	B

Street Name:	I-5 Northbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	0	0 2	0 0	0	0 0	0 0	2	0 1	0 0	4	0 1
Volume Module:												
Base Vol:	514	0	954	0	0	0	0	905	40	0	1312	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	514	0	954	0	0	0	0	905	40	0	1312	159
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	514	0	954	0	0	0	0	905	0	0	1312	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	514	0	954	0	0	0	0	905	0	0	1312	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	514	0	954	0	0	0	0	905	0	0	1312	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.59	1.00	0.75	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	1.00	0.00	4.00	1.00
Final Sat.:	2260	0	2842	0	0	0	0	3610	1900	0	6916	1900
Capacity Analysis Module:												
Vol/Sat:	0.23	0.00	0.34	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.19	0.00
Crit Moves:			****					****				
Green/Cycle:	0.52	0.00	0.52	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.38	0.00
Volume/Cap:	0.44	0.00	0.65	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.49	0.00
Delay/Veh:	9.4	0.0	11.7	0.0	0.0	0.0	0.0	16.3	0.0	0.0	14.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.4	0.0	11.7	0.0	0.0	0.0	0.0	16.3	0.0	0.0	14.2	0.0
LOS by Move:	A	A	B	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	7	0	16	0	0	0	0	16	0	0	11	0

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 East Commerce Way and Del Paso Road

Cycle (sec):	0	Critical Vol./Cap.(X):	1.052
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	86.2
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Del Paso Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 3 0 1			2 0 3 0 1			3 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	96	280	126	246	480	888	853	1043	180	237	1258	386
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	280	126	246	480	888	853	1043	180	237	1258	386
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	280	126	246	480	888	853	1043	180	237	1258	386
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	280	126	246	480	888	853	1043	180	237	1258	386
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	280	126	246	480	888	853	1043	180	237	1258	386
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	3.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	5253	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.05	0.08	0.07	0.09	0.55	0.16	0.20	0.11	0.07	0.24	0.24
Crit Moves:	****					****	****				****	
Green/Cycle:	0.03	0.29	0.29	0.26	0.52	0.52	0.15	0.29	0.29	0.10	0.23	0.23
Volume/Cap:	1.05	0.19	0.27	0.27	0.18	1.05	1.05	0.70	0.39	0.70	1.05	1.04
Delay/Veh:	196.8	48.2	49.7	53.2	22.6	88.6	122.4	58.6	51.9	85.0	110	125.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	196.8	48.2	49.7	53.2	22.6	88.6	122.4	58.6	51.9	85.0	110	125.8
LOS by Move:	F	D	D	D	C	F	F	E	D	F	F	F
HCM2k95thQ:	10	8	10	11	9	88	36	33	15	15	52	44

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                               Natomas Crossing
                             Baseline Plus Project
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 10.6]
********************************************************************************
Street Name:         E. Commerce Way                          Road B5
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0  484     0     0  893    71     0     0    26     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  484     0     0  893    71     0     0    26     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  484     0     0  893    71     0     0    26     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  484     0     0  893    71     0     0    26     0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   333  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   668  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   668  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.04  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.6 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             10.6            xxxxxx
ApproachLOS:          *                *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                           Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      0.4       Worst Case Level Of Service: B[ 10.7]
********************************************************************************
Street Name:         E. Commerce Way                        Road B4
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  484     0     0  847    71     0     0    51     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  484     0     0  847    71     0     0    51     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  484     0     0  847    71     0     0    51     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0  484     0     0  847    71     0     0    51     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   318  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   684  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   684  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.07  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.7 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:   xxxxxx           xxxxxx             10.7           xxxxxx
ApproachLOS:        *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.394
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        14.5
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:        East Commerce Way        Arco Arena Main Entrance - Road B
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  2  1  0   1  0  1  0  1   2  0  1  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     406  326     3   11  683    66   78    1    72   30    2     8
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  406  326     3   11  683    66   78    1    72   30    2     8
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   406  326     3   11  683    66   78    1    72   30    2     8
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  406  326     3   11  683    66   78    1    72   30    2     8
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  406  326     3   11  683    66   78    1    72   30    2     8
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.92 0.91  0.85 0.92 0.90  0.90 0.95 1.00  0.85 0.92 1.00  0.75
Lanes:       2.00 3.00  1.00 2.00 2.74  0.26 1.00 1.00  1.00 2.00 1.00  2.00
Final Sat.:  3502 5187  1615 3502 4668   451 1805 1900  1615 3502 1900  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.06  0.00 0.00 0.15  0.15 0.04 0.00  0.04 0.01 0.00  0.00
Crit Moves:  ****                ****                     ****  ****
Green/Cycle: 0.29 0.63  0.63 0.03 0.37  0.37 0.13 0.11  0.11 0.02 0.01  0.01
Volume/Cap:  0.39 0.10  0.00 0.10 0.39  0.39 0.34 0.00  0.39 0.39 0.13  0.34
Delay/Veh:   17.2  4.3   4.0 28.6 14.0  14.0 24.8 23.6  26.1 32.3 33.2  38.1
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  17.2  4.3   4.0 28.6 14.0  14.0 24.8 23.6  26.1 32.3 33.2  38.1
LOS by Move:    B    A     A    C    B     B    C    C     C    C    C     D
HCM2k95thQ:     7    2     0    0    8     8    3    0     4    2    0     1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
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                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      0.3       Worst Case Level Of Service: B[ 10.5]
********************************************************************************
Street Name:          E. Commerce Way                          Road B2
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:         0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  800     0      0  865    30      0    0    42      0    0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0  800     0      0  865    30      0    0    42      0    0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0  800     0      0  865    30      0    0    42      0    0     0
Reduct Vol:      0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:     0  800     0      0  865    30      0    0    42      0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   303  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   699  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   699  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.06  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *      *    *     B      *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *      *    *     *      *    *     *
ApproachDel:     xxxxxx            xxxxxx              10.5             xxxxxx
ApproachLOS:        *                 *                   B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      0.3       Worst Case Level Of Service: B[ 10.5]
********************************************************************************
Street Name:           E. Commerce Way                        Road B1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  800     0     0  892    15     0     0    42     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  800     0     0  892    15     0     0    42     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  800     0     0  892    15     0     0    42     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0  800     0     0  892    15     0     0    42     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   305  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   697  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   697  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.06  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.5 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:   xxxxxx           xxxxxx             10.5            xxxxxx
ApproachLOS:        *                *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
********************************************************************************
Cycle (sec):           0                  Critical Vol./Cap.(X):        0.917
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):       54.2
Optimal Cycle:       142                  Level Of Service:                 D
********************************************************************************
Street Name:         East Commerce Way                    Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     402  206   162   171  224   435   347  772   544   415  658   187
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  402  206   162   171  224   435   347  772   544   415  658   187
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   402  206   162   171  224   435   347  772   544   415  658   187
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  402  206   162   171  224   435   347  772   544   415  658   187
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  402  206   162   171  224   435   347  772   544   415  658   187
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.04  0.10  0.05 0.04  0.27  0.10 0.15  0.34  0.12 0.13  0.12
Crit Moves:  ****                        ****              ****  ****
Green/Cycle: 0.13 0.28  0.28  0.14 0.29  0.29  0.22 0.37  0.37  0.13 0.28  0.28
Volume/Cap:  0.92 0.14  0.36  0.36 0.15  0.92  0.46 0.41  0.92  0.92 0.46  0.42
Delay/Veh:   85.3 38.2  41.2  56.0 37.1  71.1  48.7 33.5  62.1  84.5 42.5  42.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  85.3 38.2  41.2  56.0 37.1  71.1  48.7 33.5  62.1  84.5 42.5  42.4
LOS by Move:    F    D     D     E    D     E     D    C     E     F    D     D
HCM2k95thQ:    22    5    11     7    5    37    13   17    43    22   16    13
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 11.0]
********************************************************************************
Street Name:          E. Commerce Way                      Road C4
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  730     0     0 1108    70     0    0     2     0    0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  730     0     0 1108    70     0    0     2     0    0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  730     0     0 1108    70     0    0     2     0    0     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0  730     0     0 1108    70     0    0     2     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   404  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   601  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   601  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              11.0            xxxxxx
ApproachLOS:         *                *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3
********************************************************************************
Cycle (sec):            0               Critical Vol./Cap.(X):         0.376
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):         8.9
Optimal Cycle:         60               Level Of Service:                  A
********************************************************************************
Street Name:              E. Commerce Way            Amelia Earhart Ave. - Road C3
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        1  0  3  0  1   1  0  2  1  0   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      29  652    38     5 1075    35    77    3     5    87    5    40
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   29  652    38     5 1075    35    77    3     5    87    5    40
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    29  652    38     5 1075    35    77    3     5    87    5    40
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   29  652    38     5 1075    35    77    3     5    87    5    40
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   29  652    38     5 1075    35    77    3     5    87    5    40
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.91  0.91  0.95 0.91  0.91  0.95 0.87  0.87
Lanes:       1.00 3.00  1.00  1.00 2.91  0.09  1.00 0.37  0.63  1.00 0.11  0.89
Final Sat.:  1805 5187  1615  1805 4998   163  1805  646  1076  1805  183  1464
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.13  0.02  0.00 0.22  0.22  0.04 0.00  0.00  0.05 0.03  0.03
Crit Moves:  ****                   ****       ****                   ****
Green/Cycle: 0.04 0.60  0.60  0.01 0.57  0.57  0.11 0.02  0.02  0.17 0.07  0.07
Volume/Cap:  0.38 0.21  0.04  0.21 0.38  0.38  0.38 0.28  0.28  0.28 0.38  0.38
Delay/Veh:   31.0  5.5   4.9  33.6  7.1   7.1  25.8 34.7  34.7  22.2 28.5  28.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  31.0  5.5   4.9  33.6  7.1   7.1  25.8 34.7  34.7  22.2 28.5  28.5
LOS by Move:    C    A     A     C    A     A     C    C     C     C    C     C
HCM2k95thQ:     2    4     1     1    8     8     4    1     1     3    3     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #15 E. Commerce Way and Road C2
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.301
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):         4.5
Optimal Cycle:        60                 Level Of Service:                 A
********************************************************************************
Street Name:          E. Commerce Way                        Road C2
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  0   0  0  3  0  1   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      43  668     0     0 1058   109    51    0    14     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   43  668     0     0 1058   109    51    0    14     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    43  668     0     0 1058   109    51    0    14     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   43  668     0     0 1058   109    51    0    14     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   43  668     0     0 1058   109    51    0    14     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  1.00  1.00 0.91  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 3.00  0.00  0.00 3.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 5187     0     0 5187  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.13  0.00  0.00 0.20  0.07  0.03 0.00  0.01  0.00 0.00  0.00
Crit Moves:  ****                 ****         ****
Green/Cycle: 0.08 0.76  0.00  0.00 0.68  0.68  0.09 0.00  0.09  0.00 0.00  0.00
Volume/Cap:  0.30 0.17  0.00  0.00 0.30  0.10  0.30 0.00  0.09  0.00 0.00  0.00
Delay/Veh:   27.3  2.1   0.0   0.0  4.0   3.4  26.4  0.0  25.1   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  27.3  2.1   0.0   0.0  4.0   3.4  26.4  0.0  25.1   0.0  0.0   0.0
LOS by Move:    C    A     A     A    A     A     C    A     C     A    A     A
HCM2k95thQ:     2    3     0     0    6     2     2    0     1     0    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                           Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 10.9]
********************************************************************************
Street Name:         E. Commerce Way                        Road C1
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign       Stop Sign
Rights:          Include          Include          Include         Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  711     0     0 1017    55     0     0    29     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  711     0     0 1017    55     0     0    29     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  711     0     0 1017    55     0     0    29     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0  711     0     0 1017    55     0     0    29     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   367  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   636  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   636  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.05  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             10.9           xxxxxx
ApproachLOS:       *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #17 E. Commerce Way and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.399
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	5.7
Optimal Cycle:	60	Level Of Service:	A

Street Name:	E. Commerce Way		Natomas Crossing Drive	
Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 2 0 1	2 0 2 0 0	0 0 0 0 0	2 0 0 0 1

Movement:	NB L	NB T	NB R	SB L	SB T	SB R	EB L	EB T	EB R	WB L	WB T	WB R
Volume Module:												
Base Vol:	0	618	16	31	1015	0	0	0	0	40	0	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	618	16	31	1015	0	0	0	0	40	0	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	618	16	31	1015	0	0	0	0	40	0	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	618	16	31	1015	0	0	0	0	40	0	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	618	16	31	1015	0	0	0	0	40	0	93
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.85	0.92	0.95	1.00	1.00	1.00	1.00	0.92	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1900	3610	1615	3502	3610	0	0	0	0	3502	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.01	0.00	0.06
Crit Moves:	****				****							****
Green/Cycle:	0.00	0.67	0.67	0.03	0.71	0.00	0.00	0.00	0.00	0.14	0.00	0.14
Volume/Cap:	0.00	0.26	0.01	0.26	0.40	0.00	0.00	0.00	0.00	0.08	0.00	0.40
Delay/Veh:	0.0	4.0	3.3	29.3	3.7	0.0	0.0	0.0	0.0	22.3	0.0	24.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.0	3.3	29.3	3.7	0.0	0.0	0.0	0.0	22.3	0.0	24.4
LOS by Move:	A	A	A	C	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	5	0	1	8	0	0	0	0	1	0	4

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                            Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.4       Worst Case Level Of Service: B[ 13.0]
********************************************************************************
Street Name:          E. Commerce Way                          Road D3
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  634     0     0  823   232     0     0    50     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  634     0     0  823   232     0     0    50     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  634     0     0  823   232     0     0    50     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  634     0     0  823   232     0     0    50     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   528  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   501  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   501  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              13.0            xxxxxx
ApproachLOS:          *                 *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #19 East Commerce Way and Road D2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	32.9
Optimal Cycle:	87	Level Of Service:	C

Street Name:	E. Commerce Way						Road D2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	0	0 0	2 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	682	340	0	0	479	395	294	0	125	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	682	340	0	0	479	395	294	0	125	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	682	340	0	0	479	395	294	0	125	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	682	340	0	0	479	395	294	0	125	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	682	340	0	0	479	395	294	0	125	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	1.00	0.95	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	3610	0	0	3610	1615	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.38	0.09	0.00	0.00	0.13	0.24	0.16	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.43	0.71	0.00	0.00	0.28	0.28	0.19	0.00	0.19	0.00	0.00	0.00
Volume/Cap:	0.88	0.13	0.00	0.00	0.48	0.88	0.88	0.00	0.42	0.00	0.00	0.00
Delay/Veh:	33.5	4.0	0.0	0.0	26.4	47.2	56.3	0.0	32.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.5	4.0	0.0	0.0	26.4	47.2	56.3	0.0	32.2	0.0	0.0	0.0
LOS by Move:	C	A	A	A	C	D	E	A	C	A	A	A
HCM2k95thQ:	34	3	0	0	11	24	20	0	7	0	0	0

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                           Baseline Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: B[ 10.8]
********************************************************************************
Street Name:          E. Commerce Way                         Road D1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1022     0     0  449   155     0     0    75     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1022     0     0  449   155     0     0    75     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1022     0     0  449   155     0     0    75     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1022     0     0  449   155     0     0    75     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   302  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   700  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   700  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.11  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.8 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx             10.8            xxxxxx
ApproachLOS:         *                 *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #21 E. Commerce Way and San Juan Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	21.7
Optimal Cycle:	70	Level Of Service:	C

Street Name:	E. Commerce Way						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			2 0 0 0 1			1 0 2 0 0			0 0 2 0 1		
Volume Module:												
Base Vol:	0	0	0	399	0	125	202	299	0	0	442	819
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	399	0	125	202	299	0	0	442	819
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	399	0	125	202	299	0	0	442	819
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	399	0	125	202	299	0	0	442	819
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	399	0	125	202	299	0	0	442	819
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	0.85	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3502	0	1615	1805	3610	0	0	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.08	0.11	0.08	0.00	0.00	0.12	0.51
Crit Moves:				****			****					****
Green/Cycle:	0.00	0.00	0.00	0.14	0.00	0.14	0.13	0.74	0.00	0.00	0.60	0.60
Volume/Cap:	0.00	0.00	0.00	0.84	0.00	0.57	0.84	0.11	0.00	0.00	0.20	0.84
Delay/Veh:	0.0	0.0	0.0	42.2	0.0	32.0	52.1	2.7	0.0	0.0	6.3	17.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	42.2	0.0	32.0	52.1	2.7	0.0	0.0	6.3	17.9
LOS by Move:	A	A	A	D	A	C	D	A	A	A	A	B
HCM2k95thQ:	0	0	0	14	0	7	13	2	0	0	5	30

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #23 Duckhorn Drive and San Juan Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.510
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	16.7
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Duckhorn Drive						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 0 0 1			1 0 1 0 1			1 0 0 1 0			1 0 1 0 1		
Volume Module:												
Base Vol:	94	66	254	200	25	44	42	289	22	177	105	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	66	254	200	25	44	42	289	22	177	105	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	94	66	254	200	25	44	42	289	22	177	105	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	66	254	200	25	44	42	289	22	177	105	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	66	254	200	25	44	42	289	22	177	105	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.85	0.62	1.00	0.85	0.95	0.99	0.99	0.95	1.00	0.85
Lanes:	0.59	0.41	1.00	1.00	1.00	1.00	1.00	0.93	0.07	1.00	1.00	1.00
Final Sat.:	918	644	1615	1178	1900	1615	1805	1746	133	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.16	0.17	0.01	0.03	0.02	0.17	0.17	0.10	0.06	0.08
Crit Moves:				****				****		****		
Green/Cycle:	0.33	0.33	0.33	0.33	0.33	0.33	0.11	0.32	0.32	0.19	0.40	0.40
Volume/Cap:	0.31	0.31	0.47	0.51	0.04	0.08	0.21	0.51	0.51	0.51	0.14	0.21
Delay/Veh:	15.2	15.2	16.5	17.2	13.5	13.8	24.7	17.1	17.1	23.0	11.3	11.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.2	15.2	16.5	17.2	13.5	13.8	24.7	17.1	17.1	23.0	11.3	11.8
LOS by Move:	B	B	B	B	B	B	C	B	B	C	B	B
HCM2k95thQ:	5	5	8	7	1	1	2	10	10	7	3	4

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                             Natomas Crossing
                           Baseline Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):          0.588
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):         19.2
Optimal Cycle:         60                Level Of Service:                   B
********************************************************************************
Street Name:               Truxel Road                      Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         2  0  4  0  1    2  0  4  0  1    2  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      209  421   158   241  585   376   160  782   218    96  486   119
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   209  421   158   241  585   376   160  782   218    96  486   119
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    209  421   158   241  585   376   160  782   218    96  486   119
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   209  421   158   241  585   376   160  782   218    96  486   119
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   209  421   158   241  585   376   160  782   218    96  486   119
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:        2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:   3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.06 0.06  0.10  0.07 0.08  0.23  0.05 0.15  0.13  0.03 0.09  0.07
Crit Moves:   ****                        ****       ****       ****
Green/Cycle:  0.10 0.29  0.29  0.21 0.40  0.40  0.10 0.26  0.26  0.05 0.20  0.20
Volume/Cap:   0.59 0.21  0.34  0.34 0.21  0.59  0.46 0.59  0.53  0.59 0.46  0.36
Delay/Veh:    28.3 16.1  17.1  20.6 12.0  15.7  26.5 20.2  20.4  33.6 21.3  21.2
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   28.3 16.1  17.1  20.6 12.0  15.7  26.5 20.2  20.4  33.6 21.3  21.2
LOS by Move:     C    B     B     C    B     B     C    C     C     C    C     C
HCM2k95thQ:      6    4     5     5    4    12     4   11     8     4    7     5
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #25 Truxel Road and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.343
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.4
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Truxel Road						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 4 0 1			1 0 4 0 1			1 0 0 1 1			1 0 0 1 0		
Volume Module:												
Base Vol:	121	622	110	47	733	109	107	13	285	76	7	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	121	622	110	47	733	109	107	13	285	76	7	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	121	622	110	47	733	109	107	13	285	76	7	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	622	110	47	733	109	107	13	285	76	7	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	622	110	47	733	109	107	13	285	76	7	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.95	0.91	0.85	0.95	0.86	0.86	0.95	0.87	0.87
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	1.00	0.09	1.91	1.00	0.11	0.89
Final Sat.:	3502	6916	1615	1805	6916	1615	1805	142	3115	1805	175	1471
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.07	0.03	0.11	0.07	0.06	0.09	0.09	0.04	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.32	0.32	0.09	0.31	0.31	0.23	0.27	0.27	0.12	0.16	0.16
Volume/Cap:	0.34	0.28	0.21	0.28	0.34	0.22	0.25	0.34	0.34	0.34	0.25	0.25
Delay/Veh:	25.7	15.4	15.2	26.3	16.1	15.6	19.1	18.0	18.0	25.0	22.7	22.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	15.4	15.2	26.3	16.1	15.6	19.1	18.0	18.0	25.0	22.7	22.7
LOS by Move:	C	B	B	C	B	B	B	B	B	C	C	C
HCM2k95thQ:	3	5	3	2	6	3	4	5	5	3	3	3

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Scenario Report

Scenario:	Baseline Plus Project PM
Command:	Baseline Plus Project PM
Volume:	Baseline Plus Project PM
Geometry:	Baseline With Development
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 1 El Centro Road and Arena Boule	B	19.1	0.595	B	19.1	0.595	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	C	24.5	0.779	C	24.5	0.779	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	A	7.9	0.474	A	7.9	0.474	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	14.7	0.704	B	14.7	0.704	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	82.2	1.025	F	82.2	1.025	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	B	10.0	0.000	B	10.0	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	B	11.1	0.000	B	11.1	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	C	23.3	0.777	C	23.3	0.777	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	B	13.0	0.000	B	13.0	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	B	13.6	0.000	B	13.6	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	F	94.8	1.138	F	94.8	1.138	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	A	0.0	0.000	A	0.0	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	B	17.7	0.708	B	17.7	0.708	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	B	11.9	0.566	B	11.9	0.566	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	13.0	0.000	B	13.0	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	A	4.5	0.438	A	4.5	0.438	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	13.5	0.000	B	13.5	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	C	31.0	0.871	C	31.0	0.871	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	C	16.3	0.000	C	16.3	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	B	18.9	0.782	B	18.9	0.782	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	15.6	0.503	B	15.6	0.503	+ 0.000 D/V
# 24 Truxel Road and Arena Boulevar	C	20.4	0.679	C	20.4	0.679	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	B	15.6	0.457	B	15.6	0.457	+ 0.000 D/V

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Intersection	Base			Future			Change
		Del/	V/		Del/	V/	in
	LOS	Veh	C	LOS	Veh	C	

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 El Centro Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.595
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	19.1
Optimal Cycle:	60	Level Of Service:	B

Street Name:	El Centro Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	167	342	148	156	150	1	4	395	91	114	556	207
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	167	342	148	156	150	1	4	395	91	114	556	207
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	167	342	148	156	150	1	4	395	91	114	556	207
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	167	342	148	156	150	1	4	395	91	114	556	207
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	167	342	148	156	150	1	4	395	91	114	556	207
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	1900	1615	1805	1900	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.09	0.08	0.00	0.00	0.21	0.06	0.06	0.29	0.13
Crit Moves:		****		****			****				****	
Green/Cycle:	0.16	0.16	0.16	0.15	0.14	0.14	0.00	0.38	0.38	0.12	0.49	0.49
Volume/Cap:	0.56	0.60	0.58	0.60	0.56	0.00	0.60	0.55	0.15	0.55	0.60	0.26
Delay/Veh:	25.6	25.1	26.5	27.7	26.8	22.2	125.7	15.4	12.3	28.1	12.0	9.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.6	25.1	26.5	27.7	26.8	22.2	125.7	15.4	12.3	28.1	12.0	9.1
LOS by Move:	C	C	C	C	C	C	F	B	B	C	B	A
HCM2k95thQ:	7	8	7	7	7	0	1	12	2	6	15	5

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Duckhorn Drive and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.779
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	24.5
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Duckhorn Drive						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 1 0 1			2 0 0 1 0			1 0 2 0 1			2 0 2 0 1		
Volume Module:												
Base Vol:	77	30	318	336	57	32	61	723	97	463	916	204
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	30	318	336	57	32	61	723	97	463	916	204
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	30	318	336	57	32	61	723	97	463	916	204
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	30	318	336	57	32	61	723	97	463	916	204
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	30	318	336	57	32	61	723	97	463	916	204
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.95	0.95	0.95	0.95	0.85	0.92	0.95	0.85
Lanes:	1.00	1.00	1.00	2.00	0.64	0.36	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1805	1900	1615	3502	1151	646	1805	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.20	0.10	0.05	0.05	0.03	0.20	0.06	0.13	0.25	0.13
Crit Moves:			****	****				****		****		
Green/Cycle:	0.17	0.25	0.25	0.12	0.20	0.20	0.05	0.26	0.26	0.17	0.38	0.38
Volume/Cap:	0.25	0.06	0.78	0.78	0.25	0.25	0.67	0.78	0.23	0.78	0.67	0.34
Delay/Veh:	22.1	17.4	30.4	34.7	20.8	20.8	46.6	25.3	18.2	30.7	17.2	13.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	17.4	30.4	34.7	20.8	20.8	46.6	25.3	18.2	30.7	17.2	13.9
LOS by Move:	C	B	C	C	C	C	D	C	B	C	B	B
HCM2k95thQ:	3	1	15	10	3	3	5	17	3	13	16	6

Note: Queue reported is the number of cars per lane.

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                            Natomas Crossing
                      Baseline Plus Proposed Project
                              PM Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Arena Boulevard and I-5 Southbound Ramps
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.474
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):         7.9
Optimal Cycle:        60                 Level Of Service:                  A
********************************************************************************
Street Name:        I-5 Southbound Ramps                 Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   0  0  2  0  1   0  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0   314     0    65     0   749   645     0  1508  1227
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0   314     0    65     0   749   645     0  1508  1227
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Volume:     0     0     0   314     0    65     0   749     0     0  1508     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0   314     0    65     0   749     0     0  1508     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
FinalVolume:    0     0     0   314     0    65     0   749     0     0  1508     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  1.00  1.00  1.00  0.61  1.00  0.85  1.00  0.95  1.00  1.00  0.91  1.00
Lanes:       0.00  0.00  0.00  2.00  0.00  1.00  0.00  2.00  1.00  0.00  3.00  1.00
Final Sat.:     0     0     0  2311     0  1615     0  3610  1900     0  5187  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00  0.14  0.00  0.04  0.00  0.21  0.00  0.00  0.29  0.00
Crit Moves:                    ****                                  ****
Green/Cycle: 0.00  0.00  0.00  0.29  0.00  0.29  0.00  0.61  0.00  0.00  0.61  0.00
Volume/Cap:  0.00  0.00  0.00  0.47  0.00  0.14  0.00  0.34  0.00  0.00  0.47  0.00
Delay/Veh:    0.0   0.0   0.0  18.2   0.0  16.0   0.0   5.8   0.0   0.0   6.4   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0  18.2   0.0  16.0   0.0   5.8   0.0   0.0   6.4   0.0
LOS by Move:    A     A     A     B     A     B     A     A     A     A     A     A
HCM2k95thQ:     0     0     0     6     0     2     0     7     0     0    11     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                              Natomas Crossing
                        Baseline Plus Proposed Project
                                PM Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Arena Boulevard and I-5 Northbound Ramps
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):          0.704
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):         14.7
Optimal Cycle:        60                Level Of Service:                   B
********************************************************************************
Street Name:        I-5 Northbound Ramps                  Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  0  1   0  0  4  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     805     0   888     0     0     0     0   939   123     0  1920   300
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  805     0   888     0     0     0     0   939   123     0  1920   300
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Volume:   805     0   888     0     0     0     0   939     0     0  1920     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  805     0   888     0     0     0     0   939     0     0  1920     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
FinalVolume:  805     0   888     0     0     0     0   939     0     0  1920     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.59  1.00  0.75  1.00  1.00  1.00  1.00  0.95  1.00  1.00  0.91  1.00
Lanes:       2.00  0.00  2.00  0.00  0.00  0.00  0.00  2.00  1.00  0.00  4.00  1.00
Final Sat.:  2260     0  2842     0     0     0     0  3610  1900     0  6916  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.36  0.00  0.31  0.00  0.00  0.00  0.00  0.26  0.00  0.00  0.28  0.00
Crit Moves:  ****                                                     ****
Green/Cycle: 0.51  0.00  0.51  0.00  0.00  0.00  0.00  0.39  0.00  0.00  0.39  0.00
Volume/Cap:  0.70  0.00  0.62  0.00  0.00  0.00  0.00  0.66  0.00  0.00  0.70  0.00
Delay/Veh:   13.4   0.0  11.5   0.0   0.0   0.0   0.0  16.0   0.0   0.0  16.1   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  13.4   0.0  11.5   0.0   0.0   0.0   0.0  16.0   0.0   0.0  16.1   0.0
LOS by Move:    B     A     B     A     A     A     A     B     A     A     B     A
HCM2k95thQ:    14     0    14     0     0     0     0    16     0     0    18     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 East Commerce Way and Del Paso Road

Cycle (sec):	0	Critical Vol./Cap.(X):	1.025
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	82.2
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Del Paso Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	3 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	339	418	323	461	372	606	1316	1513	262	424	1216	271
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	339	418	323	461	372	606	1316	1513	262	424	1216	271
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	339	418	323	461	372	606	1316	1513	262	424	1216	271
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	339	418	323	461	372	606	1316	1513	262	424	1216	271
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	339	418	323	461	372	606	1316	1513	262	424	1216	271
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	3.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	5253	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.20	0.13	0.07	0.38	0.25	0.29	0.16	0.12	0.23	0.17
Crit Moves:	****					****	****				****	
Green/Cycle:	0.09	0.28	0.28	0.18	0.37	0.37	0.24	0.33	0.33	0.14	0.23	0.23
Volume/Cap:	1.03	0.29	0.72	0.72	0.20	1.03	1.03	0.87	0.49	0.87	1.03	0.73
Delay/Veh:	137.7	51.2	64.3	73.2	39.0	100.7	99.8	61.5	48.3	91.8	102	71.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	137.7	51.2	64.3	73.2	39.0	100.7	99.8	61.5	48.3	91.8	102	71.8
LOS by Move:	F	D	E	E	D	F	F	E	D	F	F	E
HCM2k95thQ:	24	12	29	24	10	63	50	49	21	25	49	26

Note: Queue reported is the number of cars per lane.

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                              Natomas Crossing
                        Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 10.0]
********************************************************************************
Street Name:         E. Commerce Way                          Road B5
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  876     0     0  730    23     0     0    33     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  876     0     0  730    23     0     0    33     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  876     0     0  730    23     0     0    33     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0  876     0     0  730    23     0     0    33     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   255  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   751  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   751  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.04  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.0 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             10.0            xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                              Natomas Crossing
                       Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      1.0       Worst Case Level Of Service: B[ 11.1]
********************************************************************************
Street Name:          E. Commerce Way                         Road B4
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  876     0     0  740    23     0     0   155     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  876     0     0  740    23     0     0   155     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  876     0     0  740    23     0     0   155     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0  876     0     0  740    23     0     0   155     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   258  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   747  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   747  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.21  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.8  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.1 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx             11.1            xxxxxx
ApproachLOS:         *                 *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.777
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.3
Optimal Cycle:	60	Level Of Service:	C

Street Name:	East Commerce Way						Arco Arena Main Entrance - Road B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	2 1	0	1 0	1 0	1	2 0	1 0	2
Volume Module:												
Base Vol:	725	313	16	5	751	103	434	0	173	17	0	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	725	313	16	5	751	103	434	0	173	17	0	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	725	313	16	5	751	103	434	0	173	17	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	725	313	16	5	751	103	434	0	173	17	0	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	725	313	16	5	751	103	434	0	173	17	0	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.89	0.89	0.95	1.00	0.85	0.92	1.00	0.75
Lanes:	2.00	3.00	1.00	2.00	2.64	0.36	1.00	1.00	1.00	2.00	1.00	2.00
Final Sat.:	3502	5187	1615	3502	4479	614	1805	1900	1615	3502	1900	2842
Capacity Analysis Module:												
Vol/Sat:	0.21	0.06	0.01	0.00	0.17	0.17	0.24	0.00	0.11	0.00	0.00	0.01
Crit Moves:	****				****		****					****
Green/Cycle:	0.27	0.47	0.47	0.01	0.22	0.22	0.31	0.00	0.30	0.01	0.00	0.01
Volume/Cap:	0.78	0.13	0.02	0.13	0.78	0.78	0.78	0.00	0.35	0.35	0.00	0.78
Delay/Veh:	24.5	9.0	8.5	30.9	25.7	25.7	25.6	0.0	16.7	33.7	0.0	121.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.5	9.0	8.5	30.9	25.7	25.7	25.6	0.0	16.7	33.7	0.0	121.3
LOS by Move:	C	A	A	C	C	C	C	A	B	C	A	F
HCM2k95thQ:	16	3	0	0	15	15	18	0	6	1	0	2

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      1.2       Worst Case Level Of Service: B[ 13.0]
********************************************************************************
Street Name:            E. Commerce Way                       Road B2
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0 1141     0     0  875    92     0     0   215     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1141     0     0  875    92     0     0   215     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1141     0     0  875    92     0     0   215     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1141     0     0  875    92     0     0   215     0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   338  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   664  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   664  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.32  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             13.0            xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                        Baseline Plus Proposed Project
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      1.2       Worst Case Level Of Service: B[ 13.6]
********************************************************************************
Street Name:          E. Commerce Way                       Road B1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1141     0     0 1044    46     0     0   215     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1141     0     0 1044    46     0     0   215     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1141     0     0 1044    46     0     0   215     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1141     0     0 1044    46     0     0   215     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   371  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   632  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   632  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.34  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.5  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.6 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx              13.6            xxxxxx
ApproachLOS:         *                 *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 East Commerce Way and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.138
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	94.8
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	889	331	541	363	379	506	442	704	641	343	841	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	889	331	541	363	379	506	442	704	641	343	841	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	889	331	541	363	379	506	442	704	641	343	841	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	889	331	541	363	379	506	442	704	641	343	841	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	889	331	541	363	379	506	442	704	641	343	841	281
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.25	0.06	0.33	0.10	0.07	0.31	0.13	0.14	0.40	0.10	0.16	0.17
Crit Moves:	****					****			****	****		
Green/Cycle:	0.22	0.38	0.38	0.12	0.28	0.28	0.18	0.35	0.35	0.09	0.25	0.25
Volume/Cap:	1.14	0.17	0.88	0.88	0.27	1.14	0.69	0.39	1.14	1.14	0.64	0.69
Delay/Veh:	147.2	36.9	65.7	97.3	51.1	151.3	72.0	44.3	140.6	176.7	61.2	65.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	147.2	36.9	65.7	97.3	51.1	151.3	72.0	44.3	140.6	176.7	61.2	65.9
LOS by Move:	F	D	E	F	D	F	E	D	F	F	E	E
HCM2k95thQ:	55	8	48	23	11	60	23	19	73	27	27	26

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Proposed Project
                               PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: A[  0.0]
********************************************************************************
Street Name:          E. Commerce Way                         Road C4
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1741     0     0 1345    11     0    0     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1741     0     0 1345    11     0    0     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1741     0     0 1345    11     0    0     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1741     0     0 1345    11     0    0     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   454  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   559  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   559  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         *                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.708
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.7
Optimal Cycle:	60	Level Of Service:	B

Street Name:	E. Commerce Way						Amelia Earhart Ave. - Road C3					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	65	1274	72	7	1339	6	467	28	1	60	0	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	65	1274	72	7	1339	6	467	28	1	60	0	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	1274	72	7	1339	6	467	28	1	60	0	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1274	72	7	1339	6	467	28	1	60	0	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	1274	72	7	1339	6	467	28	1	60	0	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.91	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	3.00	1.00	1.00	2.99	0.01	1.00	0.97	0.03	1.00	0.00	1.00
Final Sat.:	1805	5187	1615	1805	5159	23	1805	1825	65	1805	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.04	0.00	0.26	0.26	0.26	0.02	0.02	0.03	0.00	0.01
Crit Moves:	****				****		****					****
Green/Cycle:	0.05	0.41	0.41	0.01	0.37	0.37	0.37	0.12	0.12	0.26	0.00	0.02
Volume/Cap:	0.71	0.60	0.11	0.60	0.71	0.71	0.71	0.13	0.13	0.13	0.00	0.71
Delay/Veh:	50.5	14.3	11.0	93.4	17.5	17.5	19.9	23.8	23.8	17.0	0.0	88.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.5	14.3	11.0	93.4	17.5	17.5	19.9	23.8	23.8	17.0	0.0	88.3
LOS by Move:	D	B	B	F	B	B	B	C	C	B	A	F
HCM2k95thQ:	5	14	2	2	17	17	17	1	1	2	0	3

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #15 E. Commerce Way and Road C2
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.566
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        11.9
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:          E. Commerce Way                         Road C2
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       1  0  3  0  0    0  0  3  0  1    1  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      97 1099     0     0  989   411   312    0    81     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   97 1099     0     0  989   411   312    0    81     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    97 1099     0     0  989   411   312    0    81     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   97 1099     0     0  989   411   312    0    81     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   97 1099     0     0  989   411   312    0    81     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  1.00  1.00 0.91  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 3.00  0.00  0.00 3.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 5187     0     0 5187  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.21  0.00  0.00 0.19  0.25  0.17 0.00  0.05  0.00 0.00  0.00
Crit Moves:  ****                        ****  ****
Green/Cycle: 0.09 0.54  0.00  0.00 0.45  0.45  0.31 0.00  0.31  0.00 0.00  0.00
Volume/Cap:  0.57 0.39  0.00  0.00 0.42  0.57  0.57 0.00  0.16  0.00 0.00  0.00
Delay/Veh:   30.3  8.0   0.0   0.0 11.4  13.2  18.9  0.0  15.4   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  30.3  8.0   0.0   0.0 11.4  13.2  18.9  0.0  15.4   0.0  0.0   0.0
LOS by Move:    C    A     A     A    B     B     B    A     B     A    A     A
HCM2k95thQ:     5    9     0     0    9    12    11    0     2     0    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                        Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      0.9       Worst Case Level Of Service: B[ 13.0]
********************************************************************************
Street Name:         E. Commerce Way                        Road C1
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1196     0     0  865   206     0     0   163     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1196     0     0  865   206     0     0   163     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1196     0     0  865   206     0     0   163     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1196     0     0  865   206     0     0   163     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   391  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   613  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   613  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.27  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.0 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             13.0           xxxxxx
ApproachLOS:         *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                         Baseline Plus Proposed Project
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #17 E. Commerce Way and Natomas Crossing Drive
********************************************************************************
Cycle (sec):          0               Critical Vol./Cap.(X):        0.438
Loss Time (sec):      9 (Y+R=4.0 sec) Average Delay (sec/veh):        4.5
Optimal Cycle:       60               Level Of Service:                 A
********************************************************************************
Street Name:         E. Commerce Way                Natomas Crossing Drive
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   2  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1146    35   86  941     0    0    0     0   18    0    49
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0 1146    35   86  941     0    0    0     0   18    0    49
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0 1146    35   86  941     0    0    0     0   18    0    49
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0 1146    35   86  941     0    0    0     0   18    0    49
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0 1146    35   86  941     0    0    0     0   18    0    49
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 0.95  0.85 0.92 0.95  1.00 1.00 1.00  1.00 0.92 1.00  0.85
Lanes:       1.00 2.00  1.00 2.00 2.00  0.00 0.00 0.00  0.00 2.00 0.00  1.00
Final Sat.:  1900 3610  1615 3502 3610     0    0    0     0 3502    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.32  0.02 0.02 0.26  0.00 0.00 0.00  0.00 0.01 0.00  0.03
Crit Moves:       ****       ****                                         ****
Green/Cycle: 0.00 0.72  0.72 0.06 0.78  0.00 0.00 0.00  0.00 0.07 0.00  0.07
Volume/Cap:  0.00 0.44  0.03 0.44 0.33  0.00 0.00 0.00  0.00 0.07 0.00  0.44
Delay/Veh:    0.0  3.4   2.3 29.0  2.0   0.0  0.0  0.0   0.0 26.3  0.0  29.5
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  3.4   2.3 29.0  2.0   0.0  0.0  0.0   0.0 26.3  0.0  29.5
LOS by Move:    A    A     A    C    A     A    A    A     A    C    A     C
HCM2k95thQ:     0    9     0    3    6     0    0    0     0    0    0     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                       Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.7       Worst Case Level Of Service: B[ 13.5]
********************************************************************************
Street Name:          E. Commerce Way                        Road D3
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0    0  0  1  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1181     0      0  847   112     0     0   115     0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1181     0      0  847   112     0     0   115     0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1181     0      0  847   112     0     0   115     0     0     0
Reduct Vol:      0    0     0      0    0     0     0     0     0     0     0     0
FinalVolume:     0 1181     0      0  847   112     0     0   115     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   480  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   538  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   538  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.21  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.8  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx             13.5            xxxxxx
ApproachLOS:          *                 *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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---------------------------------------------------------------------------------
                              Natomas Crossing
                        Baseline Plus Proposed Project
                                PM Peak Hour
---------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
*********************************************************************************
Intersection #19 East Commerce Way and Road D2
*********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.871
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        31.0
Optimal Cycle:        84                Level Of Service:                  C
*********************************************************************************
Street Name:          E. Commerce Way                          Road D2
Approach:      North Bound       South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected         Protected         Protected         Protected
Rights:           Include           Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0    0  0  2  0  1    1  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     248  414     0     0  776   187   767    0   304     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  248  414     0     0  776   187   767    0   304     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   248  414     0     0  776   187   767    0   304     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  248  414     0     0  776   187   767    0   304     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  248  414     0     0  776   187   767    0   304     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  1.00  1.00 0.95  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 2.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 3610     0     0 3610  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.11  0.00  0.00 0.21  0.12  0.42 0.00  0.19  0.00 0.00  0.00
Crit Moves:  ****                  ****        ****
Green/Cycle: 0.16 0.40  0.00  0.00 0.25  0.25  0.49 0.00  0.49  0.00 0.00  0.00
Volume/Cap:  0.87 0.28  0.00  0.00 0.87  0.47  0.87 0.00  0.39  0.00 0.00  0.00
Delay/Veh:   58.4 16.9   0.0   0.0 39.6  27.8  28.5  0.0  13.9   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  58.4 16.9   0.0   0.0 39.6  27.8  28.5  0.0  13.9   0.0  0.0   0.0
LOS by Move:    E    B     A     A    D     C     C    A     B     A    A     A
HCM2k95thQ:    17    8     0     0   24     9    35    0    10     0    0     0
*********************************************************************************
Note: Queue reported is the number of cars per lane.
*********************************************************************************
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                              Natomas Crossing
                        Baseline Plus Proposed Project
                               PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      1.5       Worst Case Level Of Service: C[ 16.3]
********************************************************************************
Street Name:          E. Commerce Way                       Road D1
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  662     0     0 1005    75     0     0   173     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  662     0     0 1005    75     0     0   173     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  662     0     0 1005    75     0     0   173     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  662     0     0 1005    75     0     0   173     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   540  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   491  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   491  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.35  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.6  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  16.3 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx             16.3            xxxxxx
ApproachLOS:           *                *                C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Proposed Project
                                PM Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.782
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        18.9
Optimal Cycle:        60                 Level Of Service:                  B
********************************************************************************
Street Name:           E. Commerce Way                  San Juan Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0    0    0     0    0    0     0
Lanes:         0  0  0  0  0   2  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   921    0   255  140  348     0    0  363   523
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0   921    0   255  140  348     0    0  363   523
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0   921    0   255  140  348     0    0  363   523
Reduct Vol:     0    0     0     0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0   921    0   255  140  348     0    0  363   523
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0    0     0   921    0   255  140  348     0    0  363   523
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.92 1.00  0.85 0.95 0.95  1.00 1.00 0.95  0.85
Lanes:       0.00 0.00  0.00  2.00 0.00  1.00 1.00 2.00  0.00 0.00 2.00  1.00
Final Sat.:     0    0     0  3502    0  1615 1805 3610     0    0 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.26 0.00  0.16 0.08 0.10  0.00 0.00 0.10  0.32
Crit Moves:                   ****             ****                        ****
Green/Cycle: 0.00 0.00  0.00  0.34 0.00  0.34 0.10 0.51  0.00 0.00 0.41  0.41
Volume/Cap:  0.00 0.00  0.00  0.78 0.00  0.47 0.78 0.19  0.00 0.00 0.24  0.78
Delay/Veh:    0.0  0.0   0.0  21.4  0.0  16.3 46.0  7.9   0.0  0.0 11.5  21.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  21.4  0.0  16.3 46.0  7.9   0.0  0.0 11.5  21.2
LOS by Move:    A    A     A     C    A     B    D    A     A    A    B     C
HCM2k95thQ:     0    0     0    19    0     8    9    4     0    0    5    19
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                             Natomas Crossing
                       Baseline Plus Proposed Project
                               PM Peak Hour
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                    Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.503
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        15.6
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:              Duckhorn Drive                    San Juan Road
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:         Permitted        Permitted        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  1  0  0  1    1  0  1  0  1    1  0  0  1  0    1  0  1  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      27    63   190   143    55    43    45   194    72   296   324   191
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   27    63   190   143    55    43    45   194    72   296   324   191
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    27    63   190   143    55    43    45   194    72   296   324   191
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   27    63   190   143    55    43    45   194    72   296   324   191
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   27    63   190   143    55    43    45   194    72   296   324   191
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.92  0.92  0.85  0.70  1.00  0.85  0.95  0.96  0.96  0.95  1.00  0.85
Lanes:       0.30  0.70  1.00  1.00  1.00  1.00  1.00  0.73  0.27  1.00  1.00  1.00
Final Sat.:   523  1221  1615  1324  1900  1615  1805  1329   493  1805  1900  1615
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.05  0.05  0.12  0.11  0.03  0.03  0.02  0.15  0.15  0.16  0.17  0.12
Crit Moves:              ****                          ****        ****
Green/Cycle: 0.23  0.23  0.23  0.23  0.23  0.23  0.08  0.29  0.29  0.33  0.54  0.54
Volume/Cap:  0.22  0.22  0.50  0.46  0.12  0.11  0.32  0.50  0.50  0.50  0.32  0.22
Delay/Veh:   18.8  18.8  21.0  20.8  18.3  18.2  27.4  18.5  18.5  17.0   7.9   7.4
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  18.8  18.8  21.0  20.8  18.3  18.2  27.4  18.5  18.5  17.0   7.9   7.4
LOS by Move:    B     B     C     C     B     B     C     B     B     B     A     A
HCM2k95thQ:     3     3     7     6     2     1     2     9     9    10     7     4
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                           Natomas Crossing
                     Baseline Plus Proposed Project
                             PM Peak Hour
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                   Level Of Service Computation Report
          2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         0.679
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):        20.4
Optimal Cycle:         60                Level Of Service:                  C
********************************************************************************
Street Name:            Truxel Road                     Arena Boulevard
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:       L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:      0    0     0    0    0     0    0    0     0    0    0     0
Lanes:          2  0  4  0  1    2  0  4  0  1    2  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      349  943    96   171  737   208   221  723   417   199  827   295
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   349  943    96   171  737   208   221  723   417   199  827   295
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    349  943    96   171  737   208   221  723   417   199  827   295
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   349  943    96   171  737   208   221  723   417   199  827   295
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   349  943    96   171  737   208   221  723   417   199  827   295
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:        2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:   3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.10 0.14  0.06  0.05 0.11  0.13  0.06 0.14  0.26  0.06 0.16  0.18
Crit Moves:   ****                        ****              ****  ****
Green/Cycle:  0.15 0.25  0.25  0.09 0.19  0.19  0.12 0.38  0.38  0.08 0.34  0.34
Volume/Cap:   0.68 0.55  0.24  0.55 0.56  0.68  0.53 0.37  0.68  0.68 0.46  0.53
Delay/Veh:    27.9 20.1  18.4  28.3 22.6  28.7  26.1 13.5  18.6  33.0 15.5  16.7
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   27.9 20.1  18.4  28.3 22.6  28.7  26.1 13.5  18.6  33.0 15.5  16.7
LOS by Move:     C    C     B     C    C     C     C    B     B     C    B     B
HCM2k95thQ:      9   10     3     5    8    10     6    7    15     7    9    10
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Baseline Plus Proposed Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #25 Truxel Road and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.457
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	15.6
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Truxel Road						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4	0 1	1 0	4	0 1	1 0	0	1 1	1 0	0	1 0
Volume Module:												
Base Vol:	268	1250	120	69	1148	137	68	13	255	74	15	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	268	1250	120	69	1148	137	68	13	255	74	15	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	268	1250	120	69	1148	137	68	13	255	74	15	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	268	1250	120	69	1148	137	68	13	255	74	15	55
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	268	1250	120	69	1148	137	68	13	255	74	15	55
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.95	0.91	0.85	0.95	0.86	0.86	0.95	0.88	0.88
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	1.00	0.10	1.90	1.00	0.21	0.79
Final Sat.:	3502	6916	1615	1805	6916	1615	1805	158	3099	1805	359	1317
Capacity Analysis Module:												
Vol/Sat:	0.08	0.18	0.07	0.04	0.17	0.08	0.04	0.08	0.08	0.04	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.17	0.44	0.44	0.09	0.36	0.36	0.13	0.18	0.18	0.09	0.14	0.14
Volume/Cap:	0.46	0.41	0.17	0.41	0.46	0.23	0.29	0.46	0.46	0.46	0.29	0.29
Delay/Veh:	23.1	11.7	10.4	27.3	14.7	13.5	24.4	22.6	22.6	28.0	23.8	23.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.1	11.7	10.4	27.3	14.7	13.5	24.4	22.6	22.6	28.0	23.8	23.8
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2k95thQ:	6	9	3	4	9	4	3	6	6	4	3	3

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Scenario Report

Scenario:	Baseline Plus Project Saturday
Command:	Baseline Plus Project Saturday
Volume:	Baseline Plus Project Saturday
Geometry:	Baseline With Development
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 El Centro Road and Arena Boule	B	15.3	0.470	B	15.3	0.470	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	C	20.2	0.641	C	20.2	0.641	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	A	8.3	0.340	A	8.3	0.340	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	14.6	0.696	B	14.6	0.696	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	E	73.9	0.939	E	73.9	0.939	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	B	10.2	0.000	B	10.2	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	B	10.4	0.000	B	10.4	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	C	25.3	0.766	C	25.3	0.766	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	B	13.8	0.000	B	13.8	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	B	14.6	0.000	B	14.6	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	F	89.0	1.113	F	89.0	1.113	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	11.7	0.000	B	11.7	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	B	18.4	0.726	B	18.4	0.726	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	B	12.4	0.690	B	12.4	0.690	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	13.5	0.000	B	13.5	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	A	5.5	0.326	A	5.5	0.326	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	12.2	0.000	B	12.2	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	B	14.4	0.512	B	14.4	0.512	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	12.5	0.000	B	12.5	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	B	18.4	0.741	B	18.4	0.741	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	15.3	0.362	B	15.3	0.362	+ 0.000 D/V
# 24 Truxel Road and Arena Boulevar	B	18.5	0.515	B	18.5	0.515	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	B	17.0	0.421	B	17.0	0.421	+ 0.000 D/V

Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Intersection	Base			Future			Change
		Del/	V/		Del/	V/	in
	LOS	Veh	C	LOS	Veh	C	

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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #1 El Centro Road and Arena Boulevard
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):          0.470
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):         15.3
Optimal Cycle:         60                Level Of Service:                   B
********************************************************************************
Street Name:              El Centro Road                   Arena Boulevard
Approach:         North Bound       South Bound       East Bound        West Bound
Movement:       L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:         Protected         Protected         Protected         Protected
Rights:            Include           Include           Include           Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  2  0  1    1  0  1  0  1    1  0  1  0  1    1  0  1  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      89   117    82    77   118     8     2   418    83    81   421    70
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   89   117    82    77   118     8     2   418    83    81   421    70
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:    89   117    82    77   118     8     2   418    83    81   421    70
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   89   117    82    77   118     8     2   418    83    81   421    70
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   89   117    82    77   118     8     2   418    83    81   421    70
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.95  0.95  0.85  0.95  1.00  0.85  0.95  1.00  0.85  0.95  1.00  0.85
Lanes:       1.00  2.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Final Sat.:  1805  3610  1615  1805  1900  1615  1805  1900  1615  1805  1900  1615
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.05  0.03  0.05  0.04  0.06  0.00  0.00  0.22  0.05  0.04  0.22  0.04
Crit Moves:  ****                    ****                    ****  ****
Green/Cycle: 0.10  0.13  0.13  0.11  0.13  0.13  0.00  0.47  0.47  0.10  0.56  0.56
Volume/Cap:  0.47  0.25  0.39  0.39  0.47  0.04  0.40  0.47  0.11  0.47  0.40  0.08
Delay/Veh:   27.1  23.8  25.2  26.2  25.5  22.8  73.9  11.3   9.0  27.7   7.7   6.1
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  27.1  23.8  25.2  26.2  25.5  22.8  73.9  11.3   9.0  27.7   7.7   6.1
LOS by Move:    C     C     C     C     C     C     E     B     A     C     A     A
HCM2k95thQ:     5     3     4     4     5     0     1    11     2     4     9     1
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Duckhorn Drive and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.641
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Duckhorn Drive						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	2 0	0 1	0	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	59	15	331	129	28	21	37	620	70	348	562	180
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	15	331	129	28	21	37	620	70	348	562	180
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	15	331	129	28	21	37	620	70	348	562	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	15	331	129	28	21	37	620	70	348	562	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	15	331	129	28	21	37	620	70	348	562	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	0.94	0.94	0.95	0.95	0.85	0.92	0.95	0.85
Lanes:	1.00	1.00	1.00	2.00	0.57	0.43	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1805	1900	1615	3502	1016	762	1805	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.01	0.20	0.04	0.03	0.03	0.02	0.17	0.04	0.10	0.16	0.11
Crit Moves:			****	****				****		****		
Green/Cycle:	0.20	0.32	0.32	0.06	0.17	0.17	0.05	0.27	0.27	0.16	0.37	0.37
Volume/Cap:	0.16	0.02	0.64	0.64	0.16	0.16	0.42	0.64	0.16	0.64	0.42	0.30
Delay/Veh:	19.8	14.0	20.2	34.5	21.4	21.4	30.8	20.9	17.0	26.4	14.1	13.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.8	14.0	20.2	34.5	21.4	21.4	30.8	20.9	17.0	26.4	14.1	13.5
LOS by Move:	B	B	C	C	C	C	C	C	B	C	B	B
HCM2k95thQ:	2	0	12	5	2	2	3	12	2	9	9	5

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                      Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Arena Boulevard and I-5 Southbound Ramps
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.340
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):         8.3
Optimal Cycle:        60                 Level Of Service:                  A
********************************************************************************
Street Name:        I-5 Southbound Ramps                Arena Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted         Permitted         Permitted
Rights:          Include          Include           Ignore            Ignore
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   0  0  2  0  1   0  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  259    0    78    0  563   524    0 1004   799
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  259    0    78    0  563   524    0 1004   799
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:     0    0     0  259    0    78    0  563     0    0 1004     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  259    0    78    0  563     0    0 1004     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
FinalVolume:    0    0     0  259    0    78    0  563     0    0 1004     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.60 1.00  0.85 1.00 0.95  1.00 1.00 0.91  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  1.00 0.00 2.00  1.00 0.00 3.00  1.00
Final Sat.:     0    0     0 2296    0  1615    0 3610  1900    0 5187  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.11 0.00  0.05 0.00 0.16  0.00 0.00 0.19  0.00
Crit Moves:                  ****                                ****
Green/Cycle: 0.00 0.00  0.00 0.33 0.00  0.33 0.00 0.57  0.00 0.00 0.57  0.00
Volume/Cap:  0.00 0.00  0.00 0.34 0.00  0.15 0.00 0.27  0.00 0.00 0.34  0.00
Delay/Veh:    0.0  0.0   0.0 15.4  0.0  14.2  0.0  6.7   0.0  0.0  7.0   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0 15.4  0.0  14.2  0.0  6.7   0.0  0.0  7.0   0.0
LOS by Move:    A    A     A    B    A     B    A    A     A    A    A     A
HCM2k95thQ:     0    0     0    4    0     2    0    6     0    0    8     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Arena Boulevard and I-5 Northbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.696
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	14.6
Optimal Cycle:	60	Level Of Service:	B

Street Name:	I-5 Northbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 0 0 2			0 0 0 0 0			0 0 2 0 1			0 0 4 0 1		
Volume Module:												
Base Vol:	500	0	1193	0	0	0	0	747	64	0	1304	175
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	500	0	1193	0	0	0	0	747	64	0	1304	175
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	500	0	1193	0	0	0	0	747	0	0	1304	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	500	0	1193	0	0	0	0	747	0	0	1304	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	500	0	1193	0	0	0	0	747	0	0	1304	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.59	1.00	0.75	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	1.00	0.00	4.00	1.00
Final Sat.:	2248	0	2842	0	0	0	0	3610	1900	0	6916	1900
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.42	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.19	0.00
Crit Moves:			****					****				
Green/Cycle:	0.60	0.00	0.60	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30	0.00
Volume/Cap:	0.37	0.00	0.70	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.63	0.00
Delay/Veh:	6.3	0.0	9.4	0.0	0.0	0.0	0.0	20.7	0.0	0.0	18.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	6.3	0.0	9.4	0.0	0.0	0.0	0.0	20.7	0.0	0.0	18.9	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	A	B	A
HCM2k95thQ:	6	0	18	0	0	0	0	15	0	0	13	0

Note: Queue reported is the number of cars per lane.

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                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #5 East Commerce Way and Del Paso Road
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):        0.939
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):       73.9
Optimal Cycle:       180                Level Of Service:                 E
********************************************************************************
Street Name:        East Commerce Way                    Del Paso Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       2  0  3  0  1   2  0  3  0  1   3  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    352  398   287  306  403   699  813  669   298  398  975   312
Growth Adj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse: 352  398   287  306  403   699  813  669   298  398  975   312
User Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:  352  398   287  306  403   699  813  669   298  398  975   312
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 352  398   287  306  403   699  813  669   298  398  975   312
PCE Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume: 352  398   287  306  403   699  813  669   298  398  975   312
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment: 0.92 0.91  0.85 0.92 0.91  0.85 0.92 0.91  0.85 0.92 0.91  0.85
Lanes:      2.00 3.00  1.00 2.00 3.00  1.00 3.00 3.00  1.00 2.00 3.00  1.00
Final Sat.: 3502 5187  1615 3502 5187  1615 5253 5187  1615 3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.10 0.08  0.18 0.09 0.08  0.43 0.15 0.13  0.18 0.11 0.19  0.19
Crit Moves: ****                       **** ****                  ****
Green/Cycle: 0.11 0.38  0.38 0.19 0.46  0.46 0.16 0.23  0.23 0.14 0.20  0.20
Volume/Cap:  0.94 0.20  0.47 0.47 0.17  0.94 0.94 0.57  0.82 0.82 0.94  0.96
Delay/Veh:  110.9 37.4  42.5 65.7 28.4  65.6 91.8 62.6  79.5 85.6 86.3 111.8
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh: 110.9 37.4  42.5 65.7 28.4  65.6 91.8 62.6  79.5 85.6 86.3 111.8
LOS by Move:    F    D     D    E    C     E    F    E     E    F    F     F
HCM2k95thQ:    23   10    21   15    9    63   32   22    30   23   38    35
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                               Natomas Crossing
                        Baseline Plus Project Scenarios
                              Saturday Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 10.2]
********************************************************************************
Street Name:          E. Commerce Way                          Road B5
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:          Include           Include           Include           Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  841     0      0  824    27      0    0    23      0    0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0  841     0      0  824    27      0    0    23      0    0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:     0  841     0      0  824    27      0    0    23      0    0     0
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:    0  841     0      0  824    27      0    0    23      0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   288  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   715  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   715  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.03  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.2 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx              10.2             xxxxxx
ApproachLOS:         *                 *                 B                  *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 E. Commerce Way and Road B4

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[10.4]

Street Name:	E. Commerce Way						Road B4					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 3 0 0			0 0 2 1 0			0 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	0	841	0	0	821	27	0	0	46	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	841	0	0	821	27	0	0	46	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	841	0	0	821	27	0	0	46	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	841	0	0	821	27	0	0	46	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	287	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	716	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	716	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.4	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	B	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.4			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.766
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.3
Optimal Cycle:	60	Level Of Service:	C

Street Name:	East Commerce Way						Arco Arena Main Entrance - Road B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	2 1	0	1 0	1 0	1	2 0	1 0	2
Volume Module:												
Base Vol:	874	388	13	11	653	156	364	0	185	17	2	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	874	388	13	11	653	156	364	0	185	17	2	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	874	388	13	11	653	156	364	0	185	17	2	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	874	388	13	11	653	156	364	0	185	17	2	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	874	388	13	11	653	156	364	0	185	17	2	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.88	0.88	0.95	1.00	0.85	0.92	1.00	0.75
Lanes:	2.00	3.00	1.00	2.00	2.42	0.58	1.00	1.00	1.00	2.00	1.00	2.00
Final Sat.:	3502	5187	1615	3502	4065	971	1805	1900	1615	3502	1900	2842
Capacity Analysis Module:												
Vol/Sat:	0.25	0.07	0.01	0.00	0.16	0.16	0.20	0.00	0.11	0.00	0.00	0.00
Crit Moves:	****				****		****				****	
Green/Cycle:	0.33	0.51	0.51	0.02	0.21	0.21	0.26	0.00	0.25	0.01	0.00	0.00
Volume/Cap:	0.77	0.15	0.02	0.15	0.77	0.77	0.77	0.00	0.45	0.45	0.77	2.30
Delay/Veh:	21.3	7.7	7.2	29.7	25.7	25.7	27.7	0.0	19.7	37.9	369	1075
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.3	7.7	7.2	29.7	25.7	25.7	27.7	0.0	19.7	37.9	369	1075
LOS by Move:	C	A	A	C	C	C	C	A	B	D	F	F
HCM2k95thQ:	18	3	0	1	14	14	16	0	7	1	1	2

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                               Natomas Crossing
                        Baseline Plus Project Scenarios
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      1.5       Worst Case Level Of Service: B[ 13.8]
********************************************************************************
Street Name:          E. Commerce Way                          Road B2
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1343     0     0  750   142     0     0   276     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1343     0     0  750   142     0     0   276     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1343     0     0  750   142     0     0   276     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1343     0     0  750   142     0     0   276     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   321  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   681  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   681  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.41  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.8 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              13.8            xxxxxx
ApproachLOS:         *                *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      1.5      Worst Case Level Of Service: B[ 14.6]
********************************************************************************
Street Name:          E. Commerce Way                         Road B1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1343     0     0  956    71     0     0   276     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1343     0     0  956    71     0     0   276     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1343     0     0  956    71     0     0   276     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1343     0     0  956    71     0     0   276     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   354  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   648  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   648  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.43  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  14.6 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             14.6           xxxxxx
ApproachLOS:          *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 East Commerce Way and Arena Boulevard

```
Cycle (sec):           0                Critical Vol./Cap.(X):        1.113
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):       89.0
Optimal Cycle:       180                Level Of Service:                 F
```

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	496	386	290	326	356	509	622	508	788	328	471	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	496	386	290	326	356	509	622	508	788	328	471	272
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	496	386	290	326	356	509	622	508	788	328	471	272
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	496	386	290	326	356	509	622	508	788	328	471	272
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	496	386	290	326	356	509	622	508	788	328	471	272
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.14	0.07	0.18	0.09	0.07	0.32	0.18	0.10	0.49	0.09	0.09	0.17
Crit Moves:	****					****			****	****		
Green/Cycle:	0.13	0.27	0.27	0.14	0.28	0.28	0.27	0.44	0.44	0.08	0.25	0.25
Volume/Cap:	1.11	0.28	0.66	0.66	0.24	1.11	0.66	0.22	1.11	1.11	0.36	0.66
Delay/Veh:	155.5	51.9	62.2	76.8	49.7	140.9	60.4	31.5	119.6	168.6	55.2	64.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	155.5	51.9	62.2	76.8	49.7	140.9	60.4	31.5	119.6	168.6	55.2	64.2
LOS by Move:	F	D	E	E	D	F	E	C	F	F	E	E
HCM2k95thQ:	34	11	26	18	10	59	28	12	85	25	14	25

Note: Queue reported is the number of cars per lane.

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                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 11.7]
********************************************************************************
Street Name:          E. Commerce Way                          Road C4
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1137     0     0 1443     5     0     0     1     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1137     0     0 1443     5     0     0     1     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1137     0     0 1443     5     0     0     1     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1137     0     0 1443     5     0     0     1     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   484  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   535  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   535  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.7 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             11.7           xxxxxx
ApproachLOS:         *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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-------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3
*******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.726
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        18.4
Optimal Cycle:        60                Level Of Service:                  B
*******************************************************************************
Street Name:         E. Commerce Way          Amelia Earhart Ave. - Road C3
Approach:     North Bound     South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  3  0  1   1  0  2  1  0   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      83  713    35    23 1442     2   424   26     3    66    0    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   83  713    35    23 1442     2   424   26     3    66    0    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    83  713    35    23 1442     2   424   26     3    66    0    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   83  713    35    23 1442     2   424   26     3    66    0    35
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   83  713    35    23 1442     2   424   26     3    66    0    35
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.91  0.91  0.95 0.99  0.99  0.95 1.00  0.85
Lanes:       1.00 3.00  1.00  1.00 2.99  0.01  1.00 0.90  0.10  1.00 0.00  1.00
Final Sat.:  1805 5187  1615  1805 5180     7  1805 1678   194  1805    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.14  0.02  0.01 0.28  0.28  0.23 0.02  0.02  0.04 0.00  0.02
Crit Moves:  ****                  ****        ****                         ****
Green/Cycle: 0.06 0.41  0.41  0.04 0.38  0.38  0.32 0.11  0.11  0.25 0.00  0.03
Volume/Cap:  0.73 0.34  0.05  0.34 0.73  0.73  0.73 0.15  0.15  0.15 0.00  0.73
Delay/Veh:   48.2 12.3  10.8  31.0 17.2  17.2  22.5 24.7  24.7  17.8  0.0  71.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  48.2 12.3  10.8  31.0 17.2  17.2  22.5 24.7  24.7  17.8  0.0  71.3
LOS by Move:    D    B     B     C    B     B     C    C     C     B    A     E
HCM2k95thQ:     6    7     1     2   18    18    16    1     1     2    0     4
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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Natomas Crossing
Baseline Plus Project Scenarios
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 E. Commerce Way and Road C2

Cycle (sec): 0 | Critical Vol./Cap.(X): 0.690
Loss Time (sec): 9 (Y+R=4.0 sec) | Average Delay (sec/veh): 12.4
Optimal Cycle: 60 | Level Of Service: B

Street Name:	E. Commerce Way						Road C2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3	0 0	0 0	3	0 1	1 0	0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	124	549	0	0	927	584	282	0	96	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	549	0	0	927	584	282	0	96	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	549	0	0	927	584	282	0	96	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	549	0	0	927	584	282	0	96	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	549	0	0	927	584	282	0	96	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.91	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	5187	0	0	5187	1615	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.00	0.00	0.18	0.36	0.16	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.10	0.62	0.00	0.00	0.52	0.52	0.23	0.00	0.23	0.00	0.00	0.00
Volume/Cap:	0.69	0.17	0.00	0.00	0.34	0.69	0.69	0.00	0.26	0.00	0.00	0.00
Delay/Veh:	37.0	4.8	0.0	0.0	8.4	13.1	26.2	0.0	19.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.0	4.8	0.0	0.0	8.4	13.1	26.2	0.0	19.5	0.0	0.0	0.0
LOS by Move:	D	A	A	A	A	B	C	A	B	A	A	A
HCM2k95thQ:	7	3	0	0	8	17	12	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      1.4       Worst Case Level Of Service: B[ 13.5]
********************************************************************************
Street Name:            E. Commerce Way                        Road C1
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  673     0     0  731   292     0     0   193     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  673     0     0  731   292     0     0   193     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  673     0     0  731   292     0     0   193     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  673     0     0  731   292     0     0   193     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   390  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   615  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   615  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.31  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              13.5            xxxxxx
ApproachLOS:          *                 *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                        Baseline Plus Project Scenarios
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #17 E. Commerce Way and Natomas Crossing Drive
********************************************************************************
Cycle (sec):            0                 Critical Vol./Cap.(X):         0.326
Loss Time (sec):        9 (Y+R=4.0 sec)   Average Delay (sec/veh):         5.5
Optimal Cycle:         60                 Level Of Service:                  A
********************************************************************************
Street Name:          E. Commerce Way              Natomas Crossing Drive
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  1   2  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  610    17    64  860     0     0    0     0    22    0    63
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  610    17    64  860     0     0    0     0    22    0    63
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  610    17    64  860     0     0    0     0    22    0    63
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  610    17    64  860     0     0    0     0    22    0    63
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  610    17    64  860     0     0    0     0    22    0    63
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  0.85  0.92 0.95  1.00  1.00 1.00  1.00  0.92 1.00  0.85
Lanes:       1.00 2.00  1.00  2.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:  1900 3610  1615  3502 3610     0     0    0     0  3502    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.01  0.02 0.24  0.00  0.00 0.00  0.00  0.01 0.00  0.04
Crit Moves:  ****                  ****                                     ****
Green/Cycle: 0.00 0.66  0.66  0.07 0.73  0.00  0.00 0.00  0.00  0.12 0.00  0.12
Volume/Cap:  0.00 0.26  0.02  0.26 0.33  0.00  0.00 0.00  0.00  0.05 0.00  0.33
Delay/Veh:    0.0  4.3   3.5  26.9  2.9   0.0   0.0  0.0   0.0  23.5  0.0  25.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  4.3   3.5  26.9  2.9   0.0   0.0  0.0   0.0  23.5  0.0  25.2
LOS by Move:    A    A     A     C    A     A     A    A     A     C    A     C
HCM2k95thQ:     0    5     0     2    6     0     0    0     0     0    0     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: B[ 12.2]
********************************************************************************
Street Name:          E. Commerce Way                      Road D3
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  627     0     0  778   104     0     0    69     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  627     0     0  778   104     0     0    69     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  627     0     0  778   104     0     0    69     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  627     0     0  778   104     0     0    69     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   441  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   570  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   570  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.12  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.2 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx            xxxxxx              12.2            xxxxxx
ApproachLOS:         *                 *                  B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                            Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #19 East Commerce Way and Road D2
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         0.512
Loss Time (sec):        9 (Y+R=4.0 sec)  Average Delay (sec/veh):        14.4
Optimal Cycle:         60                Level Of Service:                  B
********************************************************************************
Street Name:          E. Commerce Way                          Road D2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0   0  0  2  0  1   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     257  442     0     0  673   174   186    0   172     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  257  442     0     0  673   174   186    0   172     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   257  442     0     0  673   174   186    0   172     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  257  442     0     0  673   174   186    0   172     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  257  442     0     0  673   174   186    0   172     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  1.00  1.00 0.95  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 2.00  0.00  0.00 2.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 3610     0     0 3610  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.12  0.00  0.00 0.19  0.11  0.10 0.00  0.11  0.00 0.00  0.00
Crit Moves:  ****                  ****                     ****
Green/Cycle: 0.28 0.64  0.00  0.00 0.36  0.36  0.21 0.00  0.21  0.00 0.00  0.00
Volume/Cap:  0.51 0.19  0.00  0.00 0.51  0.30  0.50 0.00  0.51  0.00 0.00  0.00
Delay/Veh:   19.1  4.4   0.0   0.0 15.3  13.9  22.0  0.0  22.4   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  19.1  4.4   0.0   0.0 15.3  13.9  22.0  0.0  22.4   0.0  0.0   0.0
LOS by Move:    B    A     A     A    B     B     C    A     C     A    A     A
HCM2k95thQ:     9    4     0     0   11     5     7    0     7     0    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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-------------------------------------------------------------------------------
                              Natomas Crossing
                      Baseline Plus Project Scenarios
                            Saturday Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.8       Worst Case Level Of Service: B[ 12.5]
********************************************************************************
Street Name:          E. Commerce Way                         Road D1
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:         0  0  2  0  0    0  0  1  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:         0  699     0     0  775    69     0     0   103     0     0     0
Growth Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:      0  699     0     0  775    69     0     0   103     0     0     0
User Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:       1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:       0  699     0     0  775    69     0     0   103     0     0     0
Reduct Vol:       0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:      0  699     0     0  775    69     0     0   103     0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   422  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   586  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   586  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.18  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.6  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx            xxxxxx             12.5             xxxxxx
ApproachLOS:         *                 *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Baseline Plus Project Scenarios
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.741
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        18.4
Optimal Cycle:        60                 Level Of Service:                 B
********************************************************************************
Street Name:          E. Commerce Way                   San Juan Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  725    0   154  153  239     0    0  313   546
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  725    0   154  153  239     0    0  313   546
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0  725    0   154  153  239     0    0  313   546
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  725    0   154  153  239     0    0  313   546
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0    0     0  725    0   154  153  239     0    0  313   546
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.92 1.00  0.85 0.95 0.95  1.00 1.00 0.95  0.85
Lanes:       0.00 0.00  0.00 2.00 0.00  1.00 1.00 2.00  0.00 0.00 2.00  1.00
Final Sat.:     0    0     0 3502    0  1615 1805 3610     0    0 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.21 0.00  0.10 0.08 0.07  0.00 0.00 0.09  0.34
Crit Moves:                  ****            ****                         ****
Green/Cycle: 0.00 0.00  0.00 0.28 0.00  0.28 0.11 0.57  0.00 0.00 0.46  0.46
Volume/Cap:  0.00 0.00  0.00 0.74 0.00  0.34 0.74 0.12  0.00 0.00 0.19  0.74
Delay/Veh:    0.0  0.0   0.0 22.7  0.0  17.7 39.1  5.9   0.0  0.0  9.8  17.4
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0 22.7  0.0  17.7 39.1  5.9   0.0  0.0  9.8  17.4
LOS by Move:    A    A     A    C    A     B    D    A     A    A    A     B
HCM2k95thQ:     0    0     0   15    0     5    9    2     0    0    4    19
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
------------------------------------------------------------------------------

                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
******************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.362
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        15.3
Optimal Cycle:        60                Level Of Service:                  B
******************************************************************************
Street Name:            Duckhorn Drive                    San Juan Road
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  1  0  0  1   1  0  1  0  1   1  0  0  1  0   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36   93   158   118   41    31    21  137    35   211  178   108
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   36   93   158   118   41    31    21  137    35   211  178   108
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    36   93   158   118   41    31    21  137    35   211  178   108
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36   93   158   118   41    31    21  137    35   211  178   108
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   36   93   158   118   41    31    21  137    35   211  178   108
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.92  0.85  0.65 1.00  0.85  0.95 0.97  0.97  0.95 1.00  0.85
Lanes:       0.28 0.72  1.00  1.00 1.00  1.00  1.00 0.80  0.20  1.00 1.00  1.00
Final Sat.:   489 1264  1615  1243 1900  1615  1805 1468   375  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.10  0.09 0.02  0.02  0.01 0.09  0.09  0.12 0.09  0.07
Crit Moves:             ****                        ****        ****
Green/Cycle: 0.27 0.27  0.27  0.27 0.27  0.27  0.06 0.26  0.26  0.32 0.52  0.52
Volume/Cap:  0.27 0.27  0.36  0.35 0.08  0.07  0.18 0.36  0.36  0.36 0.18  0.13
Delay/Veh:   17.6 17.6  18.2  18.3 16.4  16.4  27.3 18.7  18.7  16.0  7.8   7.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  17.6 17.6  18.2  18.3 16.4  16.4  27.3 18.7  18.7  16.0  7.8   7.6
LOS by Move:    B    B     B     B    B     B     C    B     B     B    A     A
HCM2k95thQ:     4    4     5     4    1     1     1    6     6     7    4     2
******************************************************************************
Note: Queue reported is the number of cars per lane.
******************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
               2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):          0                   Critical Vol./Cap.(X):         0.515
Loss Time (sec):      12 (Y+R=4.0 sec)   Average Delay (sec/veh):        18.5
Optimal Cycle:        60                  Level Of Service:                  B
********************************************************************************
Street Name:                Truxel Road                    Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        2  0  4  0  1   2  0  4  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     231   737    43   190   758   224   194   483   314    45   475   218
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  231   737    43   190   758   224   194   483   314    45   475   218
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   231   737    43   190   758   224   194   483   314    45   475   218
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  231   737    43   190   758   224   194   483   314    45   475   218
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  231   737    43   190   758   224   194   483   314    45   475   218
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.11  0.03  0.05 0.11  0.14  0.06 0.09  0.19  0.01 0.09  0.13
Crit Moves:  ****                        ****              ****  ****
Green/Cycle: 0.13 0.26  0.26  0.13 0.27  0.27  0.12 0.38  0.38  0.02 0.29  0.29
Volume/Cap:  0.51 0.40  0.10  0.40 0.41  0.51  0.47 0.25  0.51  0.51 0.32  0.47
Delay/Veh:   25.5 18.4  16.8  24.4 18.1  19.7  25.6 12.9  15.2  34.1 17.0  18.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.5 18.4  16.8  24.4 18.1  19.7  25.6 12.9  15.2  34.1 17.0  18.5
LOS by Move:    C    B     B     C    B     B     C    B     B     C    B     B
HCM2k95thQ:     6    7     1     4    7     8     5    5    10     2    6     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Baseline Plus Project Scenarios
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #25 Truxel Road and Natomas Crossing Drive
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.421
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        17.0
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:               Truxel Road                  Natomas Crossing Drive
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        2  0  4  0  1   1  0  4  0  1   1  0  0  1  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     236   887    85    67   958    85    58    16   249    90    23    58
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  236   887    85    67   958    85    58    16   249    90    23    58
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   236   887    85    67   958    85    58    16   249    90    23    58
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  236   887    85    67   958    85    58    16   249    90    23    58
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:  236   887    85    67   958    85    58    16   249    90    23    58
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.92  0.91  0.85  0.95  0.91  0.85  0.95  0.86  0.86  0.95  0.89  0.89
Lanes:       2.00  4.00  1.00  1.00  4.00  1.00  1.00  0.12  1.88  1.00  0.28  0.72
Final Sat.:  3502  6916  1615  1805  6916  1615  1805   197  3067  1805   482  1215
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07  0.13  0.05  0.04  0.14  0.05  0.03  0.08  0.08  0.05  0.05  0.05
Crit Moves:  ****                    ****                    ****  ****
Green/Cycle: 0.16  0.38  0.38  0.11  0.33  0.33  0.13  0.19  0.19  0.12  0.19  0.19
Volume/Cap:  0.42  0.34  0.14  0.34  0.42  0.16  0.26  0.42  0.42  0.42  0.26  0.26
Delay/Veh:   23.2  13.3  12.3  25.7  15.8  14.4  24.3  21.7  21.7  25.9  21.3  21.3
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  23.2  13.3  12.3  25.7  15.8  14.4  24.3  21.7  21.7  25.9  21.3  21.3
LOS by Move:    C     B     B     C     B     B     C     C     C     C     C     C
HCM2k95thQ:     5     7     2     3     8     2     3     5     5     4     3     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Scenario Report

Scenario:	Cumulative AM
Command:	Cumulative AM
Volume:	Cumulative AM
Geometry:	Cumulative
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 1 El Centro Road and Arena Boule	B	19.5	0.682	B	19.5	0.682	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	B	19.8	0.684	B	19.8	0.684	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	B	13.5	0.646	B	13.5	0.646	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	11.4	0.767	B	11.4	0.767	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	90.4	1.118	F	90.4	1.118	+ 0.000 D/V
# 6 East Commerce Way and Snowy Eg	D	45.1	0.916	D	45.1	0.916	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	C	20.9	0.000	C	20.9	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	C	20.0	0.000	C	20.0	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	C	31.9	0.854	C	31.9	0.854	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	B	14.0	0.000	B	14.0	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	B	13.5	0.000	B	13.5	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	F	108.2	1.215	F	108.2	1.215	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	13.0	0.000	B	13.0	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	A	9.6	0.558	A	9.6	0.558	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	A	7.8	0.505	A	7.8	0.505	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	11.6	0.000	B	11.6	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	D	43.1	0.894	D	43.1	0.894	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	13.9	0.000	B	13.9	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	B	14.8	0.625	B	14.8	0.625	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	12.2	0.000	B	12.2	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	F	104.8	1.185	F	104.8	1.185	+ 0.000 D/V
# 22 Duckhorn Dr. and Natomas Cross	E	64.8	0.922	E	64.8	0.922	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	15.0	0.462	B	15.0	0.462	+ 0.000 D/V

Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 24 Truxel Road and Arena Boulevar	F	132.2	1.372	F	132.2	1.372	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	D	40.5	0.910	D	40.5	0.910	+ 0.000 D/V

Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 El Centro Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.682
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	19.5
Optimal Cycle:	60	Level Of Service:	B

Street Name:	El Centro Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	58	434	308	389	907	12	24	367	112	49	164	203
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	434	308	389	907	12	24	367	112	49	164	203
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	434	308	389	907	12	24	367	112	49	164	203
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	434	308	389	907	12	24	367	112	49	164	203
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	434	308	389	907	12	24	367	112	49	164	203
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.19	0.22	0.25	0.01	0.01	0.10	0.07	0.03	0.09	0.13
Crit Moves:			****	****			****					****
Green/Cycle:	0.07	0.28	0.28	0.32	0.53	0.53	0.02	0.16	0.16	0.04	0.18	0.18
Volume/Cap:	0.48	0.43	0.68	0.68	0.48	0.01	0.68	0.63	0.43	0.63	0.47	0.68
Delay/Veh:	29.9	18.0	23.5	21.2	9.1	6.7	72.2	25.8	23.8	43.9	22.8	29.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.9	18.0	23.5	21.2	9.1	6.7	72.2	25.8	23.8	43.9	22.8	29.1
LOS by Move:	C	B	C	C	A	A	E	C	C	D	C	C
HCM2k95thQ:	4	8	12	14	11	0	3	9	5	4	7	10

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Duckhorn Drive and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	19.8
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Duckhorn Drive						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	2 0	0 1	0	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	169	117	144	1	348	2	0	869	380	100	233	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	169	117	144	1	348	2	0	869	380	100	233	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	169	117	144	1	348	2	0	869	380	100	233	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	117	144	1	348	2	0	869	380	100	233	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	117	144	1	348	2	0	869	380	100	233	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.92	1.00	1.00	1.00	0.95	0.85	0.92	0.95	0.85
Lanes:	1.00	1.00	1.00	2.00	0.99	0.01	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1805	1900	1615	3502	1887	11	1900	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.06	0.09	0.00	0.18	0.18	0.00	0.24	0.24	0.03	0.06	0.01
Crit Moves:	****				****			****		****		
Green/Cycle:	0.14	0.41	0.41	0.00	0.27	0.27	0.00	0.35	0.35	0.04	0.39	0.39
Volume/Cap:	0.68	0.15	0.22	0.22	0.68	0.68	0.00	0.68	0.67	0.68	0.16	0.02
Delay/Veh:	32.4	11.4	11.8	53.0	23.4	23.4	0.0	18.2	19.5	41.0	11.8	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.4	11.4	11.8	53.0	23.4	23.4	0.0	18.2	19.5	41.0	11.8	11.1
LOS by Move:	C	B	B	D	C	C	A	B	B	D	B	B
HCM2k95thQ:	9	3	4	0	14	14	0	16	14	5	3	0

Note: Queue reported is the number of cars per lane.

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---------------------------------------------------------------------------------
                              Natomas Crossing
                        Cumulative With Existing Zoning
                                AM Peak Hour
---------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
*********************************************************************************
Intersection #3 Arena Boulevard and I-5 Southbound Ramps
*********************************************************************************
Cycle (sec):           0              Critical Vol./Cap.(X):        0.646
Loss Time (sec):       6 (Y+R=4.0 sec) Average Delay (sec/veh):      13.5
Optimal Cycle:        60              Level Of Service:                 B
*********************************************************************************
Street Name:       I-5 Southbound Ramps               Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   0  0  2  0  1   0  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  900    0    26    0  653   372    0  162  2389
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  900    0    26    0  653   372    0  162  2389
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:     0    0     0  900    0    26    0  653     0    0  162     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  900    0    26    0  653     0    0  162     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
FinalVolume:    0    0     0  900    0    26    0  653     0    0  162     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.59 1.00  0.85 1.00 0.95  1.00 1.00 0.91  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  1.00 0.00 2.00  1.00 0.00 3.00  1.00
Final Sat.:     0    0     0 2248    0  1615    0 3610  1900    0 5187  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.40 0.00  0.02 0.00 0.18  0.00 0.00 0.03  0.00
Crit Moves:                  ****                 ****
Green/Cycle: 0.00 0.00  0.00 0.62 0.00  0.62 0.00 0.28  0.00 0.00 0.28  0.00
Volume/Cap:  0.00 0.00  0.00 0.65 0.00  0.03 0.00 0.65  0.00 0.00 0.11  0.00
Delay/Veh:    0.0  0.0   0.0  8.3  0.0   4.4  0.0 20.4   0.0  0.0 16.1   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  8.3  0.0   4.4  0.0 20.4   0.0  0.0 16.1   0.0
LOS by Move:    A    A     A    A    A     A    A    C     A    A    B     A
HCM2k95thQ:     0    0     0   13    0     0    0   13     0    0    2     0
*********************************************************************************
Note: Queue reported is the number of cars per lane.
*********************************************************************************
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--------------------------------------------------------------------------------
                             Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Arena Boulevard and I-5 Northbound Ramps
********************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):         0.767
Loss Time (sec):      6 (Y+R=4.0 sec)   Average Delay (sec/veh):        11.4
Optimal Cycle:       60                 Level Of Service:                  B
********************************************************************************
Street Name:       I-5 Northbound Ramps                 Arena Boulevard
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       2  0  0  0  2   0  0  0  0  0   0  0  2  0  1   0  0  4  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      93     0   691     0     0     0     0  1613     7     0  2378   246
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   93     0   691     0     0     0     0  1613     7     0  2378   246
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Volume:    93     0   691     0     0     0     0  1613     0     0  2378     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   93     0   691     0     0     0     0  1613     0     0  2378     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
FinalVolume:   93     0   691     0     0     0     0  1613     0     0  2378     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.65  1.00  0.75  1.00  1.00  1.00  1.00  0.95  1.00  1.00  0.91  1.00
Lanes:       2.00  0.00  2.00  0.00  0.00  0.00  0.00  2.00  1.00  0.00  4.00  1.00
Final Sat.:  2484     0  2842     0     0     0     0  3610  1900     0  6916  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04  0.00  0.24  0.00  0.00  0.00  0.00  0.45  0.00  0.00  0.34  0.00
Crit Moves:              ****                          ****
Green/Cycle: 0.32  0.00  0.32  0.00  0.00  0.00  0.00  0.58  0.00  0.00  0.58  0.00
Volume/Cap:  0.12  0.00  0.77  0.00  0.00  0.00  0.00  0.77  0.00  0.00  0.59  0.00
Delay/Veh:   14.6   0.0  22.5   0.0   0.0   0.0   0.0  11.2   0.0   0.0   8.2   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  14.6   0.0  22.5   0.0   0.0   0.0   0.0  11.2   0.0   0.0   8.2   0.0
LOS by Move:    B     A     C     A     A     A     A     B     A     A     A     A
HCM2k95thQ:     1     0    16     0     0     0     0    24     0     0    16     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 East Commerce Way and Del Paso Road

Cycle (sec):	0	Critical Vol./Cap.(X):	1.118
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	90.4
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Del Paso Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	2	3 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	311	622	422	612	1111	671	620	2014	219	766	1926	489
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	311	622	422	612	1111	671	620	2014	219	766	1926	489
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	311	622	422	612	1111	671	620	2014	219	766	1926	489
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	311	622	422	612	1111	671	620	2014	219	766	1926	489
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	311	622	422	612	1111	671	620	2014	219	766	1926	489
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.75	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	2.00	3.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	2842	5253	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.26	0.17	0.21	0.24	0.12	0.39	0.14	0.22	0.37	0.30
Crit Moves:			****	****				****		****		
Green/Cycle:	0.11	0.23	0.23	0.16	0.28	0.28	0.13	0.35	0.35	0.20	0.41	0.41
Volume/Cap:	0.83	0.51	1.12	1.12	0.76	0.83	0.90	1.12	0.39	1.12	0.90	0.73
Delay/Veh:	93.5	60.4	151.1	150.9	61.1	67.9	92.0	120	44.8	143.8	55.2	48.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.5	60.4	151.1	150.9	61.1	67.9	92.0	120	44.8	143.8	55.2	48.9
LOS by Move:	F	E	F	F	E	E	F	F	D	F	E	D
HCM2k95thQ:	20	20	51	40	36	36	25	80	17	48	61	38

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.916
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        45.1
Optimal Cycle:       141                Level Of Service:                  D
********************************************************************************
Street Name:        East Commerce Way        Snowy Egret Boulevard - Arco Aren
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   2  0  3  0  1   1  0  2  0  1   2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      90 1229   293    28 2070   332   139  119   370   560  248    46
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   90 1229   293    28 2070   332   139  119   370   560  248    46
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    90 1229   293    28 2070   332   139  119   370   560  248    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   90 1229   293    28 2070   332   139  119   370   560  248    46
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   90 1229   293    28 2070   332   139  119   370   560  248    46
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.92 0.91  0.85  0.95 0.95  0.85  0.92 0.93  0.93
Lanes:       1.00 3.00  1.00  2.00 3.00  1.00  1.00 2.00  1.00  2.00 1.69  0.31
Final Sat.:  1805 5187  1615  3502 5187  1615  1805 3610  1615  3502 2975   552
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.24  0.18  0.01 0.40  0.21  0.08 0.03  0.23  0.16 0.08  0.08
Crit Moves:  ****                  ****                       ****  ****
Green/Cycle: 0.05 0.47  0.47  0.02 0.44  0.44  0.20 0.25  0.25  0.17 0.22  0.22
Volume/Cap:  0.92 0.50  0.38  0.50 0.92  0.47  0.38 0.13  0.92  0.92 0.38  0.38
Delay/Veh:  130.4 25.7  24.1  75.7 43.8  28.8  49.1 41.1  76.6  75.8 47.0  47.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 130.4 25.7  24.1  75.7 43.8  28.8  49.1 41.1  76.6  75.8 47.0  47.0
LOS by Move:    F    C     C     E    D     C     D    D     E     E    D     D
HCM2k95thQ:    12   23    15     3   54    19    10    4    33    27   11    11
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: C[ 20.9]
********************************************************************************
Street Name:         E. Commerce Way                          Road B5
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1612     0     0 2803   197     0     0     7     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1612     0     0 2803   197     0     0     7     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1612     0     0 2803   197     0     0     7     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1612     0     0 2803   197     0     0     7     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1033  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   233  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   233  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.03  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  20.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             20.9            xxxxxx
ApproachLOS:         *                *                C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                        Cumulative With Existing Zoning
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: C[ 20.0]
********************************************************************************
Street Name:           E. Commerce Way                         Road B4
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1612     0      0 2613   197      0     0    17      0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0 1612     0      0 2613   197      0     0    17      0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0 1612     0      0 2613   197      0     0    17      0     0     0
Reduct Vol:      0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:     0 1612     0      0 2613   197      0     0    17      0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   970  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   257  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   257  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.07  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  20.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              20.0            xxxxxx
ApproachLOS:        *                 *                  C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                       Cumulative With Existing Zoning
                                 AM Peak Hour
--------------------------------------------------------------------------------

                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3
********************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):         0.854
Loss Time (sec):     12 (Y+R=4.0 sec)   Average Delay (sec/veh):        31.9
Optimal Cycle:       85                 Level Of Service:                  C
********************************************************************************
Street Name:          East Commerce Way       Arco Arena Main Entrance - Road B
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  2  1  0   1  0  1  0  1   2  0  1  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     381  817     3   674 1613   206    64    5    31    63   30   660
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  381  817     3   674 1613   206    64    5    31    63   30   660
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   381  817     3   674 1613   206    64    5    31    63   30   660
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  381  817     3   674 1613   206    64    5    31    63   30   660
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  381  817     3   674 1613   206    64    5    31    63   30   660
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.89  0.89  0.95 1.00  0.85  0.92 1.00  0.75
Lanes:       2.00 3.00  1.00  2.00 2.66  0.34  1.00 1.00  1.00  2.00 1.00  2.00
Final Sat.:  3502 5187  1615  3502 4521   577  1805 1900  1615  3502 1900  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.16  0.00  0.19 0.36  0.36  0.04 0.00  0.02  0.02 0.02  0.23
Crit Moves:  ****                  ****        ****                        ****
Green/Cycle: 0.13 0.25  0.25  0.30 0.42  0.42  0.04 0.16  0.16  0.15 0.27  0.27
Volume/Cap:  0.85 0.64  0.01  0.64 0.85  0.85  0.85 0.02  0.12  0.12 0.06  0.85
Delay/Veh:   51.0 29.8  24.3  27.2 26.0  26.0  97.8 30.0  30.6  31.2 22.9  38.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  51.0 29.8  24.3  27.2 26.0  26.0  97.8 30.0  30.6  31.2 22.9  38.5
LOS by Move:    D    C     C     C    C     C     F    C     C     C    C     D
HCM2k95thQ:    15   15     0    16   32    32     7    0     2     2    1    22
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                            Natomas Crossing
                    Cumulative With Existing Zoning
                              AM Peak Hour
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 14.0]
********************************************************************************
Street Name:          E. Commerce Way                          Road B2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1267     0     0 1710   108     0     0    34     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1267     0     0 1710   108     0     0    34     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1267     0     0 1710   108     0     0    34     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1267     0     0 1710   108     0     0    34     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   624  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   433  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   433  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.08  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  14.0 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             14.0           xxxxxx
ApproachLOS:       *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 13.5]
********************************************************************************
Street Name:            E. Commerce Way                        Road B1
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0 1267     0      0 1689    54     0     0    34     0     0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1267     0      0 1689    54     0     0    34     0     0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1267     0      0 1689    54     0     0    34     0     0     0
Reduct Vol:     0    0     0      0    0     0     0     0     0     0     0     0
FinalVolume:    0 1267     0      0 1689    54     0     0    34     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   590  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   456  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   456  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.07  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.5 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:   xxxxxx            xxxxxx              13.5            xxxxxx
ApproachLOS:         *                 *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 East Commerce Way and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.215
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	108.2
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	433	581	591	239	528	854	292	1330	458	692	1361	332
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	433	581	591	239	528	854	292	1330	458	692	1361	332
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	433	581	591	239	528	854	292	1330	458	692	1361	332
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	581	591	239	528	854	292	1330	458	692	1361	332
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	433	581	591	239	528	854	292	1330	458	692	1361	332
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.37	0.07	0.10	0.53	0.08	0.26	0.28	0.20	0.26	0.21
Crit Moves:	****					****			****	****		
Green/Cycle:	0.10	0.45	0.45	0.08	0.44	0.44	0.10	0.23	0.23	0.16	0.30	0.30
Volume/Cap:	1.21	0.25	0.81	0.81	0.23	1.21	0.87	1.10	1.21	1.21	0.87	0.68
Delay/Veh:	200.5	30.4	49.2	96.1	32.0	160.2	101.7	126	187.6	187.4	65.4	59.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	200.5	30.4	49.2	96.1	32.0	160.2	101.7	126	187.6	187.4	65.4	59.4
LOS by Move:	F	C	D	F	C	F	F	F	F	F	E	E
HCM2k95thQ:	33	13	47	16	12	100	19	56	58	48	46	29

Note: Queue reported is the number of cars per lane.

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------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
------------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
******************************************************************************
Intersection #13 E. Commerce Way and Road C4
******************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 13.0]
******************************************************************************
Street Name:          E. Commerce Way                      Road C4
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1564     0     0 1533   140     0     0    10     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1564     0     0 1533   140     0     0    10     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1564     0     0 1533   140     0     0    10     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1564     0     0 1533   140     0     0    10     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   581  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   462  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   462  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             13.0            xxxxxx
ApproachLOS:        *                *                 B                *
******************************************************************************
Note: Queue reported is the number of cars per lane.
******************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                      Cumulative With Existing Zoning
                                AM Peak Hour
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                     Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3
********************************************************************************
Cycle (sec):          0                Critical Vol./Cap.(X):         0.558
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):         9.6
Optimal Cycle:        60               Level Of Service:                  A
********************************************************************************
Street Name:           E. Commerce Way           Amelia Earhart Ave. - Road C3
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  2  1  0   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     120 1467    28    18 1344   186    80    0    20     8    0    57
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  120 1467    28    18 1344   186    80    0    20     8    0    57
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   120 1467    28    18 1344   186    80    0    20     8    0    57
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  120 1467    28    18 1344   186    80    0    20     8    0    57
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  120 1467    28    18 1344   186    80    0    20     8    0    57
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.89  0.89  0.95 1.00  0.85  0.95 1.00  0.85
Lanes:       1.00 3.00  1.00  1.00 2.64  0.36  1.00 0.00  1.00  1.00 0.00  1.00
Final Sat.:  1805 5187  1615  1805 4474   619  1805    0  1615  1805    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.28  0.02  0.01 0.30  0.30  0.04 0.00  0.01  0.00 0.00  0.04
Crit Moves:  ****                  ****        ****                         ****
Green/Cycle: 0.12 0.63  0.63  0.02 0.54  0.54  0.08 0.00  0.11  0.04 0.00  0.06
Volume/Cap:  0.56 0.45  0.03  0.45 0.56  0.56  0.56 0.00  0.12  0.12 0.00  0.56
Delay/Veh:   28.2  5.7   4.1  36.6  9.4   9.4  31.4  0.0  24.6  28.7  0.0  34.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  28.2  5.7   4.1  36.6  9.4   9.4  31.4  0.0  24.6  28.7  0.0  34.0
LOS by Move:    C    A     A     D    A     A     C    A     C     C    A     C
HCM2k95thQ:     6   10     0     2   14    14     5    0     1     1    0     4
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #15 E. Commerce Way and Road C2
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.505
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):         7.8
Optimal Cycle:        60                 Level Of Service:                  A
********************************************************************************
Street Name:          E. Commerce Way                      Road C2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  0   0  0  3  0  1   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     216 1522     0     0 1335    37    94    0     6     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  216 1522     0     0 1335    37    94    0     6     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   216 1522     0     0 1335    37    94    0     6     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  216 1522     0     0 1335    37    94    0     6     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  216 1522     0     0 1335    37    94    0     6     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  1.00  1.00 0.91  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 3.00  0.00  0.00 3.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 5187     0     0 5187  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.29  0.00  0.00 0.26  0.02  0.05 0.00  0.00  0.00 0.00  0.00
Crit Moves:  ****                  ****        ****
Green/Cycle: 0.24 0.75  0.00  0.00 0.51  0.51  0.10 0.00  0.10  0.00 0.00  0.00
Volume/Cap:  0.50 0.39  0.00  0.00 0.50  0.04  0.50 0.00  0.04  0.00 0.00  0.00
Delay/Veh:   20.8  2.8   0.0   0.0  9.9   7.4  27.7  0.0  24.3   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.8  2.8   0.0   0.0  9.9   7.4  27.7  0.0  24.3   0.0  0.0   0.0
LOS by Move:    C    A     A     A    A     A     C    A     C     A    A     A
HCM2k95thQ:     8    8     0     0   12     1     5    0     0     0    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 11.6]
********************************************************************************
Street Name:          E. Commerce Way                         Road C1
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1737     0     0 1322    19     0     0    13     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1737     0     0 1322    19     0     0    13     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1737     0     0 1322    19     0     0    13     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1737     0     0 1322    19     0     0    13     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   450  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   562  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   562  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.6 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              11.6            xxxxxx
ApproachLOS:         *                *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #17 E. Commerce Way and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.894
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	43.1
Optimal Cycle:	113	Level Of Service:	D

Street Name:	E. Commerce Way						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	2 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	37	1139	75	154	912	269	414	368	212	190	399	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	1139	75	154	912	269	414	368	212	190	399	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	1139	75	154	912	269	414	368	212	190	399	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	1139	75	154	912	269	414	368	212	190	399	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	1139	75	154	912	269	414	368	212	190	399	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.32	0.05	0.04	0.25	0.17	0.23	0.10	0.13	0.11	0.21	0.11
Crit Moves:		****		****			****				****	
Green/Cycle:	0.03	0.35	0.35	0.05	0.37	0.37	0.26	0.27	0.27	0.22	0.23	0.23
Volume/Cap:	0.68	0.89	0.13	0.89	0.68	0.45	0.89	0.37	0.48	0.48	0.89	0.48
Delay/Veh:	83.7	42.9	24.9	93.2	31.2	27.3	59.8	33.5	35.2	39.5	61.7	38.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.7	42.9	24.9	93.2	31.2	27.3	59.8	33.5	35.2	39.5	61.7	38.3
LOS by Move:	F	D	C	F	C	C	E	C	D	D	E	D
HCM2k95thQ:	5	38	4	10	26	14	30	11	12	12	29	11

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                               Natomas Crossing
                        Cumulative With Existing Zoning
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 13.9]
********************************************************************************
Street Name:          E. Commerce Way                          Road D3
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1250     0     0 1197   117     0    0     7     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1250     0     0 1197   117     0    0     7     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1250     0     0 1197   117     0    0     7     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1250     0     0 1197   117     0    0     7     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   657  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   412  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   412  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             13.9           xxxxxx
ApproachLOS:          *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                        Cumulative With Existing Zoning
                                 AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #19 East Commerce Way and Road D2
********************************************************************************
Cycle (sec):           0                  Critical Vol./Cap.(X):        0.625
Loss Time (sec):      12 (Y+R=4.0 sec)    Average Delay (sec/veh):       14.8
Optimal Cycle:        60                  Level Of Service:                 B
********************************************************************************
Street Name:         E. Commerce Way                          Road D2
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:         1  0  2  0  1   1  0  2  0  1   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      247 1082    62    70  939   195    49    0    18    79    5   119
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   247 1082    62    70  939   195    49    0    18    79    5   119
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    247 1082    62    70  939   195    49    0    18    79    5   119
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   247 1082    62    70  939   195    49    0    18    79    5   119
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   247 1082    62    70  939   195    49    0    18    79    5   119
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85  0.95 0.86  0.86
Lanes:        1.00 2.00  1.00  1.00 2.00  1.00  1.00 0.00  1.00  1.00 0.04  0.96
Final Sat.:   1805 3610  1615  1805 3610  1615  1805    0  1615  1805   66  1561
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.14 0.30  0.04  0.04 0.26  0.12  0.03 0.00  0.01  0.04 0.08  0.08
Crit Moves:   ****                  ****        ****                  ****
Green/Cycle:  0.22 0.56  0.56  0.07 0.42  0.42  0.04 0.00  0.03  0.13 0.12  0.12
Volume/Cap:   0.63 0.53  0.07  0.53 0.63  0.29  0.63 0.00  0.33  0.33 0.63  0.63
Delay/Veh:    24.4  8.5   6.0  31.0 14.7  11.9  43.1  0.0  31.9  24.5 31.2  31.2
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   24.4  8.5   6.0  31.0 14.7  11.9  43.1  0.0  31.9  24.5 31.2  31.2
LOS by Move:     C    A     A     C    B     B     D    A     C     C    C     C
HCM2k95thQ:     10   13     1     4   15     5     4    0     2     3    7     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                             Natomas Crossing
                      Cumulative With Existing Zoning
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 12.2]
********************************************************************************
Street Name:          E. Commerce Way                      Road D1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0 1391     0     0  958    78     0     0    11     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1391     0     0  958    78     0     0    11     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1391     0     0  958    78     0     0    11     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1391     0     0  958    78     0     0    11     0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   518  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   508  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   508  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.2 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              12.2           xxxxxx
ApproachLOS:        *                 *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                             Natomas Crossing
                      Cumulative With Existing Zoning
                               AM Peak Hour
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
*******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         1.185
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):       104.8
Optimal Cycle:       180                Level Of Service:                  F
*******************************************************************************
Street Name:           E. Commerce Way                     San Juan Road
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0   942     0    27    71   449     0     0   463  1320
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0   942     0    27    71   449     0     0   463  1320
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     0     0     0   942     0    27    71   449     0     0   463  1320
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0     0     0   942     0    27    71   449     0     0   463  1320
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0     0     0   942     0    27    71   449     0     0   463  1320
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  1.00  1.00  1.00  0.92  1.00  0.85  0.95  0.95  1.00  1.00  0.95  0.85
Lanes:       0.00  0.00  0.00  2.00  0.00  1.00  1.00  2.00  0.00  0.00  2.00  1.00
Final Sat.:     0     0     0  3502     0  1615  1805  3610     0     0  3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00  0.27  0.00  0.02  0.04  0.12  0.00  0.00  0.13  0.82
Crit Moves:                    ****              ****                          ****
Green/Cycle: 0.00  0.00  0.00  0.23  0.00  0.23  0.03  0.72  0.00  0.00  0.69  0.69
Volume/Cap:  0.00  0.00  0.00  1.18  0.00  0.07  1.18  0.17  0.00  0.00  0.19  1.18
Delay/Veh:    0.0   0.0   0.0 165.4   0.0  54.8 261.8   7.9   0.0   0.0  10.0 120.5
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0 165.4   0.0  54.8 261.8   7.9   0.0   0.0  10.0 120.5
LOS by Move:    A     A     A     F     A     D     F     A     A     A     A     F
HCM2k95thQ:     0     0     0    60     0     2    14     8     0     0     9   146
*******************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Duckhorn Dr. and Natomas Crossing Dr.

Cycle (sec):	0	Critical Vol./Cap.(X):	0.922
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	64.8
Optimal Cycle:	150	Level Of Service:	E

Street Name:	Duckhorn Dr.						Natomas Crossing Dr.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	0	325	230	670	266	34	142	94	1	260	77	367
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	325	230	670	266	34	142	94	1	260	77	367
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	325	230	670	266	34	142	94	1	260	77	367
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	325	230	670	266	34	142	94	1	260	77	367
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	325	230	670	266	34	142	94	1	260	77	367
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	0.98	0.98	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	0.89	0.11	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	1900	1900	1615	1805	1656	212	1805	1876	20	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.14	0.37	0.16	0.16	0.08	0.05	0.05	0.14	0.04	0.23
Crit Moves:		****		****			****					****
Green/Cycle:	0.00	0.19	0.19	0.40	0.59	0.59	0.09	0.09	0.09	0.25	0.25	0.25
Volume/Cap:	0.00	0.92	0.77	0.92	0.27	0.27	0.92	0.59	0.59	0.59	0.16	0.92
Delay/Veh:	0.0	88.9	69.4	59.7	15.3	15.3	118.0	71.4	71.4	51.8	44.5	81.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	88.9	69.4	59.7	15.3	15.3	118.0	71.4	71.4	51.8	44.5	81.7
LOS by Move:	A	F	E	E	B	B	F	E	E	D	D	F
HCM2k95thQ:	0	31	21	52	12	12	17	10	10	20	5	34

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #23 Duckhorn Drive and San Juan Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.462
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	15.0
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Duckhorn Drive						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1 0 0 1			1 0 1 0 1			1 0 0 1 0			1 0 1 0 1		
Volume Module:												
Base Vol:	46	161	195	106	167	11	23	402	51	54	83	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	161	195	106	167	11	23	402	51	54	83	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	161	195	106	167	11	23	402	51	54	83	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	161	195	106	167	11	23	402	51	54	83	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	161	195	106	167	11	23	402	51	54	83	111
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.85	0.51	1.00	0.85	0.95	0.98	0.98	0.95	1.00	0.85
Lanes:	0.22	0.78	1.00	1.00	1.00	1.00	1.00	0.89	0.11	1.00	1.00	1.00
Final Sat.:	383	1340	1615	971	1900	1615	1805	1657	210	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.11	0.09	0.01	0.01	0.24	0.24	0.03	0.04	0.07
Crit Moves:		****						****		****		
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.09	0.53	0.53	0.06	0.50	0.50
Volume/Cap:	0.46	0.46	0.46	0.42	0.34	0.03	0.14	0.46	0.46	0.46	0.09	0.14
Delay/Veh:	19.4	19.4	19.5	19.6	18.4	16.6	25.4	9.3	9.3	29.9	8.0	8.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.4	19.4	19.5	19.6	18.4	16.6	25.4	9.3	9.3	29.9	8.0	8.2
LOS by Move:	B	B	B	B	B	B	C	A	A	C	A	A
HCM2k95thQ:	7	7	7	4	6	0	1	11	11	3	2	2

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative With Existing Zoning
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):         1.372
Loss Time (sec):     12 (Y+R=4.0 sec)   Average Delay (sec/veh):       132.2
Optimal Cycle:      180                 Level Of Service:                  F
********************************************************************************
Street Name:               Truxel Road                      Arena Boulevard
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Protected        Protected
Rights:           Include          Include           Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  4  0  1   2  0  4  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    1174  946   107   203 1526   446   367  964  1013   145  776   175
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse: 1174  946   107   203 1526   446   367  964  1013   145  776   175
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  1174  946   107   203 1526   446   367  964  1013   145  776   175
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1174  946   107   203 1526   446   367  964  1013   145  776   175
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1174  946   107   203 1526   446   367  964  1013   145  776   175
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.34 0.14  0.07  0.06 0.22  0.28  0.10 0.19  0.63  0.04 0.15  0.11
Crit Moves:  ****                        ****              ****  ****
Green/Cycle: 0.24 0.31  0.31  0.13 0.20  0.20  0.20 0.46  0.46  0.03 0.29  0.29
Volume/Cap:  1.37 0.44  0.21  0.44 1.10  1.37  0.52 0.41  1.37  1.37 0.52  0.38
Delay/Veh:  242.6 49.3  45.7  72.5  127 257.5  64.9 32.7 224.6 303.1 54.2  51.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 242.6 49.3  45.7  72.5  127 257.5  64.9 32.7 224.6 303.1 54.2  51.9
LOS by Move:    F    D     D     E    F     F     E    C     F     F    D     D
HCM2k95thQ:    83   20     8    11   50    63    18   22   133    16   23    14
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Cumulative With Existing Zoning
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #25 Truxel Road and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.910
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	40.5
Optimal Cycle:	132	Level Of Service:	D

Street Name:	Truxel Road						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4 0	1	1 0	4 0	1	1 0	0 1	1	1 0	0 1	0
Volume Module:												
Base Vol:	618	2290	110	47	2439	213	119	13	815	76	7	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	618	2290	110	47	2439	213	119	13	815	76	7	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	618	2290	110	47	2439	213	119	13	815	76	7	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	618	2290	110	47	2439	213	119	13	815	76	7	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	618	2290	110	47	2439	213	119	13	815	76	7	59
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.95	0.91	0.85	0.95	0.85	0.85	0.95	0.87	0.87
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	1.00	0.03	1.97	1.00	0.11	0.89
Final Sat.:	3502	6916	1615	1805	6916	1615	1805	51	3187	1805	175	1471
Capacity Analysis Module:												
Vol/Sat:	0.18	0.33	0.07	0.03	0.35	0.13	0.07	0.26	0.26	0.04	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.19	0.54	0.54	0.04	0.39	0.39	0.20	0.28	0.28	0.05	0.12	0.12
Volume/Cap:	0.91	0.61	0.13	0.61	0.91	0.34	0.32	0.91	0.91	0.91	0.32	0.32
Delay/Veh:	68.4	21.3	15.1	76.1	43.4	28.8	45.3	58.8	58.8	131.6	53.7	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	68.4	21.3	15.1	76.1	43.4	28.8	45.3	58.8	58.8	131.6	53.7	53.7
LOS by Move:	E	C	B	E	D	C	D	E	E	F	D	D
HCM2k95thQ:	28	30	4	6	47	12	8	34	34	11	5	5

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Scenario Report

Scenario:	Cumulative PM
Command:	Cumulative PM
Volume:	Cumulative PM
Geometry:	Cumulative
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 El Centro Road and Arena Boule	C	23.5	0.762	C	23.5	0.762	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	C	22.1	0.670	C	22.1	0.670	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	B	13.8	0.533	B	13.8	0.533	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	13.3	0.791	B	13.3	0.791	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	148.5	1.287	F	148.5	1.287	+ 0.000 D/V
# 6 East Commerce Way and Snowy Eg	C	26.2	0.816	C	26.2	0.816	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	B	13.5	0.000	B	13.5	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	D	25.1	0.000	D	25.1	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	F	96.4	1.056	F	96.4	1.056	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	C	16.2	0.000	C	16.2	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	C	17.2	0.000	C	17.2	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	F	113.4	1.196	F	113.4	1.196	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	12.9	0.000	B	12.9	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	B	13.3	0.686	B	13.3	0.686	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	B	15.2	0.738	B	15.2	0.738	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	13.5	0.000	B	13.5	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	E	71.6	0.955	E	71.6	0.955	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	14.0	0.000	B	14.0	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	C	22.7	0.773	C	22.7	0.773	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	14.2	0.000	B	14.2	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	E	67.9	1.042	E	67.9	1.042	+ 0.000 D/V
# 22 Duckhorn Dr. and Natomas Cross	E	69.1	0.934	E	69.1	0.934	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	15.9	0.415	B	15.9	0.415	+ 0.000 D/V

Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 24 Truxel Road and Arena Boulevar	F	134.1	1.441	F	134.1	1.441	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	C	33.5	0.896	C	33.5	0.896	+ 0.000 D/V

Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 El Centro Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.5
Optimal Cycle:	60	Level Of Service:	C

Street Name:	El Centro Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 1			1 0 2 0 1			1 0 2 0 1			1 0 1 0 1		
Volume Module:												
Base Vol:	169	666	194	146	504	17	31	143	60	171	286	528
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	169	666	194	146	504	17	31	143	60	171	286	528
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	169	666	194	146	504	17	31	143	60	171	286	528
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	666	194	146	504	17	31	143	60	171	286	528
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	666	194	146	504	17	31	143	60	171	286	528
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.12	0.08	0.14	0.01	0.02	0.04	0.04	0.09	0.15	0.33
Crit Moves:		****		****			****					****
Green/Cycle:	0.14	0.24	0.24	0.11	0.21	0.21	0.02	0.13	0.13	0.32	0.43	0.43
Volume/Cap:	0.67	0.76	0.50	0.76	0.67	0.05	0.76	0.30	0.28	0.30	0.35	0.76
Delay/Veh:	31.3	25.1	20.6	42.4	24.2	19.1	86.8	23.8	24.1	15.7	11.8	19.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.3	25.1	20.6	42.4	24.2	19.1	86.8	23.8	24.1	15.7	11.8	19.5
LOS by Move:	C	C	C	D	C	B	F	C	C	B	B	B
HCM2k95thQ:	9	15	7	9	11	1	4	3	3	5	7	19

Note: Queue reported is the number of cars per lane.

```
---------------------------------------------------------------------------------
                              Natomas Crossing
                        Future With Existing Zoning
                               PM Peak Hour
---------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Operations Method (Base Volume Alternative)
*********************************************************************************
Intersection #2 Duckhorn Drive and Arena Boulevard
*********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.670
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        22.1
Optimal Cycle:        60                 Level Of Service:                  C
*********************************************************************************
Street Name:            Duckhorn Drive                     Arena Boulevard
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         1  0  1  0  1    2  0  0  1  0    1  0  2  0  1    2  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      418  353    60    60  174     0    27  467   172   292  716    21
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   418  353    60    60  174     0    27  467   172   292  716    21
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    418  353    60    60  174     0    27  467   172   292  716    21
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   418  353    60    60  174     0    27  467   172   292  716    21
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   418  353    60    60  174     0    27  467   172   292  716    21
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 1.00  0.85  0.92 1.00  1.00  0.95 0.95  0.85  0.92 0.95  0.85
Lanes:        1.00 1.00  1.00  2.00 1.00  0.00  1.00 2.00  1.00  2.00 2.00  1.00
Final Sat.:   1805 1900  1615  3502 1900     0  1805 3610  1615  3502 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.23 0.19  0.04  0.02 0.09  0.00  0.01 0.13  0.11  0.08 0.20  0.01
Crit Moves:   ****                  ****                  ****        ****
Green/Cycle:  0.35 0.44  0.44  0.04 0.14  0.00  0.02 0.19  0.19  0.12 0.30  0.30
Volume/Cap:   0.67 0.42  0.08  0.42 0.67  0.00  0.67 0.67  0.55  0.67 0.67  0.04
Delay/Veh:    19.5 11.8   9.8  30.1 31.2   0.0  65.5 25.0  24.0  29.1 20.3  15.1
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   19.5 11.8   9.8  30.1 31.2   0.0  65.5 25.0  24.0  29.1 20.3  15.1
LOS by Move:     B    B     A     C    C     A     E    C     C     C    C     B
HCM2k95thQ:     15    9     1     2    9     0     3   11     7     8   14     1
*********************************************************************************
Note: Queue reported is the number of cars per lane.
*********************************************************************************
```

Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Arena Boulevard and I-5 Southbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.533
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	13.8
Optimal Cycle:	60	Level Of Service:	B

Street Name:	I-5 Southbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			2 0 0 0 1			0 0 2 0 1			0 0 3 0 1		
Volume Module:												
Base Vol:	0	0	0	801	0	28	0	384	1	0	636	2508
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	801	0	28	0	384	1	0	636	2508
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	801	0	28	0	384	0	0	636	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	801	0	28	0	384	0	0	636	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	801	0	28	0	384	0	0	636	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	0.00	3.00	1.00
Final Sat.:	0	0	0	2245	0	1615	0	3610	1900	0	5187	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.36	0.00	0.02	0.00	0.11	0.00	0.00	0.12	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.67	0.00	0.67	0.00	0.23	0.00	0.00	0.23	0.00
Volume/Cap:	0.00	0.00	0.00	0.53	0.00	0.03	0.00	0.46	0.00	0.00	0.53	0.00
Delay/Veh:	0.0	0.0	0.0	5.5	0.0	3.3	0.0	20.3	0.0	0.0	20.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	5.5	0.0	3.3	0.0	20.3	0.0	0.0	20.7	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	A	C	A
HCM2k95thQ:	0	0	0	9	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

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-------------------------------------------------------------------------------
                              Natomas Crossing
                        Future With Existing Zoning
                                PM Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #4 Arena Boulevard and I-5 Northbound Ramps
*******************************************************************************
Cycle (sec):            0              Critical Vol./Cap.(X):         0.791
Loss Time (sec):        6 (Y+R=4.0 sec) Average Delay (sec/veh):       13.3
Optimal Cycle:         60              Level Of Service:                  B
*******************************************************************************
Street Name:       I-5 Northbound Ramps                 Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  0  1   0  0  4  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     202    0   819     0    0     0     0 1156    29     0 2932   232
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  202    0   819     0    0     0     0 1156    29     0 2932   232
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   202    0   819     0    0     0     0 1156     0     0 2932     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  202    0   819     0    0     0     0 1156     0     0 2932     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
FinalVolume:  202    0   819     0    0     0     0 1156     0     0 2932     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.60 1.00  0.75  1.00 1.00  1.00  1.00 0.95  1.00  1.00 0.91  1.00
Lanes:       2.00 0.00  2.00  0.00 0.00  0.00  0.00 2.00  1.00  0.00 4.00  1.00
Final Sat.:  2285    0  2842     0    0     0     0 3610  1900     0 6916  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.29  0.00 0.00  0.00  0.00 0.32  0.00  0.00 0.42  0.00
Crit Moves:             ****                                         ****
Green/Cycle: 0.36 0.00  0.36  0.00 0.00  0.00  0.00 0.54  0.00  0.00 0.54  0.00
Volume/Cap:  0.24 0.00  0.79  0.00 0.00  0.00  0.00 0.60  0.00  0.00 0.79  0.00
Delay/Veh:   13.5  0.0  21.2   0.0  0.0   0.0   0.0 10.0   0.0   0.0 12.4   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  13.5  0.0  21.2   0.0  0.0   0.0   0.0 10.0   0.0   0.0 12.4   0.0
LOS by Move:    B    A     C     A    A     A     A    B     A     A    B     A
HCM2k95thQ:     3    0    19     0    0     0     0   16     0     0   25     0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                          Future With Existing Zoning
                                 PM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #5 East Commerce Way and Del Paso Road
********************************************************************************
Cycle (sec):            0              Critical Vol./Cap.(X):         1.287
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):     148.5
Optimal Cycle:        180              Level Of Service:                  F
********************************************************************************
Street Name:          East Commerce Way                     Del Paso Road
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        2  0  3  0  1    2  0  3  0  2    3  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      401 1148   659   519  654   293  1054 2297   296   708 2007   656
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   401 1148   659   519  654   293  1054 2297   296   708 2007   656
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    401 1148   659   519  654   293  1054 2297   296   708 2007   656
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   401 1148   659   519  654   293  1054 2297   296   708 2007   656
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   401 1148   659   519  654   293  1054 2297   296   708 2007   656
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.92 0.91  0.85  0.92 0.91  0.75  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:        2.00 3.00  1.00  2.00 3.00  2.00  3.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:   3502 5187  1615  3502 5187  2842  5253 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.11 0.22  0.41  0.15 0.13  0.10  0.20 0.44  0.18  0.20 0.39  0.41
Crit Moves:              ****  ****                  ****        ****
Green/Cycle:  0.21 0.32  0.32  0.12 0.23  0.23  0.17 0.34  0.34  0.16 0.34  0.34
Volume/Cap:   0.56 0.70  1.29  1.29 0.56  0.46  1.21 1.29  0.53  1.29 1.15  1.21
Delay/Veh:    65.1 55.3 204.9 226.4 62.2  60.6 180.7  193  48.4 218.4  136 171.0
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   65.1 55.3 204.9 226.4 62.2  60.6 180.7  193  48.4 218.4  136 171.0
LOS by Move:     E    E     F     F    E     E     F    F     D     F    F     F
HCM2k95thQ:     19   35    84    40   21    15    48  105    23    51   83    79
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                            Natomas Crossing
                      Future With Existing Zoning
                             PM Peak Hour
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         0.816
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):        26.2
Optimal Cycle:         71                Level Of Service:                  C
********************************************************************************
Street Name:        East Commerce Way        Snowy Egret Boulevard - Arco Aren
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:         1  0  3  0  1    2  0  3  0  1    1  0  2  0  1    2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      321 1897   427    50 1121   257   285  168   183   598  220    32
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   321 1897   427    50 1121   257   285  168   183   598  220    32
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    321 1897   427    50 1121   257   285  168   183   598  220    32
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   321 1897   427    50 1121   257   285  168   183   598  220    32
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   321 1897   427    50 1121   257   285  168   183   598  220    32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 0.91  0.85  0.92 0.91  0.85  0.95 0.95  0.85  0.92 0.93  0.93
Lanes:        1.00 3.00  1.00  2.00 3.00  1.00  1.00 2.00  1.00  2.00 1.75  0.25
Final Sat.:   1805 5187  1615  3502 5187  1615  1805 3610  1615  3502 3092   450
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.18 0.37  0.26  0.01 0.22  0.16  0.16 0.05  0.11  0.17 0.07  0.07
Crit Moves:   ****                  ****                       ****  ****
Green/Cycle:  0.22 0.46  0.46  0.02 0.26  0.26  0.24 0.14  0.14  0.21 0.11  0.11
Volume/Cap:   0.82 0.79  0.57  0.79 0.82  0.60  0.66 0.34  0.82  0.82 0.66  0.66
Delay/Veh:    38.9 17.8  14.9  81.3 28.4  25.2  28.0 28.0  49.9  33.8 34.6  34.6
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   38.9 17.8  14.9  81.3 28.4  25.2  28.0 28.0  49.9  33.8 34.6  34.6
LOS by Move:     D    B     B     F    C     C     C    C     D     C    C     C
HCM2k95thQ:     17   26    14     4   20    11    13    4    12    17    8     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                            Natomas Crossing
                      Future With Existing Zoning
                              PM Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 13.5]
********************************************************************************
Street Name:          E. Commerce Way                       Road B5
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0 2644     0      0 1881    21      0    0     2      0    0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0 2644     0      0 1881    21      0    0     2      0    0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0 2644     0      0 1881    21      0    0     2      0    0     0
Reduct Vol:      0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:     0 2644     0      0 1881    21      0    0     2      0    0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   638  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   424  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   424  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.5 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             13.5            xxxxxx
ApproachLOS:       *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                         Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      1.3       Worst Case Level Of Service: D[ 25.1]
********************************************************************************
Street Name:          E. Commerce Way                          Road B4
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 2644     0     0 1862    21     0    0   256     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 2644     0     0 1862    21     0    0   256     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 2644     0     0 1862    21     0    0   256     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 2644     0     0 1862    21     0    0   256     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   631  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   429  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   429  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.60  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   3.8  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  25.1 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     D     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              25.1            xxxxxx
ApproachLOS:        *                 *                  D                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                               Natomas Crossing
                         Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------

                       Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         1.056
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):        96.4
Optimal Cycle:        180                Level Of Service:                  F
********************************************************************************
Street Name:         East Commerce Way         Arco Arena Main Entrance - Road B
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected         Protected         Protected         Protected
Rights:           Include           Include           Include           Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  2  1  0   1  0  1  0  1   2  0  1  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     165 1197    16   694 1294    93   427    2   106    35    5   910
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  165 1197    16   694 1294    93   427    2   106    35    5   910
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   165 1197    16   694 1294    93   427    2   106    35    5   910
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  165 1197    16   694 1294    93   427    2   106    35    5   910
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  165 1197    16   694 1294    93   427    2   106    35    5   910
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.90  0.90  0.95 1.00  0.85  0.92 1.00  0.75
Lanes:       2.00 3.00  1.00  2.00 2.80  0.20  1.00 1.00  1.00  2.00 1.00  2.00
Final Sat.:  3502 5187  1615  3502 4791   344  1805 1900  1615  3502 1900  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.23  0.01  0.20 0.27  0.27  0.24 0.00  0.07  0.01 0.00  0.32
Crit Moves:       ****        ****              ****                         ****
Green/Cycle: 0.06 0.22  0.22  0.19 0.35  0.35  0.22 0.46  0.46  0.07 0.30  0.30
Volume/Cap:  0.78 1.06  0.05  1.06 0.78  0.78  1.06 0.00  0.14  0.14 0.01  1.06
Delay/Veh:  100.3  113  55.6 124.0 55.1  55.1 130.2 26.5  28.4  79.0 43.8 109.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 100.3  113  55.6 124.0 55.1  55.1 130.2 26.5  28.4  79.0 43.8 109.3
LOS by Move:    F    F     E     F    E     E     F    C     C     E    D     F
HCM2k95thQ:    12   50     1    42   42    42    49    0     6     2    0    57
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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------------------------------------------------------------------------------
                            Natomas Crossing
                       Future With Existing Zoning
                              PM Peak Hour
------------------------------------------------------------------------------

                   Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #10 E. Commerce Way and Road B2
*******************************************************************************
Average Delay (sec/veh):      1.0      Worst Case Level Of Service: C[ 16.2]
*******************************************************************************
Street Name:         E. Commerce Way                        Road B2
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1465     0     0 1378    82     0     0   202     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1465     0     0 1378    82     0     0   202     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1465     0     0 1378    82     0     0   202     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1465     0     0 1378    82     0     0   202     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   500  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   521  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   521  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.39  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.8  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  16.2 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx             16.2            xxxxxx
ApproachLOS:          *                 *                C                 *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                          Future With Existing Zoning
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      1.1       Worst Case Level Of Service: C[ 17.2]
********************************************************************************
Street Name:         E. Commerce Way                           Road B1
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1465     0      0 1539    41      0    0   202      0    0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0 1465     0      0 1539    41      0    0   202      0    0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:     0 1465     0      0 1539    41      0    0   202      0    0     0
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:    0 1465     0      0 1539    41      0    0   202      0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   534  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   496  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   496  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.41  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  17.2 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *      *    *     C      *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *      *    *     *      *    *     *
ApproachDel:     xxxxxx            xxxxxx             17.2            xxxxxx
ApproachLOS:          *                 *                C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                              Natomas Crossing
                        Future With Existing Zoning
                               PM Peak Hour
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
*******************************************************************************
Cycle (sec):          0                Critical Vol./Cap.(X):        1.196
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):      113.4
Optimal Cycle:       180               Level Of Service:                 F
*******************************************************************************
Street Name:        East Commerce Way                 Arena Boulevard
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     669  676   838   483  679   567   296 1227   405   463 1945   406
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  669  676   838   483  679   567   296 1227   405   463 1945   406
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   669  676   838   483  679   567   296 1227   405   463 1945   406
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  669  676   838   483  679   567   296 1227   405   463 1945   406
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  669  676   838   483  679   567   296 1227   405   463 1945   406
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.13  0.52  0.14 0.13  0.35  0.08 0.24  0.25  0.13 0.37  0.25
Crit Moves:             ****  ****             ****                   ****
Green/Cycle: 0.19 0.43  0.43  0.12 0.36  0.36  0.07 0.25  0.25  0.13 0.31  0.31
Volume/Cap:  0.99 0.30  1.20  1.20 0.37  0.99  1.20 0.94  1.00  1.00 1.20  0.80
Delay/Veh:  103.6 33.2 152.8 189.7 43.1  91.8 204.3 79.2 111.1 118.9  156  65.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 103.6 33.2 152.8 189.7 43.1  91.8 204.3 79.2 111.1 118.9  156  65.6
LOS by Move:    F    C     F     F    D     F     F    E     F     F    F     E
HCM2k95thQ:    39   16    97    36   18    57    25   45    44    30   84    37
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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                              Natomas Crossing
                         Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 12.9]
********************************************************************************
Street Name:           E. Commerce Way                        Road C4
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 2162     0     0 1533     7     0    0    52     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 2162     0     0 1533     7     0    0    52     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 2162     0     0 1533     7     0    0    52     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 2162     0     0 1533     7     0    0    52     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   515  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   510  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   510  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              12.9           xxxxxx
ApproachLOS:         *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.686
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	13.3
Optimal Cycle:	60	Level Of Service:	B

Street Name:	E. Commerce Way						Amelia Earhart Ave. - Road C3					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	22	1859	18	17	1536	40	302	0	103	18	0	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1859	18	17	1536	40	302	0	103	18	0	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	1859	18	17	1536	40	302	0	103	18	0	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1859	18	17	1536	40	302	0	103	18	0	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	1859	18	17	1536	40	302	0	103	18	0	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.91	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	3.00	1.00	1.00	2.92	0.08	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1805	5187	1615	1805	5035	131	1805	0	1615	1805	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.36	0.01	0.01	0.31	0.31	0.17	0.00	0.06	0.01	0.00	0.01
Crit Moves:		****		****			****					****
Green/Cycle:	0.02	0.52	0.52	0.01	0.52	0.52	0.24	0.00	0.23	0.04	0.00	0.02
Volume/Cap:	0.59	0.69	0.02	0.69	0.59	0.59	0.69	0.00	0.28	0.28	0.00	0.69
Delay/Veh:	52.0	11.4	6.9	87.6	10.5	10.5	25.1	0.0	19.5	30.5	0.0	76.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.0	11.4	6.9	87.6	10.5	10.5	25.1	0.0	19.5	30.5	0.0	76.7
LOS by Move:	D	B	A	F	B	B	C	A	B	C	A	E
HCM2k95thQ:	3	19	0	3	15	15	13	0	4	1	0	3

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 E. Commerce Way and Road C2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	15.2
Optimal Cycle:	60	Level Of Service:	B

Street Name: E. Commerce Way / Road C2

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 3 0 0			0 0 3 0 1			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	175	1480	0	0	1547	110	419	0	34	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	175	1480	0	0	1547	110	419	0	34	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	175	1480	0	0	1547	110	419	0	34	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	175	1480	0	0	1547	110	419	0	34	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	175	1480	0	0	1547	110	419	0	34	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.91	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	5187	0	0	5187	1615	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.10	0.29	0.00	0.00	0.30	0.07	0.23	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.13	0.54	0.00	0.00	0.40	0.40	0.31	0.00	0.31	0.00	0.00	0.00
Volume/Cap:	0.74	0.53	0.00	0.00	0.74	0.17	0.74	0.00	0.07	0.00	0.00	0.00
Delay/Veh:	36.6	9.3	0.0	0.0	16.6	11.6	23.4	0.0	14.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	9.3	0.0	0.0	16.6	11.6	23.4	0.0	14.5	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	B	C	A	B	A	A	A
HCM2k95thQ:	10	13	0	0	19	3	16	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                               Natomas Crossing
                        Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      0.3       Worst Case Level Of Service: B[ 13.5]
********************************************************************************
Street Name:          E. Commerce Way                         Road C1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0 1655     0      0 1526    55      0     0    69      0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0 1655     0      0 1526    55      0     0    69      0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0 1655     0      0 1526    55      0     0    69      0     0     0
Reduct Vol:      0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:     0 1655     0      0 1526    55      0     0    69      0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   536  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   494  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   494  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.14  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.5  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *      *     *     B      *     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *      *     *     *      *     *     *
ApproachDel:     xxxxxx           xxxxxx             13.5             xxxxxx
ApproachLOS:          *                *                B                  *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #17 E. Commerce Way and Natomas Crossing Drive

Cycle (sec): 0 Critical Vol./Cap.(X): 0.955
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 71.6
Optimal Cycle: 180 Level Of Service: E

Street Name:	E. Commerce Way						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	2 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	107	1078	240	159	1165	271	487	375	24	58	455	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	1078	240	159	1165	271	487	375	24	58	455	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	1078	240	159	1165	271	487	375	24	58	455	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	1078	240	159	1165	271	487	375	24	58	455	89
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	1078	240	159	1165	271	487	375	24	58	455	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.30	0.15	0.05	0.32	0.17	0.27	0.10	0.01	0.03	0.24	0.06
Crit Moves:	****				****		****				****	
Green/Cycle:	0.06	0.35	0.35	0.05	0.34	0.34	0.28	0.41	0.41	0.13	0.25	0.25
Volume/Cap:	0.95	0.86	0.43	0.86	0.95	0.50	0.95	0.26	0.04	0.26	0.95	0.22
Delay/Veh:	154.7	60.9	45.6	115.7	74.4	48.1	92.2	35.4	32.1	71.6	96.4	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	154.7	60.9	45.6	115.7	74.4	48.1	92.2	35.4	32.1	71.6	96.4	53.7
LOS by Move:	F	E	D	F	E	D	F	D	C	E	F	D
HCM2k95thQ:	16	50	18	13	58	21	49	13	2	6	47	8

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 14.0]
********************************************************************************
Street Name:           E. Commerce Way                        Road D3
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0    0  0  1  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0 1425     0      0 1227    21      0     0    31      0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0 1425     0      0 1227    21      0     0    31      0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0 1425     0      0 1227    21      0     0    31      0     0     0
Reduct Vol:      0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:     0 1425     0      0 1227    21      0     0    31      0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   624  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   433  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   433  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.07  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  14.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *      *    *     B      *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *      *    *     *      *    *     *
ApproachDel:     xxxxxx            xxxxxx              14.0            xxxxxx
ApproachLOS:          *                 *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #19 East Commerce Way and Road D2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.773
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	22.7
Optimal Cycle:	60	Level Of Service:	C

Street Name:	E. Commerce Way						Road D2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	46	921	86	114	1109	35	413	6	77	44	1	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	921	86	114	1109	35	413	6	77	44	1	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	46	921	86	114	1109	35	413	6	77	44	1	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	921	86	114	1109	35	413	6	77	44	1	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	921	86	114	1109	35	413	6	77	44	1	91
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.86	0.86	0.95	0.85	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.07	0.93	1.00	0.01	0.99
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	118	1518	1805	18	1601
Capacity Analysis Module:												
Vol/Sat:	0.03	0.26	0.05	0.06	0.31	0.02	0.23	0.05	0.05	0.02	0.06	0.06
Crit Moves:	****				****		****				****	
Green/Cycle:	0.03	0.35	0.35	0.09	0.40	0.40	0.30	0.25	0.25	0.12	0.07	0.07
Volume/Cap:	0.77	0.74	0.15	0.74	0.77	0.05	0.77	0.20	0.20	0.20	0.77	0.77
Delay/Veh:	74.5	19.7	13.7	44.0	18.4	11.2	26.2	18.0	18.0	24.3	53.6	53.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	74.5	19.7	13.7	44.0	18.4	11.2	26.2	18.0	18.0	24.3	53.6	53.6
LOS by Move:	E	B	B	D	B	B	C	B	B	C	D	D
HCM2k95thQ:	5	18	2	8	21	1	17	3	3	2	7	7

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.3       Worst Case Level Of Service: B[ 14.2]
********************************************************************************
Street Name:          E. Commerce Way                           Road D1
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1053     0     0 1216    14     0     0    46     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1053     0     0 1216    14     0     0    46     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1053     0     0 1216    14     0     0    46     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1053     0     0 1216    14     0     0    46     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   615  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   439  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   439  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.10  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  14.2 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:   xxxxxx           xxxxxx             14.2           xxxxxx
ApproachLOS:        *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                               Natomas Crossing
                         Future With Existing Zoning
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
********************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):         1.042
Loss Time (sec):      9 (Y+R=4.0 sec)  Average Delay (sec/veh):        67.9
Optimal Cycle:      180                 Level Of Service:                  E
********************************************************************************
Street Name:           E. Commerce Way                    San Juan Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected         Protected        Protected
Rights:          Include          Include           Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  0  0  0   2  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0 1190    0    71    32  456     0     0  478  1021
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0    0     0 1190    0    71    32  456     0     0  478  1021
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0    0     0 1190    0    71    32  456     0     0  478  1021
Reduct Vol:    0    0     0    0    0     0     0    0     0     0    0     0
Reduced Vol:   0    0     0 1190    0    71    32  456     0     0  478  1021
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0    0     0 1190    0    71    32  456     0     0  478  1021
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.92 1.00  0.85  0.95 0.95  1.00  1.00 0.95  0.85
Lanes:       0.00 0.00  0.00  2.00 0.00  1.00  1.00 2.00  0.00  0.00 2.00  1.00
Final Sat.:    0    0     0  3502    0  1615  1805 3610     0     0 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.34 0.00  0.04  0.02 0.13  0.00  0.00 0.13  0.63
Crit Moves:                   ****              ****                         ****
Green/Cycle: 0.00 0.00  0.00  0.33 0.00  0.33  0.02 0.62  0.00  0.00 0.61  0.61
Volume/Cap:  0.00 0.00  0.00  1.04 0.00  0.13  1.04 0.20  0.00  0.00 0.22  1.04
Delay/Veh:    0.0  0.0   0.0  98.8  0.0  42.9 263.9 14.6   0.0   0.0 16.1  75.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  98.8  0.0  42.9 263.9 14.6   0.0   0.0 16.1  75.6
LOS by Move:    A    A     A     F    A     D     F    B     A     A    B     E
HCM2k95thQ:     0    0     0    64    0     5     7   11     0     0   12    99
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future With Existing Zoning
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Duckhorn Dr. and Natomas Crossing Dr.

Cycle (sec):	0	Critical Vol./Cap.(X):	0.934
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	69.1
Optimal Cycle:	175	Level Of Service:	E

Street Name:	Duckhorn Dr.						Natomas Crossing Dr.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	0	477	316	534	284	88	54	37	0	253	106	473
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	477	316	534	284	88	54	37	0	253	106	473
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	477	316	534	284	88	54	37	0	253	106	473
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	477	316	534	284	88	54	37	0	253	106	473
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	477	316	534	284	88	54	37	0	253	106	473
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	0.96	0.96	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	0.76	0.24	1.00	1.00	0.00	1.00	1.00	1.00
Final Sat.:	1900	1900	1615	1805	1398	433	1805	1900	0	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.20	0.30	0.20	0.20	0.03	0.02	0.00	0.14	0.06	0.29
Crit Moves:		****		****			****					****
Green/Cycle:	0.00	0.27	0.27	0.32	0.59	0.59	0.03	0.04	0.00	0.30	0.31	0.31
Volume/Cap:	0.00	0.93	0.73	0.93	0.35	0.35	0.93	0.46	0.00	0.46	0.18	0.93
Delay/Veh:	0.0	86.9	64.3	80.6	19.0	19.0	178.7	86.0	0.0	50.0	43.8	82.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	86.9	64.3	80.6	19.0	19.0	178.7	86.0	0.0	50.0	43.8	82.8
LOS by Move:	A	F	E	F	B	B	F	F	A	D	D	F
HCM2k95thQ:	0	46	28	50	18	18	10	5	0	20	8	46

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                                Natomas Crossing
                          Future With Existing Zoning
                                  PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.415
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        15.9
Optimal Cycle:        60                 Level Of Service:                  B
********************************************************************************
Street Name:              Duckhorn Drive                    San Juan Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  1  0  0  1   1  0  1  0  1   1  0  0  1  0   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38  164    95   100  195     0    99  220    79   133  319   248
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38  164    95   100  195     0    99  220    79   133  319   248
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38  164    95   100  195     0    99  220    79   133  319   248
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   38  164    95   100  195     0    99  220    79   133  319   248
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   38  164    95   100  195     0    99  220    79   133  319   248
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.92  0.85  0.53 1.00  1.00  0.95 0.96  0.96  0.95 1.00  0.85
Lanes:       0.19 0.81  1.00  1.00 1.00  1.00  1.00 0.74  0.26  1.00 1.00  1.00
Final Sat.:   329 1421  1615  1009 1900  1900  1805 1342   482  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.12  0.06  0.10 0.10  0.00  0.05 0.16  0.16  0.07 0.17  0.15
Crit Moves:       ****                              ****        ****
Green/Cycle: 0.28 0.28  0.28  0.28 0.28  0.00  0.14 0.39  0.39  0.18 0.43  0.43
Volume/Cap:  0.42 0.42  0.21  0.36 0.37  0.00  0.39 0.42  0.42  0.42 0.39  0.36
Delay/Veh:   18.3 18.3  16.9  18.1 17.9   0.0  24.4 13.5  13.5  22.8 12.0  11.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  18.3 18.3  16.9  18.1 17.9   0.0  24.4 13.5  13.5  22.8 12.0  11.8
LOS by Move:    B    B     B     B    B     A     C    B     B     C    B     B
HCM2k95thQ:     7    7     3     4    6     0     4    8     8     5    8     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                         Future With Existing Zoning
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
               2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):             0                 Critical Vol./Cap.(X):         1.441
Loss Time (sec):        12 (Y+R=4.0 sec)   Average Delay (sec/veh):       134.1
Optimal Cycle:         180                 Level Of Service:                  F
********************************************************************************
Street Name:               Truxel Road                       Arena Boulevard
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:         2  0  4  0  1   2  0  4  0  1   2  0  3  0  1   2  0  3  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:    1408 1639   167   137 1355   431   542  884  1038   117  963   258
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse: 1408 1639   167   137 1355   431   542  884  1038   117  963   258
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  1408 1639   167   137 1355   431   542  884  1038   117  963   258
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1408 1639   167   137 1355   431   542  884  1038   117  963   258
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1408 1639   167   137 1355   431   542  884  1038   117  963   258
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.40 0.24  0.10  0.04 0.20  0.27  0.15 0.17  0.64  0.03 0.19  0.16
Crit Moves:  ****                        ****              ****  ****
Green/Cycle: 0.28 0.40  0.40  0.07 0.19  0.19  0.21 0.45  0.45  0.02 0.26  0.26
Volume/Cap:  1.44 0.59  0.26  0.59 1.06  1.44  0.73 0.38  1.44  1.44 0.73  0.62
Delay/Veh:  269.3 43.0  36.5  85.9  115 289.9  69.5 33.4 256.2 342.8 63.2  62.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 269.3 43.0  36.5  85.9  115 289.9  69.5 33.4 256.2 342.8 63.2  62.3
LOS by Move:    F    D     D     F    F     F     E    C     F     F    E     E
HCM2k95thQ:   101   33    11     9   44    64    27   21   142    14   32    23
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                             Natomas Crossing
                        Future With Existing Zoning
                               PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #25 Truxel Road and Natomas Crossing Drive
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         0.896
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):        33.5
Optimal Cycle:        117                Level Of Service:                  C
********************************************************************************
Street Name:               Truxel Road                  Natomas Crossing Drive
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  4  0  1   1  0  4  0  1   1  0  0  1  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     803 2998   120    69 2537   193   233   13   530    74   15    55
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  803 2998   120    69 2537   193   233   13   530    74   15    55
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   803 2998   120    69 2537   193   233   13   530    74   15    55
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  803 2998   120    69 2537   193   233   13   530    74   15    55
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  803 2998   120    69 2537   193   233   13   530    74   15    55
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.95 0.91  0.85  0.95 0.85  0.85  0.95 0.88  0.88
Lanes:       2.00 4.00  1.00  1.00 4.00  1.00  1.00 0.05  1.95  1.00 0.21  0.79
Final Sat.:  3502 6916  1615  1805 6916  1615  1805   78  3168  1805  359  1317
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.43  0.07  0.04 0.37  0.12  0.13 0.17  0.17  0.04 0.04  0.04
Crit Moves:  ****                  ****               ****        ****
Green/Cycle: 0.26 0.61  0.61  0.05 0.41  0.41  0.18 0.19  0.19  0.05 0.06  0.06
Volume/Cap:  0.90 0.71  0.12  0.71 0.90  0.29  0.74 0.90  0.90  0.90 0.74  0.74
Delay/Veh:   53.7 16.2   9.6  75.9 36.5  23.4  54.3 62.5  62.5 121.0 79.8  79.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  53.7 16.2   9.6  75.9 36.5  23.4  54.3 62.5  62.5 121.0 79.8  79.8
LOS by Move:    D    B     A     E    D     C     D    E     E     F    E     E
HCM2k95thQ:    31   35     4     8   44     9    18   23    23    10    8     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Scenario Report

Scenario:	Cumulative Saturday
Command:	Cumulative Saturday
Volume:	Cumulative Saturday
Geometry:	Cumulative
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/Veh	Base V/C	Future LOS	Future Del/Veh	Future V/C	Change in
# 1 El Centro Road and Arena Boule	B	17.8	0.400	B	17.8	0.400	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	B	18.4	0.569	B	18.4	0.569	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	B	12.2	0.391	B	12.2	0.391	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	E	57.5	0.981	E	57.5	0.981	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	107.9	1.163	F	107.9	1.163	+ 0.000 D/V
# 6 East Commerce Way and Snowy Eg	B	18.3	0.786	B	18.3	0.786	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	B	11.3	0.000	B	11.3	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	B	11.4	0.000	B	11.4	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	C	24.5	0.767	C	24.5	0.767	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	B	10.5	0.000	B	10.5	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	B	10.5	0.000	B	10.5	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	D	41.5	0.891	D	41.5	0.891	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	10.5	0.000	B	10.5	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	B	15.7	0.490	B	15.7	0.490	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	A	8.9	0.304	A	8.9	0.304	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	10.7	0.000	B	10.7	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	B	19.6	0.531	B	19.6	0.531	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	10.1	0.000	B	10.1	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	B	12.8	0.297	B	12.8	0.297	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	10.1	0.000	B	10.1	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	B	12.8	0.602	B	12.8	0.602	+ 0.000 D/V
# 22 Duckhorn Dr. and Natomas Cross	C	20.5	0.599	C	20.5	0.599	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	13.7	0.256	B	13.7	0.256	+ 0.000 D/V

Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 24 Truxel Road and Arena Boulevar	E	71.6	1.000	E	71.6	1.000	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	B	17.2	0.742	B	17.2	0.742	+ 0.000 D/V

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #1 El Centro Road and Arena Boulevard
********************************************************************************
Cycle (sec):           0                  Critical Vol./Cap.(X):        0.400
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        17.8
Optimal Cycle:        60                  Level Of Service:                B
********************************************************************************
Street Name:               El Centro Road                   Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      77  344    67    76  456    15     8  267    72    94  278    86
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   77  344    67    76  456    15     8  267    72    94  278    86
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    77  344    67    76  456    15     8  267    72    94  278    86
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   77  344    67    76  456    15     8  267    72    94  278    86
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   77  344    67    76  456    15     8  267    72    94  278    86
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 3610  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.10  0.04  0.04 0.13  0.01  0.00 0.07  0.04  0.05 0.15  0.05
Crit Moves:  ****                  ****        ****                   ****
Green/Cycle: 0.11 0.29  0.29  0.13 0.32  0.32  0.01 0.22  0.22  0.16 0.37  0.37
Volume/Cap:  0.40 0.32  0.14  0.32 0.40  0.03  0.40 0.33  0.20  0.33 0.40  0.15
Delay/Veh:   26.4 16.7  15.8  24.5 16.3  14.2  42.1 19.9  19.3  23.3 14.5  12.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  26.4 16.7  15.8  24.5 16.3  14.2  42.1 19.9  19.3  23.3 14.5  12.8
LOS by Move:    C    B     B     C    B     B     D    B     B     C    B     B
HCM2k95thQ:     4    6     2     3    8     0     1    5     3     4    8     2
********************************************************************************
Note: Queue reported is the number of cars per lane.
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--------------------------------------------------------------------------------
                             Natomas Crossing
                     Cumulative (with Existing Zoning)
                            Saturday Peak Hour
--------------------------------------------------------------------------------

                    Level Of Service Computation Report
         2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Duckhorn Drive and Arena Boulevard
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.569
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        18.4
Optimal Cycle:        60                 Level Of Service:                  B
********************************************************************************
Street Name:           Duckhorn Drive                   Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  1   2  0  0  1  0   1  0  2  0  1   2  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      77   98   314    37  100     0     5  489    66   403  462    54
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   77   98   314    37  100     0     5  489    66   403  462    54
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    77   98   314    37  100     0     5  489    66   403  462    54
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   77   98   314    37  100     0     5  489    66   403  462    54
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   77   98   314    37  100     0     5  489    66   403  462    54
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  0.85  0.92 1.00  1.00  0.95 0.95  0.85  0.92 0.95  0.85
Lanes:       1.00 1.00  1.00  2.00 1.00  0.00  1.00 2.00  1.00  2.00 2.00  1.00
Final Sat.:  1805 1900  1615  3502 1900     0  1805 3610  1615  3502 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.05  0.19  0.01 0.05  0.00  0.00 0.14  0.04  0.12 0.13  0.03
Crit Moves:             ****  ****                  ****        ****
Green/Cycle: 0.16 0.34  0.34  0.02 0.20  0.00  0.01 0.24  0.24  0.20 0.43  0.43
Volume/Cap:  0.26 0.15  0.57  0.57 0.26  0.00  0.30 0.57  0.17  0.57 0.30  0.08
Delay/Veh:   22.5 13.8  17.6  40.7 20.7   0.0  39.2 21.1  18.4  22.7 11.3  10.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  22.5 13.8  17.6  40.7 20.7   0.0  39.2 21.1  18.4  22.7 11.3  10.1
LOS by Move:    C    B     B     D    C     A     D    C     B     C    B     B
HCM2k95thQ:     3    3    11     2    4     0     1   10     2     9    6     1
********************************************************************************
Note: Queue reported is the number of cars per lane.
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--------------------------------------------------------------------------------
                            Natomas Crossing
                     Cumulative (with Existing Zoning)
                             Saturday Peak Hour
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                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Arena Boulevard and I-5 Southbound Ramps
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         0.391
Loss Time (sec):        6 (Y+R=4.0 sec)  Average Delay (sec/veh):        12.2
Optimal Cycle:         60                Level Of Service:                  B
********************************************************************************
Street Name:       I-5 Southbound Ramps               Arena Boulevard
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   0  0  2  0  1   0  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  508    0   114    0  310   539    0  656  1440
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  508    0   114    0  310   539    0  656  1440
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:     0    0     0  508    0   114    0  310     0    0  656     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  508    0   114    0  310     0    0  656     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
FinalVolume:    0    0     0  508    0   114    0  310     0    0  656     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.59 1.00  0.85 1.00 0.95  1.00 1.00 0.91  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  1.00 0.00 2.00  1.00 0.00 3.00  1.00
Final Sat.:     0    0     0 2252    0  1615    0 3610  1900    0 5187  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.23 0.00  0.07 0.00 0.09  0.00 0.00 0.13  0.00
Crit Moves:                  ****                                 ****
Green/Cycle: 0.00 0.00  0.00 0.58 0.00  0.58 0.00 0.32  0.00 0.00 0.32  0.00
Volume/Cap:  0.00 0.00  0.00 0.39 0.00  0.12 0.00 0.27  0.00 0.00 0.39  0.00
Delay/Veh:    0.0  0.0   0.0  7.1  0.0   5.8  0.0 15.1   0.0  0.0 15.9   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  7.1  0.0   5.8  0.0 15.1   0.0  0.0 15.9   0.0
LOS by Move:    A    A     A    A    A     A    A    B     A    A    B     A
HCM2k95thQ:     0    0     0    6    0     2    0    5     0    0    7     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Arena Boulevard and I-5 Northbound Ramps
********************************************************************************
Cycle (sec):           0                  Critical Vol./Cap.(X):         0.981
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):        57.5
Optimal Cycle:       180                  Level Of Service:                  E
********************************************************************************
Street Name:       I-5 Northbound Ramps                  Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  0  1   0  0  4  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     380     0  1989     0     0     0     0   733    76     0  1716   486
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  380     0  1989     0     0     0     0   733    76     0  1716   486
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Volume:   380     0  1989     0     0     0     0   733     0     0  1716     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  380     0  1989     0     0     0     0   733     0     0  1716     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
FinalVolume:  380     0  1989     0     0     0     0   733     0     0  1716     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.58  1.00  0.75  1.00  1.00  1.00  1.00  0.95  1.00  1.00  0.91  1.00
Lanes:       2.00  0.00  2.00  0.00  0.00  0.00  0.00  2.00  1.00  0.00  4.00  1.00
Final Sat.:  2201     0  2842     0     0     0     0  3610  1900     0  6916  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17  0.00  0.70  0.00  0.00  0.00  0.00  0.20  0.00  0.00  0.25  0.00
Crit Moves:              ****                                              ****
Green/Cycle: 0.71  0.00  0.71  0.00  0.00  0.00  0.00  0.25  0.00  0.00  0.25  0.00
Volume/Cap:  0.24  0.00  0.98  0.00  0.00  0.00  0.00  0.80  0.00  0.00  0.98  0.00
Delay/Veh:    9.0   0.0  40.2   0.0   0.0   0.0   0.0  68.2   0.0   0.0  83.8   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   9.0   0.0  40.2   0.0   0.0   0.0   0.0  68.2   0.0   0.0  83.8   0.0
LOS by Move:    A     A     D     A     A     A     A     E     A     A     F     A
HCM2k95thQ:     7     0    98     0     0     0     0    36     0     0    49     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 East Commerce Way and Del Paso Road

Cycle (sec):	0	Critical Vol./Cap.(X):	1.163
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	107.9
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Del Paso Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 3 0 1			2 0 3 0 2			3 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	172	395	549	674	374	294	514	1589	166	656	2128	735
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	172	395	549	674	374	294	514	1589	166	656	2128	735
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	172	395	549	674	374	294	514	1589	166	656	2128	735
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	172	395	549	674	374	294	514	1589	166	656	2128	735
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	172	395	549	674	374	294	514	1589	166	656	2128	735
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.75	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	2.00	3.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	2842	5253	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.34	0.19	0.07	0.10	0.10	0.31	0.10	0.19	0.41	0.46
Crit Moves:			****	****			****					****
Green/Cycle:	0.15	0.29	0.29	0.17	0.31	0.31	0.08	0.30	0.30	0.18	0.39	0.39
Volume/Cap:	0.33	0.26	1.16	1.16	0.23	0.33	1.16	1.04	0.35	1.04	1.05	1.16
Delay/Veh:	69.2	48.9	158.1	166.2	46.2	48.0	178.0	97.0	50.3	119.8	88.8	144.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.2	48.9	158.1	166.2	46.2	48.0	178.0	97.0	50.3	119.8	88.8	144.7
LOS by Move:	E	D	F	F	D	D	F	F	D	F	F	F
HCM2k95thQ:	9	11	65	45	10	13	27	61	13	40	79	84

Note: Queue reported is the number of cars per lane.

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                             Natomas Crossing
                     Cumulative (with Existing Zoning)
                            Saturday Peak Hour
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                   Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.786
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        18.3
Optimal Cycle:        63                Level Of Service:                  B
********************************************************************************
Street Name:         East Commerce Way         Snowy Egret Boulevard - Arco Aren
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   2  0  3  0  1   1  0  2  0  1   2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       57  870   722    30  827   107   110   96    61   414  397    30
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    57  870   722    30  827   107   110   96    61   414  397    30
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     57  870   722    30  827   107   110   96    61   414  397    30
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    57  870   722    30  827   107   110   96    61   414  397    30
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    57  870   722    30  827   107   110   96    61   414  397    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.95 0.91  0.85  0.92 0.91  0.85  0.95 0.95  0.85  0.92 0.94  0.94
Lanes:        1.00 3.00  1.00  2.00 3.00  1.00  1.00 2.00  1.00  2.00 1.86  0.14
Final Sat.:   1805 5187  1615  3502 5187  1615  1805 3610  1615  3502 3323   251
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.03 0.17  0.45  0.01 0.16  0.07  0.06 0.03  0.04  0.12 0.12  0.12
Crit Moves:              ****  ****             ****                  ****
Green/Cycle:  0.10 0.57  0.57  0.01 0.48  0.48  0.08 0.06  0.06  0.17 0.15  0.15
Volume/Cap:   0.33 0.29  0.79  0.79 0.33  0.14  0.79 0.48  0.68  0.68 0.79  0.79
Delay/Veh:    27.7  7.1  15.1  98.3 10.1   9.1  53.3 30.7  48.2  27.5 33.2  33.2
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   27.7  7.1  15.1  98.3 10.1   9.1  53.3 30.7  48.2  27.5 33.2  33.2
LOS by Move:     C    A     B     F    B     A     D    C     D     C    C     C
HCM2k95thQ:      3    7    23     3    7     2     8    3     5    10   12    12
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

```
--------------------------------------------------------------------------------
                              Natomas Crossing
                     Cumulative (with Existing Zoning)
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 11.3]
********************************************************************************
Street Name:         E. Commerce Way                       Road B5
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0 1649     0      0 1292    10      0    0     7      0    0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0 1649     0      0 1292    10      0    0     7      0    0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:     0 1649     0      0 1292    10      0    0     7      0    0     0
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:    0 1649     0      0 1292    10      0    0     7      0    0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   436  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   574  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   574  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.3 xxxxx xxxx xxxxx
LOS by Move:    *    *     *      *    *     *      *    *     B      *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *      *    *     *      *    *     *      *    *     *
ApproachDel:     xxxxxx           xxxxxx             11.3            xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

```
--------------------------------------------------------------------------------
                               Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 11.4]
********************************************************************************
Street Name:          E. Commerce Way                       Road B4
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1649     0     0 1290    10     0    0    14     0    0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1649     0     0 1290    10     0    0    14     0    0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1649     0     0 1290    10     0    0    14     0    0     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0 1649     0     0 1290    10     0    0    14     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   435  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   575  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   575  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.4 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx             11.4            xxxxxx
ApproachLOS:          *                 *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	24.5
Optimal Cycle:	60	Level Of Service:	C

Street Name:	East Commerce Way						Arco Arena Main Entrance - Road B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	2 1	0	1 0	1 0	1	2 0	1 0	2
Volume Module:												
Base Vol:	233	841	13	584	590	85	141	0	62	41	4	588
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	841	13	584	590	85	141	0	62	41	4	588
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	841	13	584	590	85	141	0	62	41	4	588
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	841	13	584	590	85	141	0	62	41	4	588
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	841	13	584	590	85	141	0	62	41	4	588
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.89	0.89	0.95	1.00	0.85	0.92	1.00	0.75
Lanes:	2.00	3.00	1.00	2.00	2.62	0.38	1.00	1.00	1.00	2.00	1.00	2.00
Final Sat.:	3502	5187	1615	3502	4448	641	1805	1900	1615	3502	1900	2842
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.01	0.17	0.13	0.13	0.08	0.00	0.04	0.01	0.00	0.21
Crit Moves:		****		****			****					****
Green/Cycle:	0.14	0.21	0.21	0.22	0.29	0.29	0.10	0.00	0.28	0.09	0.27	0.27
Volume/Cap:	0.46	0.77	0.04	0.77	0.46	0.46	0.77	0.00	0.13	0.13	0.01	0.77
Delay/Veh:	24.3	25.6	18.9	26.8	17.9	17.9	43.8	0.0	16.1	25.5	16.0	24.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.3	25.6	18.9	26.8	17.9	17.9	43.8	0.0	16.1	25.5	16.0	24.9
LOS by Move:	C	C	B	C	B	B	D	A	B	C	B	C
HCM2k95thQ:	5	14	0	14	8	8	9	0	2	1	0	15

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: B[ 10.5]
********************************************************************************
Street Name:          E. Commerce Way                        Road B2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1154     0     0  650    80     0    0    95     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1154     0     0  650    80     0    0    95     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1154     0     0  650    80     0    0    95     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1154     0     0  650    80     0    0    95     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   257  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   749  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   749  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.5 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             10.5           xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: B[ 10.5]
********************************************************************************
Street Name:         E. Commerce Way                        Road B1
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1154     0     0  705    40     0     0    95     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1154     0     0  705    40     0     0    95     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1154     0     0  705    40     0     0    95     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1154     0     0  705    40     0     0    95     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   255  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   750  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   750  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              10.5            xxxxxx
ApproachLOS:        *                 *                   B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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------------------------------------------------------------------------------
                          Natomas Crossing
                   Cumulative (with Existing Zoning)
                         Saturday Peak Hour
------------------------------------------------------------------------------

                  Level Of Service Computation Report
          2000 HCM Operations Method (Base Volume Alternative)
******************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.891
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        41.5
Optimal Cycle:       112                Level Of Service:                  D
******************************************************************************
Street Name:         East Commerce Way                  Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     257  367   382   216  353   190   498 1931   241   439 1752   226
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  257  367   382   216  353   190   498 1931   241   439 1752   226
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   257  367   382   216  353   190   498 1931   241   439 1752   226
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  257  367   382   216  353   190   498 1931   241   439 1752   226
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  257  367   382   216  353   190   498 1931   241   439 1752   226
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.07  0.24  0.06 0.07  0.12  0.14 0.37  0.15  0.13 0.34  0.14
Crit Moves:             ****  ****                  ****        ****
Green/Cycle: 0.13 0.27  0.27  0.07 0.21  0.21  0.17 0.42  0.42  0.14 0.39  0.39
Volume/Cap:  0.57 0.27  0.89  0.89 0.33  0.57  0.86 0.89  0.36  0.89 0.86  0.36
Delay/Veh:   47.7 32.6  59.7  82.6 38.1  42.4  57.8 35.4  22.6  65.4 35.1  24.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.7 32.6  59.7  82.6 38.1  42.4  57.8 35.4  22.6  65.4 35.1  24.3
LOS by Move:    D    C     E     F    D     D     E    D     C     E    D     C
HCM2k95thQ:    10    7    28    12    8    13    21   42    11    20   38    11
******************************************************************************
Note: Queue reported is the number of cars per lane.
******************************************************************************
```

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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 10.5]
********************************************************************************
Street Name:          E. Commerce Way                           Road C4
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  971     0     0 1001     9     0    0     6     0    0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  971     0     0 1001     9     0    0     6     0    0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  971     0     0 1001     9     0    0     6     0    0     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0  971     0     0 1001     9     0    0     6     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   338  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   664  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   664  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             10.5            xxxxxx
ApproachLOS:          *                *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                              Natomas Crossing
                     Cumulative (with Existing Zoning)
                             Saturday Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3
*******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.490
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        15.7
Optimal Cycle:        60                Level Of Service:                  B
*******************************************************************************
Street Name:          E. Commerce Way           Amelia Earhart Ave. - Road C3
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected         Protected         Protected
Rights:          Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1    1  0  2  1  0    1  0  0  1  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      68  715    13    50  962    18   231    0    12    12    0    60
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   68  715    13    50  962    18   231    0    12    12    0    60
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    68  715    13    50  962    18   231    0    12    12    0    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   68  715    13    50  962    18   231    0    12    12    0    60
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   68  715    13    50  962    18   231    0    12    12    0    60
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.91  0.91  0.95 1.00  0.85  0.95 1.00  0.85
Lanes:       1.00 3.00  1.00  1.00 2.94  0.06  1.00 0.00  1.00  1.00 0.00  1.00
Final Sat.:  1805 5187  1615  1805 5076    95  1805    0  1615  1805    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.14  0.01  0.03 0.19  0.19  0.13 0.00  0.01  0.01 0.00  0.04
Crit Moves:  ****                  ****        ****                        ****
Green/Cycle: 0.08 0.39  0.39  0.08 0.39  0.39  0.26 0.00  0.18  0.16 0.00  0.08
Volume/Cap:  0.49 0.36  0.02  0.36 0.49  0.49  0.49 0.00  0.04  0.04 0.00  0.49
Delay/Veh:   29.3 13.2  11.4  27.8 14.1  14.1  19.6  0.0  20.5  21.4  0.0  29.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  29.3 13.2  11.4  27.8 14.1  14.1  19.6  0.0  20.5  21.4  0.0  29.7
LOS by Move:    C    B     B     C    B     B     B    A     C     C    A     C
HCM2k95thQ:     4    7     0     3   11    11     8    0     0     0    0     4
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #15 E. Commerce Way and Road C2
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):          0.304
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):          8.9
Optimal Cycle:        60                Level Of Service:                   A
********************************************************************************
Street Name:          E. Commerce Way                      Road C2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  0   0  0  3  0  1   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      80  682     0     0  783   203   114    0    39     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   80  682     0     0  783   203   114    0    39     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    80  682     0     0  783   203   114    0    39     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   80  682     0     0  783   203   114    0    39     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   80  682     0     0  783   203   114    0    39     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  1.00  1.00 0.91  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 3.00  0.00  0.00 3.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 5187     0     0 5187  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.13  0.00  0.00 0.15  0.13  0.06 0.00  0.02  0.00 0.00  0.00
Crit Moves:  ****                  ****        ****
Green/Cycle: 0.15 0.64  0.00  0.00 0.50  0.50  0.21 0.00  0.21  0.00 0.00  0.00
Volume/Cap:  0.30 0.20  0.00  0.00 0.30  0.25  0.30 0.00  0.12  0.00 0.00  0.00
Delay/Veh:   23.6  4.5   0.0   0.0  9.0   8.9  20.6  0.0  19.5   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  23.6  4.5   0.0   0.0  9.0   8.9  20.6  0.0  19.5   0.0  0.0   0.0
LOS by Move:    C    A     A     A    A     A     C    A     B     A    A     A
HCM2k95thQ:     3    4     0     0    7     5     4    0     1     0    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                       Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: B[ 10.7]
********************************************************************************
Street Name:          E. Commerce Way                           Road C1
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  762     0     0  721   102     0     0    79     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  762     0     0  721   102     0     0    79     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  762     0     0  721   102     0     0    79     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  762     0     0  721   102     0     0    79     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   291  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   711  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   711  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.11  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.7 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           xxxxxx             10.7            xxxxxx
ApproachLOS:         *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                      Cumulative (with Existing Zoning)
                             Saturday Peak Hour
--------------------------------------------------------------------------------

                    Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #17 E. Commerce Way and Natomas Crossing Drive
********************************************************************************
Cycle (sec):          0                  Critical Vol./Cap.(X):        0.531
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        19.6
Optimal Cycle:        60                 Level Of Service:                 B
********************************************************************************
Street Name:           E. Commerce Way                 Natomas Crossing Drive
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         1  0  2  0  1   2  0  2  0  1   1  0  2  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      84  462    39   107  456   236   204  202    79    41  227    96
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   84  462    39   107  456   236   204  202    79    41  227    96
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    84  462    39   107  456   236   204  202    79    41  227    96
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   84  462    39   107  456   236   204  202    79    41  227    96
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   84  462    39   107  456   236   204  202    79    41  227    96
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.92 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  3502 3610  1615  1805 3610  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.13  0.02  0.03 0.13  0.15  0.11 0.06  0.05  0.02 0.12  0.06
Crit Moves:  ****                        ****  ****                   ****
Green/Cycle: 0.09 0.29  0.29  0.07 0.27  0.27  0.21 0.31  0.31  0.13 0.22  0.22
Volume/Cap:  0.53 0.44  0.08  0.44 0.46  0.53  0.53 0.18  0.16  0.18 0.53  0.26
Delay/Veh:   29.6 17.5  15.5  28.0 18.4  19.7  22.4 15.2  15.1  23.8 21.8  19.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  29.6 17.5  15.5  28.0 18.4  19.7  22.4 15.2  15.1  23.8 21.8  19.6
LOS by Move:    C    B     B     C    B     B     C    B     B     C    C     B
HCM2k95thQ:     5    8     1     3    8     9     8    3     2     2    9     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                            Natomas Crossing
                     Cumulative (with Existing Zoning)
                            Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 10.1]
********************************************************************************
Street Name:          E. Commerce Way                        Road D3
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  586     0     0  563    14     0     0     7     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  586     0     0  563    14     0     0     7     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  586     0     0  563    14     0     0     7     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  586     0     0  563    14     0     0     7     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   289  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   714  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   714  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.1 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx             10.1            xxxxxx
ApproachLOS:        *                 *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #19 East Commerce Way and Road D2

Cycle (sec):	0		Critical Vol./Cap.(X):	0.297
Loss Time (sec):	12	(Y+R=4.0 sec)	Average Delay (sec/veh):	12.8
Optimal Cycle:	60		Level Of Service:	B

Street Name:	E. Commerce Way						Road D2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	0 1	0	1 0	0 1	0
Volume Module:												
Base Vol:	33	479	69	74	473	23	30	0	18	68	0	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	479	69	74	473	23	30	0	18	68	0	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	33	479	69	74	473	23	30	0	18	68	0	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	479	69	74	473	23	30	0	18	68	0	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	479	69	74	473	23	30	0	18	68	0	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	0	1615	1805	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.04	0.04	0.13	0.01	0.02	0.00	0.01	0.04	0.00	0.05
Crit Moves:		****		****			****					****
Green/Cycle:	0.07	0.45	0.45	0.14	0.51	0.51	0.06	0.00	0.05	0.17	0.00	0.16
Volume/Cap:	0.26	0.30	0.10	0.30	0.26	0.03	0.30	0.00	0.23	0.23	0.00	0.30
Delay/Veh:	27.4	10.7	9.6	23.9	8.2	7.2	28.8	0.0	28.9	22.1	0.0	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.4	10.7	9.6	23.9	8.2	7.2	28.8	0.0	28.9	22.1	0.0	22.9
LOS by Move:	C	B	A	C	A	A	C	A	C	C	A	C
HCM2k95thQ:	2	6	2	3	5	0	2	0	1	3	0	3

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                      Cumulative (with Existing Zoning)
                             Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 10.1]
********************************************************************************
Street Name:          E. Commerce Way                          Road D1
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Lanes:         0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  581     0     0  550     9     0     0    11     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  581     0     0  550     9     0     0    11     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  581     0     0  550     9     0     0    11     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  581     0     0  550     9     0     0    11     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   280  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   724  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   724  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.02  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  10.1 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             10.1            xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #21 E. Commerce Way and San Juan Road

Cycle (sec): 0 Critical Vol./Cap.(X): 0.602
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 12.8
Optimal Cycle: 60 Level Of Service: B

Street Name:	E. Commerce Way						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	538	0	22	24	251	0	0	231	557
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	538	0	22	24	251	0	0	231	557
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	538	0	22	24	251	0	0	231	557
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	538	0	22	24	251	0	0	231	557
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	538	0	22	24	251	0	0	231	557
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	0.85	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3502	0	1615	1805	3610	0	0	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.01	0.01	0.07	0.00	0.00	0.06	0.34
Crit Moves:				****			****					****
Green/Cycle:	0.00	0.00	0.00	0.26	0.00	0.26	0.02	0.59	0.00	0.00	0.57	0.57
Volume/Cap:	0.00	0.00	0.00	0.60	0.00	0.05	0.60	0.12	0.00	0.00	0.11	0.60
Delay/Veh:	0.0	0.0	0.0	20.8	0.0	16.9	52.3	5.3	0.0	0.0	5.9	9.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.8	0.0	16.9	52.3	5.3	0.0	0.0	5.9	9.5
LOS by Move:	A	A	A	C	A	B	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	11	0	1	3	2	0	0	2	14

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Duckhorn Dr. and Natomas Crossing Dr.

Cycle (sec):	0	Critical Vol./Cap.(X):	0.599
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.5
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Duckhorn Dr.						Natomas Crossing Dr.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	0	72	179	279	71	54	57	27	0	227	25	294
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	72	179	279	71	54	57	27	0	227	25	294
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	72	179	279	71	54	57	27	0	227	25	294
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	72	179	279	71	54	57	27	0	227	25	294
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	72	179	279	71	54	57	27	0	227	25	294
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	0.94	0.94	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	0.57	0.43	1.00	1.00	0.00	1.00	1.00	1.00
Final Sat.:	1900	1900	1615	1805	1009	767	1805	1900	0	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.11	0.15	0.07	0.07	0.03	0.01	0.00	0.13	0.01	0.18
Crit Moves:			****	****			****					****
Green/Cycle:	0.00	0.19	0.19	0.26	0.44	0.44	0.05	0.04	0.00	0.32	0.30	0.30
Volume/Cap:	0.00	0.20	0.60	0.60	0.16	0.16	0.60	0.39	0.00	0.39	0.04	0.60
Delay/Veh:	0.0	21.0	25.7	21.7	10.1	10.1	37.9	31.9	0.0	16.3	14.8	19.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	21.0	25.7	21.7	10.1	10.1	37.9	31.9	0.0	16.3	14.8	19.8
LOS by Move:	A	C	C	C	B	B	D	C	A	B	B	B
HCM2k95thQ:	0	3	8	11	3	3	4	2	0	7	1	11

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                        Cumulative (with Existing Zoning)
                              Saturday Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.256
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        13.7
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:               Duckhorn Drive                  San Juan Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:       0  1  0  0  1   1  0  1  0  1   1  0  0  1  0   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35  118    99     8  139     0     0  122    40    75  159    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   35  118    99     8  139     0     0  122    40    75  159    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    35  118    99     8  139     0     0  122    40    75  159    13
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   35  118    99     8  139     0     0  122    40    75  159    13
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   35  118    99     8  139     0     0  122    40    75  159    13
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.92  0.85  0.63 1.00  1.00  1.00 0.96  0.96  0.95 1.00  0.85
Lanes:       0.23 0.77  1.00  1.00 1.00  1.00  1.00 0.75  0.25  1.00 1.00  1.00
Final Sat.:   401 1353  1615  1201 1900  1900  1900 1378   452  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.06  0.01 0.07  0.00  0.00 0.09  0.09  0.04 0.08  0.01
Crit Moves:       ****                              ****        ****
Green/Cycle: 0.34 0.34  0.34  0.34 0.34  0.00  0.00 0.35  0.35  0.16 0.51  0.51
Volume/Cap:  0.26 0.26  0.18  0.02 0.21  0.00  0.00 0.26  0.26  0.26 0.16  0.02
Delay/Veh:   14.5 14.5  14.0  13.1 14.2   0.0   0.0 14.3  14.3  22.4  8.0   7.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  14.5 14.5  14.0  13.1 14.2   0.0   0.0 14.3  14.3  22.4  8.0   7.3
LOS by Move:    B    B     B     B    B     A     A    B     B     C    A     A
HCM2k95thQ:     4    4     3     0    4     0     0    5     5     3    3     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #24 Truxel Road and Arena Boulevard

Cycle (sec): 0 Critical Vol./Cap.(X): 1.000
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 71.6
Optimal Cycle: 180 Level Of Service: E

Street Name:	Truxel Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4	0 1	2 0	4	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	764	1075	86	65	1073	267	338	389	862	55	531	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	764	1075	86	65	1073	267	338	389	862	55	531	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	764	1075	86	65	1073	267	338	389	862	55	531	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	764	1075	86	65	1073	267	338	389	862	55	531	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	764	1075	86	65	1073	267	338	389	862	55	531	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.16	0.05	0.02	0.16	0.17	0.10	0.07	0.53	0.02	0.10	0.01
Crit Moves:	****					****			****	****		
Green/Cycle:	0.22	0.34	0.34	0.04	0.17	0.17	0.27	0.53	0.53	0.02	0.28	0.28
Volume/Cap:	1.00	0.45	0.16	0.45	0.94	1.00	0.36	0.14	1.00	1.00	0.36	0.04
Delay/Veh:	102.8	46.2	41.2	86.6	88.4	130.1	53.8	21.2	72.5	209.8	51.7	46.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.8	46.2	41.2	86.6	88.4	130.1	53.8	21.2	72.5	209.8	51.7	46.9
LOS by Move:	F	D	D	F	F	F	D	C	E	F	D	D
HCM2k95thQ:	44	22	6	5	33	33	14	7	82	7	16	2

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative (with Existing Zoning)
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #25 Truxel Road and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.742
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.2
Optimal Cycle:	60	Level Of Service:	B

Street Name:	Truxel Road						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4 0	1	1 0	4 0	1	1 0	0 1	1	1 0	0 1	0
Volume Module:												
Base Vol:	459	1953	85	67	2031	77	98	16	371	90	23	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	459	1953	85	67	2031	77	98	16	371	90	23	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	459	1953	85	67	2031	77	98	16	371	90	23	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	459	1953	85	67	2031	77	98	16	371	90	23	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	459	1953	85	67	2031	77	98	16	371	90	23	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.95	0.91	0.85	0.95	0.86	0.86	0.95	0.89	0.89
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	1.00	0.08	1.92	1.00	0.28	0.72
Final Sat.:	3502	6916	1615	1805	6916	1615	1805	134	3118	1805	482	1215
Capacity Analysis Module:												
Vol/Sat:	0.13	0.28	0.05	0.04	0.29	0.05	0.05	0.12	0.12	0.05	0.05	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.51	0.51	0.07	0.40	0.40	0.12	0.16	0.16	0.07	0.11	0.11
Volume/Cap:	0.74	0.56	0.10	0.56	0.74	0.12	0.45	0.74	0.74	0.74	0.45	0.45
Delay/Veh:	28.2	10.4	7.8	32.9	16.6	11.6	26.0	29.7	29.7	49.0	26.9	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.2	10.4	7.8	32.9	16.6	11.6	26.0	29.7	29.7	49.0	26.9	26.9
LOS by Move:	C	B	A	C	B	B	C	C	C	D	C	C
HCM2k95thQ:	12	14	2	4	19	2	5	10	10	7	4	4

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Scenario Report

Scenario:	Cumulative Plus Project AM
Command:	Cumulative Plus Project AM
Volume:	Cumulative Plus Project AM
Geometry:	Cumulative
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 1 El Centro Road and Arena Boule	B	18.8	0.660	B	18.8	0.660	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	B	19.7	0.667	B	19.7	0.667	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	B	12.6	0.598	B	12.6	0.598	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	11.4	0.722	B	11.4	0.722	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	87.7	1.100	F	87.7	1.100	+ 0.000 D/V
# 6 East Commerce Way and Snowy Eg	D	38.4	0.899	D	38.4	0.899	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	C	20.4	0.000	C	20.4	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	C	20.9	0.000	C	20.9	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	C	29.0	0.823	C	29.0	0.823	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	B	14.0	0.000	B	14.0	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	B	14.1	0.000	B	14.1	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	F	115.6	1.299	F	115.6	1.299	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	13.1	0.000	B	13.1	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	A	6.4	0.506	A	6.4	0.506	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	A	7.2	0.525	A	7.2	0.525	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	B	12.8	0.000	B	12.8	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	D	37.8	0.869	D	37.8	0.869	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	C	18.1	0.000	C	18.1	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	E	60.5	0.933	E	60.5	0.933	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	13.3	0.000	B	13.3	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	F	109.8	1.205	F	109.8	1.205	+ 0.000 D/V
# 22 Duckhorn Dr. and Natomas Cross	D	52.2	0.901	D	52.2	0.901	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	14.7	0.534	B	14.7	0.534	+ 0.000 D/V

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Intersection	Base			Future			Change in
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	
# 24 Truxel Road and Arena Boulevar	F	140.7	1.400	F	140.7	1.400	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	D	38.3	0.905	D	38.3	0.905	+ 0.000 D/V

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--------------------------------------------------------------------------------
                            Natomas Crossing
                        Cumulative Plus Project
                             AM Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #1 El Centro Road and Arena Boulevard
********************************************************************************
Cycle (sec):            0                 Critical Vol./Cap.(X):         0.660
Loss Time (sec):       12 (Y+R=4.0 sec)   Average Delay (sec/veh):        18.8
Optimal Cycle:         60                 Level Of Service:                  B
********************************************************************************
Street Name:             El Centro Road                  Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         1  0  2  0  1    1  0  2  0  1    1  0  2  0  1    1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      51  412   284   366  888    12    25  339   111    43  152   219
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   51  412   284   366  888    12    25  339   111    43  152   219
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    51  412   284   366  888    12    25  339   111    43  152   219
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   51  412   284   366  888    12    25  339   111    43  152   219
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   51  412   284   366  888    12    25  339   111    43  152   219
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  1805 3610  1615  1805 3610  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.11  0.18  0.20 0.25  0.01  0.01 0.09  0.07  0.02 0.08  0.14
Crit Moves:             ****  ****             ****                         ****
Green/Cycle: 0.06 0.27  0.27  0.31 0.51  0.51  0.02 0.18  0.18  0.05 0.21  0.21
Volume/Cap:  0.48 0.43  0.66  0.66 0.48  0.01  0.66 0.52  0.38  0.52 0.39  0.66
Delay/Veh:   30.7 18.5  23.4  21.0  9.6   7.1  64.8 23.0  22.5  33.8 21.2  26.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  30.7 18.5  23.4  21.0  9.6   7.1  64.8 23.0  22.5  33.8 21.2  26.8
LOS by Move:    C    B     C     C    A     A     E    C     C     C    C     C
HCM2k95thQ:     3    7    12    14   11     0     3    7     5     3    6    10
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
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                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Duckhorn Drive and Arena Boulevard
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.667
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        19.7
Optimal Cycle:        60                 Level Of Service:                 B
********************************************************************************
Street Name:           Duckhorn Drive                     Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  1  0  1   2  0  0  1  0   1  0  2  0  1   2  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    154  118   142   100  346     2     0  789   384    95  245    10
Growth Adj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse: 154  118   142   100  346     2     0  789   384    95  245    10
User Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  154  118   142   100  346     2     0  789   384    95  245    10
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 154  118   142   100  346     2     0  789   384    95  245    10
PCE Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 154  118   142   100  346     2     0  789   384    95  245    10
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:   1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment: 0.95 1.00  0.85  0.92 1.00  1.00  1.00 0.95  0.85  0.92 0.95  0.85
Lanes:      1.00 1.00  1.00  2.00 0.99  0.01  1.00 2.00  1.00  2.00 2.00  1.00
Final Sat.: 1805 1900  1615  3502 1887    11  1900 3610  1615  3502 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.09 0.06  0.09  0.03 0.18  0.18  0.00 0.22  0.24  0.03 0.07  0.01
Crit Moves: ****                  ****                    ****  ****
Green/Cycle: 0.13 0.30  0.30  0.10 0.27  0.27  0.00 0.36  0.36  0.04 0.40  0.40
Volume/Cap: 0.67 0.20  0.29  0.29 0.67  0.67  0.00 0.61  0.67  0.67 0.17  0.02
Delay/Veh:  32.2 15.7  16.3  25.5 22.6  22.6   0.0 16.8  19.3  39.8 11.8  11.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 32.2 15.7  16.3  25.5 22.6  22.6   0.0 16.8  19.3  39.8 11.8  11.0
LOS by Move:   C    B     B     C    C     C     A    B     B     D    B     B
HCM2k95thQ:    8    4     4     2   13    13     0   14    14     4    3     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Arena Boulevard and I-5 Southbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.6
Optimal Cycle:	60	Level Of Service:	B

Street Name:	I-5 Southbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	0 0	2	0 1	0 0	3	0 1
Volume Module:												
Base Vol:	0	0	0	867	0	24	0	548	362	0	167	2375
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	867	0	24	0	548	362	0	167	2375
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	867	0	24	0	548	0	0	167	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	867	0	24	0	548	0	0	167	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	867	0	24	0	548	0	0	167	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.59	1.00	0.85	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	0.00	3.00	1.00
Final Sat.:	0	0	0	2245	0	1615	0	3610	1900	0	5187	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.00	0.01	0.00	0.15	0.00	0.00	0.03	0.00
Crit Moves:				****				****				
Green/Cycle:	0.00	0.00	0.00	0.65	0.00	0.65	0.00	0.25	0.00	0.00	0.25	0.00
Volume/Cap:	0.00	0.00	0.00	0.60	0.00	0.02	0.00	0.60	0.00	0.00	0.13	0.00
Delay/Veh:	0.0	0.0	0.0	6.8	0.0	3.8	0.0	20.8	0.0	0.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	6.8	0.0	3.8	0.0	20.8	0.0	0.0	17.3	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	11	0	0	0	11	0	0	2	0

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Arena Boulevard and I-5 Northbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.722
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	11.4
Optimal Cycle:	60	Level Of Service:	B

Street Name:	I-5 Northbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	0	0 2	0 0	0	0 0	0 0	2	0 1	0 0	4	0 1
Volume Module:												
Base Vol:	98	0	690	0	0	0	0	1470	10	0	2362	229
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	0	690	0	0	0	0	1470	10	0	2362	229
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	98	0	690	0	0	0	0	1470	0	0	2362	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	0	690	0	0	0	0	1470	0	0	2362	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	98	0	690	0	0	0	0	1470	0	0	2362	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	1.00	0.75	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	1.00	0.00	4.00	1.00
Final Sat.:	2477	0	2842	0	0	0	0	3610	1900	0	6916	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.24	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.34	0.00
Crit Moves:			****					****				
Green/Cycle:	0.34	0.00	0.34	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.56	0.00
Volume/Cap:	0.12	0.00	0.72	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.61	0.00
Delay/Veh:	13.8	0.0	20.2	0.0	0.0	0.0	0.0	10.9	0.0	0.0	8.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.8	0.0	20.2	0.0	0.0	0.0	0.0	10.9	0.0	0.0	8.9	0.0
LOS by Move:	B	A	C	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	1	0	15	0	0	0	0	22	0	0	16	0

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 East Commerce Way and Del Paso Road

Cycle (sec):	0	Critical Vol./Cap.(X):	1.100
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	87.7
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Del Paso Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	2	3 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	308	618	429	565	1115	654	639	2037	165	725	1938	497
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	308	618	429	565	1115	654	639	2037	165	725	1938	497
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	618	429	565	1115	654	639	2037	165	725	1938	497
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	618	429	565	1115	654	639	2037	165	725	1938	497
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	308	618	429	565	1115	654	639	2037	165	725	1938	497
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.75	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	2.00	3.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	2842	5253	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.27	0.16	0.21	0.23	0.12	0.39	0.10	0.21	0.37	0.31
Crit Moves:			****	****				****		****		
Green/Cycle:	0.11	0.24	0.24	0.15	0.28	0.28	0.13	0.36	0.36	0.19	0.41	0.41
Volume/Cap:	0.82	0.49	1.10	1.10	0.77	0.82	0.91	1.10	0.29	1.10	0.91	0.75
Delay/Veh:	91.9	59.1	143.6	146.7	61.8	67.2	92.6	112	41.7	138.7	56.0	49.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	91.9	59.1	143.6	146.7	61.8	67.2	92.6	112	41.7	138.7	56.0	49.8
LOS by Move:	F	E	F	F	E	E	F	F	D	F	E	D
HCM2k95thQ:	19	20	51	38	36	35	26	80	12	46	62	39

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
********************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):        0.899
Loss Time (sec):     12 (Y+R=4.0 sec)  Average Delay (sec/veh):       38.4
Optimal Cycle:      118                 Level Of Service:                 D
********************************************************************************
Street Name:        East Commerce Way        Snowy Egret Boulevard - Arco Aren
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   2  0  3  0  1   1  0  2  0  1   2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     101 1235   310    28 1968   343   130  117   347   551  228    45
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  101 1235   310    28 1968   343   130  117   347   551  228    45
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   101 1235   310    28 1968   343   130  117   347   551  228    45
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  101 1235   310    28 1968   343   130  117   347   551  228    45
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  101 1235   310    28 1968   343   130  117   347   551  228    45
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.92 0.91  0.85  0.95 0.95  0.85  0.92 0.93  0.93
Lanes:       1.00 3.00  1.00  2.00 3.00  1.00  1.00 2.00  1.00  2.00 1.67  0.33
Final Sat.:  1805 5187  1615  3502 5187  1615  1805 3610  1615  3502 2940   580
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.24  0.19  0.01 0.38  0.21  0.07 0.03  0.21  0.16 0.08  0.08
Crit Moves:  ****                  ****                         ****  ****
Green/Cycle: 0.06 0.47  0.47  0.02 0.42  0.42  0.20 0.24  0.24  0.18 0.21  0.21
Volume/Cap:  0.90 0.51  0.41  0.51 0.90  0.50  0.36 0.14  0.90  0.90 0.36  0.36
Delay/Veh:  109.4 22.1  21.0  65.2 37.2  25.6  41.4 35.4  66.6  63.8 39.7  39.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 109.4 22.1  21.0  65.2 37.2  25.6  41.4 35.4  66.6  63.8 39.7  39.7
LOS by Move:    F    C     C     E    D     C     D    D     E     E    D     D
HCM2k95thQ:    12   21    14     2   45    17     8    4    27    24    9     9
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                              AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):       0.1       Worst Case Level Of Service: C[ 20.4]
********************************************************************************
Street Name:            E. Commerce Way                          Road B5
Approach:        North Bound       South Bound       East Bound        West Bound
Movement:       L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:         Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:             Include           Include           Include           Include
Lanes:          0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:         0 1646     0      0 2715   151      0     0    19      0     0     0
Growth Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:      0 1646     0      0 2715   151      0     0    19      0     0     0
User Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:       1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:       0 1646     0      0 2715   151      0     0    19      0     0     0
Reduct Vol:       0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:      0 1646     0      0 2715   151      0     0    19      0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   981  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   253  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   253  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.08  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  20.4 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              20.4            xxxxxx
ApproachLOS:          *                 *                 C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: C[ 20.9]
********************************************************************************
Street Name:          E. Commerce Way                          Road B4
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1646     0     0 2583   151     0     0    44     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1646     0     0 2583   151     0     0    44     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1646     0     0 2583   151     0     0    44     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1646     0     0 2583   151     0     0    44     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   937  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   270  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   270  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.16  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.6  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  20.9 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             20.9           xxxxxx
ApproachLOS:        *                *                 C                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------

                    Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.823
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        29.0
Optimal Cycle:        74                Level Of Service:                  C
********************************************************************************
Street Name:          East Commerce Way        Arco Arena Main Entrance - Road B
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  2  1  0   1  0  1  0  1   2  0  1  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     235  833     3   758 1630   102   121   27    57    42   24   622
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  235  833     3   758 1630   102   121   27    57    42   24   622
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   235  833     3   758 1630   102   121   27    57    42   24   622
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  235  833     3   758 1630   102   121   27    57    42   24   622
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  235  833     3   758 1630   102   121   27    57    42   24   622
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.90  0.90  0.95 1.00  0.85  0.92 1.00  0.75
Lanes:       2.00 3.00  1.00  2.00 2.82  0.18  1.00 1.00  1.00  2.00 1.00  2.00
Final Sat.:  3502 5187  1615  3502 4838   303  1805 1900  1615  3502 1900  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.16  0.00  0.22 0.34  0.34  0.07 0.01  0.04  0.01 0.01  0.22
Crit Moves:  ****                  ****        ****                        ****
Green/Cycle: 0.08 0.21  0.21  0.28 0.41  0.41  0.08 0.26  0.26  0.09 0.27  0.27
Volume/Cap:  0.82 0.77  0.01  0.77 0.82  0.82  0.82 0.05  0.14  0.14 0.05  0.82
Delay/Veh:   50.8 31.0  23.2  28.1 22.2  22.2  63.3 20.6  21.2  31.3 20.2  32.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  50.8 31.0  23.2  28.1 22.2  22.2  63.3 20.6  21.2  31.3 20.2  32.8
LOS by Move:    D    C     C     C    C     C     E    C     C     C    C     C
HCM2k95thQ:    10   16     0    19   27    27    10    1     2     1    1    19
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 14.0]
********************************************************************************
Street Name:         E. Commerce Way                          Road B2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1136     0     0 1812    27     0     0    39     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1136     0     0 1812    27     0     0    39     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1136     0     0 1812    27     0     0    39     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1136     0     0 1812    27     0     0    39     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   618  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   437  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   437  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.09  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  14.0 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             14.0            xxxxxx
ApproachLOS:         *                *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      0.2      Worst Case Level Of Service: B[ 14.1]
********************************************************************************
Street Name:           E. Commerce Way                        Road B1
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1136     0     0 1838    13     0    0    39     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1136     0     0 1838    13     0    0    39     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1136     0     0 1838    13     0    0    39     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1136     0     0 1838    13     0    0    39     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   619  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   436  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   436  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.09  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  14.1 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             14.1           xxxxxx
ApproachLOS:         *                *                B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 East Commerce Way and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.299
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	115.6
Optimal Cycle:	180	Level Of Service:	F

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 3 0 1			2 0 3 0 1			2 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	413	540	605	290	556	927	258	1279	514	707	1275	277
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	413	540	605	290	556	927	258	1279	514	707	1275	277
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	413	540	605	290	556	927	258	1279	514	707	1275	277
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	413	540	605	290	556	927	258	1279	514	707	1275	277
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	413	540	605	290	556	927	258	1279	514	707	1275	277
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.37	0.08	0.11	0.57	0.07	0.25	0.32	0.20	0.25	0.17
Crit Moves:	****					****			****	****		
Green/Cycle:	0.09	0.44	0.44	0.10	0.44	0.44	0.09	0.25	0.25	0.16	0.31	0.31
Volume/Cap:	1.30	0.24	0.86	0.86	0.24	1.30	0.80	1.01	1.30	1.30	0.80	0.56
Delay/Veh:	237.5	32.0	56.0	99.3	31.4	194.8	93.0	94.7	219.8	223.5	60.0	53.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	237.5	32.0	56.0	99.3	31.4	194.8	93.0	94.7	219.8	223.5	60.0	53.4
LOS by Move:	F	C	E	F	C	F	F	F	F	F	E	D
HCM2k95thQ:	34	13	51	19	13	116	17	50	68	51	41	23

Note: Queue reported is the number of cars per lane.

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                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 13.1]
********************************************************************************
Street Name:          E. Commerce Way                         Road C4
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign         Stop Sign
Rights:          Include          Include          Include           Include
Lanes:        0  0  3  0  0   0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1518     0     0 1692    81     0     0     4     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1518     0     0 1692    81     0     0     4     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1518     0     0 1692    81     0     0     4     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1518     0     0 1692    81     0     0     4     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   605  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   446  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   446  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.01  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.1 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx             13.1            xxxxxx
ApproachLOS:          *                 *                B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         0.506
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):         6.4
Optimal Cycle:         60                Level Of Service:                  A
********************************************************************************
Street Name:           E. Commerce Way          Amelia Earhart Ave. - Road C3
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  2  1  0   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      43 1467    36   12 1631    57   34    0     8    6    0    57
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   43 1467    36   12 1631    57   34    0     8    6    0    57
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    43 1467    36   12 1631    57   34    0     8    6    0    57
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   43 1467    36   12 1631    57   34    0     8    6    0    57
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   43 1467    36   12 1631    57   34    0     8    6    0    57
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 0.91  0.85 0.95 0.91  0.91 0.95 1.00  0.85 0.95 1.00  0.85
Lanes:       1.00 3.00  1.00 1.00 2.90  0.10 1.00 0.00  1.00 1.00 0.00  1.00
Final Sat.:  1805 5187  1615 1805 4987   174 1805    0  1615 1805    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.28  0.02 0.01 0.33  0.33 0.02 0.00  0.00 0.00 0.00  0.04
Crit Moves:  ****                ****         ****                        ****
Green/Cycle: 0.05 0.68  0.68 0.02 0.65  0.65 0.04 0.00  0.06 0.04 0.00  0.07
Volume/Cap:  0.51 0.42  0.03 0.42 0.51  0.51 0.51 0.00  0.08 0.08 0.00  0.51
Delay/Veh:   32.8  4.4   3.2 38.8  5.7   5.7 34.5  0.0  26.7 28.0  0.0  30.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  32.8  4.4   3.2 38.8  5.7   5.7 34.5  0.0  26.7 28.0  0.0  30.6
LOS by Move:    C    A     A    D    A     A    C    A     C    C    A     C
HCM2k95thQ:     3    9     0    2   12    12    3    0     0    0    0     4
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                               Natomas Crossing
                           Cumulative Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #15 E. Commerce Way and Road C2
********************************************************************************
Cycle (sec):          0                Critical Vol./Cap.(X):         0.525
Loss Time (sec):      9 (Y+R=4.0 sec)  Average Delay (sec/veh):         7.2
Optimal Cycle:       60                Level Of Service:                  A
********************************************************************************
Street Name:         E. Commerce Way                        Road C2
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  0   0  0  3  0  1   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     157 1443     0     0 1566    79   103    0    18     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  157 1443     0     0 1566    79   103    0    18     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   157 1443     0     0 1566    79   103    0    18     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  157 1443     0     0 1566    79   103    0    18     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  157 1443     0     0 1566    79   103    0    18     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  1.00  1.00 0.91  0.85  0.95 1.00  0.85  1.00 1.00  1.00
Lanes:       1.00 3.00  0.00  0.00 3.00  1.00  1.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1805 5187     0     0 5187  1615  1805    0  1615     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.28  0.00  0.00 0.30  0.05  0.06 0.00  0.01  0.00 0.00  0.00
Crit Moves:  ****                  ****        ****
Green/Cycle: 0.17 0.74  0.00  0.00 0.58  0.58  0.11 0.00  0.11  0.00 0.00  0.00
Volume/Cap:  0.52 0.38  0.00  0.00 0.52  0.09  0.52 0.00  0.10  0.00 0.00  0.00
Delay/Veh:   24.6  2.8   0.0   0.0  7.9   5.7  27.9  0.0  24.4   0.0  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.6  2.8   0.0   0.0  7.9   5.7  27.9  0.0  24.4   0.0  0.0   0.0
LOS by Move:    C    A     A     A    A     A     C    A     C     A    A     A
HCM2k95thQ:     7    7     0     0   13     1     5    0     1     0    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 12.8]
********************************************************************************
Street Name:            E. Commerce Way                      Road C1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1600    0     0 1545    39     0    0    35     0    0     0
Growth Adj:  1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1600    0     0 1545    39     0    0    35     0    0     0
User Adj:    1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1600    0     0 1545    39     0    0    35     0    0     0
Reduct Vol:     0    0    0     0    0     0     0    0     0     0    0     0
FinalVolume:    0 1600    0     0 1545    39     0    0    35     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   535  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   495  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   495  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.07  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.2  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.8 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx              12.8           xxxxxx
ApproachLOS:         *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #17 E. Commerce Way and Natomas Crossing Drive
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):        0.869
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):       37.8
Optimal Cycle:        94                Level Of Service:                 D
********************************************************************************
Street Name:          E. Commerce Way               Natomas Crossing Drive
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Protected        Protected
Rights:           Include          Include           Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        1  0  2  0  1   2  0  2  0  1   1  0  2  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      64 1122   105   137 1175   267   375  358   185   303  359   102
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   64 1122   105   137 1175   267   375  358   185   303  359   102
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    64 1122   105   137 1175   267   375  358   185   303  359   102
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   64 1122   105   137 1175   267   375  358   185   303  359   102
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   64 1122   105   137 1175   267   375  358   185   303  359   102
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.92 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  3502 3610  1615  1805 3610  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.31  0.07  0.04 0.33  0.17  0.21 0.10  0.11  0.17 0.19  0.06
Crit Moves:  ****                  ****        ****                   ****
Green/Cycle: 0.04 0.37  0.37  0.05 0.37  0.37  0.24 0.19  0.19  0.27 0.22  0.22
Volume/Cap:  0.87 0.84  0.18  0.84 0.87  0.44  0.87 0.54  0.62  0.62 0.87  0.29
Delay/Veh:  107.0 32.2  20.1  75.2 33.5  22.5  51.2 35.5  39.1  32.4 53.0  31.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 107.0 32.2  20.1  75.2 33.5  22.5  51.2 35.5  39.1  32.4 53.0  31.2
LOS by Move:    F    C     C     E    C     C     D    D     D     C    D     C
HCM2k95thQ:     8   31     4     8   33    12    24   11    11    16   24     5
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.3       Worst Case Level Of Service: C[ 18.1]
********************************************************************************
Street Name:         E. Commerce Way                          Road D3
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1291     0     0 1425   238     0     0    43     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1291     0     0 1425   238     0     0    43     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1291     0     0 1425   238     0     0    43     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1291     0     0 1425   238     0     0    43     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   832  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   317  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   317  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.14  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.5  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  18.1 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              18.1            xxxxxx
ApproachLOS:          *                 *                 C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #19 East Commerce Way and Road D2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.933
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	60.5
Optimal Cycle:	173	Level Of Service:	E

Street Name:		E. Commerce Way							Road D2			
Approach:		North Bound			South Bound			East Bound			West Bound	
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		1 0 2 0 1			1 0 2 0 1			1 0 0 1 0			1 0 0 1 0	
Volume Module:												
Base Vol:	532	858	54	62	890	514	328	3	107	63	17	105
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	532	858	54	62	890	514	328	3	107	63	17	105
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	532	858	54	62	890	514	328	3	107	63	17	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	532	858	54	62	890	514	328	3	107	63	17	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	532	858	54	62	890	514	328	3	107	63	17	105
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.85	0.85	0.95	0.87	0.87
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.03	0.97	1.00	0.14	0.86
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	44	1578	1805	231	1424
Capacity Analysis Module:												
Vol/Sat:	0.29	0.24	0.03	0.03	0.25	0.32	0.18	0.07	0.07	0.03	0.07	0.07
Crit Moves:	****					****	****				****	
Green/Cycle:	0.32	0.57	0.57	0.08	0.34	0.34	0.19	0.18	0.18	0.09	0.08	0.08
Volume/Cap:	0.93	0.41	0.06	0.41	0.72	0.93	0.93	0.38	0.38	0.38	0.93	0.93
Delay/Veh:	79.9	20.7	16.3	77.2	52.0	78.2	99.8	63.1	63.1	75.1	138	137.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.9	20.7	16.3	77.2	52.0	78.2	99.8	63.1	63.1	75.1	138	137.6
LOS by Move:	E	C	B	E	D	E	F	E	E	E	F	F
HCM2k95thQ:	50	23	2	7	37	48	35	10	10	7	17	17

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                             Natomas Crossing
                         Cumulative Plus Project
                               AM Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
             2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.3       Worst Case Level Of Service: B[ 13.3]
********************************************************************************
Street Name:          E. Commerce Way                         Road D1
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1444     0     0  901   159     0     0    64     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1444     0     0  901   159     0     0    64     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1444     0     0  901   159     0     0    64     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1444     0     0  901   159     0     0    64     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   530  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   499  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   499  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.3 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             13.3            xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #21 E. Commerce Way and San Juan Road

Cycle (sec):	0	Critical Vol./Cap.(X):	1.205
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	109.8
Optimal Cycle:	180	Level Of Service:	F

Street Name:	E. Commerce Way						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2 0	0	0 1	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	908	0	57	128	497	0	0	497	1316
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	908	0	57	128	497	0	0	497	1316
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	908	0	57	128	497	0	0	497	1316
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	908	0	57	128	497	0	0	497	1316
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	908	0	57	128	497	0	0	497	1316
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	0.85	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3502	0	1615	1805	3610	0	0	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.26	0.00	0.04	0.07	0.14	0.00	0.00	0.14	0.81
Crit Moves:				****			****					****
Green/Cycle:	0.00	0.00	0.00	0.22	0.00	0.22	0.06	0.73	0.00	0.00	0.68	0.68
Volume/Cap:	0.00	0.00	0.00	1.21	0.00	0.16	1.21	0.19	0.00	0.00	0.20	1.21
Delay/Veh:	0.0	0.0	0.0	175.4	0.0	57.7	237.3	7.4	0.0	0.0	11.0	130.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	175.4	0.0	57.7	237.3	7.4	0.0	0.0	11.0	130.4
LOS by Move:	A	A	A	F	A	E	F	A	A	A	B	F
HCM2k95thQ:	0	0	0	59	0	5	22	8	0	0	10	148

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Duckhorn Dr. and Natomas Crossing Dr.

Cycle (sec):	0	Critical Vol./Cap.(X):	0.901
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	52.2
Optimal Cycle:	120	Level Of Service:	D

Street Name:	Duckhorn Dr.						Natomas Crossing Dr.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	0	322	213	597	323	42	128	108	1	238	64	387
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	322	213	597	323	42	128	108	1	238	64	387
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	322	213	597	323	42	128	108	1	238	64	387
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	322	213	597	323	42	128	108	1	238	64	387
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	322	213	597	323	42	128	108	1	238	64	387
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	0.98	0.98	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	0.88	0.12	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	1900	1900	1615	1805	1653	215	1805	1881	17	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.13	0.33	0.20	0.20	0.07	0.06	0.06	0.13	0.03	0.24
Crit Moves:		****		****			****					****
Green/Cycle:	0.00	0.19	0.19	0.37	0.56	0.56	0.08	0.10	0.10	0.24	0.27	0.27
Volume/Cap:	0.00	0.90	0.70	0.90	0.35	0.35	0.90	0.55	0.55	0.55	0.13	0.90
Delay/Veh:	0.0	72.4	52.7	51.3	15.0	15.0	101.9	54.3	54.3	41.4	33.6	64.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	72.4	52.7	51.3	15.0	15.0	101.9	54.3	54.3	41.4	33.6	64.1
LOS by Move:	A	E	D	D	B	B	F	D	D	D	C	E
HCM2k95thQ:	0	26	16	40	14	14	14	9	9	15	4	30

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                          Natomas Crossing
                      Cumulative Plus Project
                            AM Peak Hour
--------------------------------------------------------------------------------
                  Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
********************************************************************************
Cycle (sec):            0               Critical Vol./Cap.(X):         0.534
Loss Time (sec):        9 (Y+R=4.0 sec) Average Delay (sec/veh):        14.7
Optimal Cycle:         60               Level Of Service:                  B
********************************************************************************
Street Name:             Duckhorn Drive                    San Juan Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  1  0  0  1   1  0  1  0  1   1  0  0  1  0   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      42  151   197   164  161    11    14  442    55    58  105   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   42  151   197   164  161    11    14  442    55    58  105   132
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    42  151   197   164  161    11    14  442    55    58  105   132
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   42  151   197   164  161    11    14  442    55    58  105   132
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   42  151   197   164  161    11    14  442    55    58  105   132
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.91 0.91  0.85  0.55 1.00  0.85  0.95 0.98  0.98  0.95 1.00  0.85
Lanes:       0.22 0.78  1.00  1.00 1.00  1.00  1.00 0.89  0.11  1.00 1.00  1.00
Final Sat.:   378 1359  1615  1053 1900  1615  1805 1661   207  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.12  0.16 0.08  0.01  0.01 0.27  0.27  0.03 0.06  0.08
Crit Moves:                   ****                   ****       ****
Green/Cycle: 0.29 0.29  0.29  0.29 0.29  0.29  0.05 0.50  0.50  0.06 0.51  0.51
Volume/Cap:  0.38 0.38  0.42  0.53 0.29  0.02  0.16 0.53  0.53  0.53 0.11  0.16
Delay/Veh:   17.4 17.4  17.7  19.7 16.7  15.2  28.2 10.9  10.9  32.5  7.7   7.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  17.4 17.4  17.7  19.7 16.7  15.2  28.2 10.9  10.9  32.5  7.7   7.9
LOS by Move:    B    B     B     B    B     B     C    B     B     C    A     A
HCM2k95thQ:     6    6     7     7    5     0     1   13    13     4    2     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Cumulative Plus Project
AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #24 Truxel Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.400
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	140.7
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Truxel Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 4 0 1			2 0 4 0 1			2 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1182	978	108	234	1473	422	375	942	1080	138	756	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1182	978	108	234	1473	422	375	942	1080	138	756	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.34	0.14	0.07	0.07	0.21	0.26	0.11	0.18	0.67	0.04	0.15	0.11
Crit Moves:	****					****			****	****		
Green/Cycle:	0.24	0.29	0.29	0.14	0.19	0.19	0.21	0.48	0.48	0.03	0.29	0.29
Volume/Cap:	1.40	0.49	0.23	0.49	1.14	1.40	0.50	0.38	1.40	1.40	0.50	0.37
Delay/Veh:	255.6	53.0	48.8	72.6	147	272.3	62.8	30.1	235.0	317.6	53.1	51.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	255.6	53.0	48.8	72.6	147	272.3	62.8	30.1	235.0	317.6	53.1	51.0
LOS by Move:	F	D	D	E	F	F	E	C	F	F	D	D
HCM2k95thQ:	84	22	9	12	50	61	18	21	144	15	22	14

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                              Natomas Crossing
                           Cumulative Plus Project
                                AM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #25 Truxel Road and Natomas Crossing Drive
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.905
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        38.3
Optimal Cycle:       125                Level Of Service:                  D
********************************************************************************
Street Name:               Truxel Road                Natomas Crossing Drive
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         2  0  4  0  1    1  0  4  0  1    1  0  0  1  1    1  0  0  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     592 2355   110    47 2453   211   119   13   804    76    7    59
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse: 592 2355   110    47 2453   211   119   13   804    76    7    59
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   592 2355   110    47 2453   211   119   13   804    76    7    59
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  592 2355   110    47 2453   211   119   13   804    76    7    59
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  592 2355   110    47 2453   211   119   13   804    76    7    59
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.95 0.91  0.85  0.95 0.85  0.85  0.95 0.87  0.87
Lanes:       2.00 4.00  1.00  1.00 4.00  1.00  1.00 0.03  1.97  1.00 0.11  0.89
Final Sat.:  3502 6916  1615  1805 6916  1615  1805   52  3186  1805  175  1471
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.34  0.07  0.03 0.35  0.13  0.07 0.25  0.25  0.04 0.04  0.04
Crit Moves:  ****                  ****              ****        ****
Green/Cycle: 0.19 0.54  0.54  0.04 0.39  0.39  0.20 0.28  0.28  0.05 0.12  0.12
Volume/Cap:  0.91 0.63  0.13  0.63 0.91  0.33  0.33 0.91  0.91  0.91 0.33  0.33
Delay/Veh:   65.9 20.6  14.4  75.5 40.6  26.9  43.1 56.0  56.0 126.6 51.0  51.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  65.9 20.6  14.4  75.5 40.6  26.9  43.1 56.0  56.0 126.6 51.0  51.0
LOS by Move:    E    C     B     E    D     C     D    E     E     F    D     D
HCM2k95thQ:    26   30     4     6   45    11     8   32    32    10    5     5
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future Plus Project
PM Peak Hour

Scenario Report

Scenario:	Cumulative Plus Project PM
Command:	Cumulative Plus Project PM
Volume:	Cumulative Plus Project PM
Geometry:	Cumulative
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Natomas Crossing
Future Plus Project
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/C	Future LOS	Future Del/ Veh	Future V/C	Change in
# 1 El Centro Road and Arena Boule	C	25.0	0.786	C	25.0	0.786	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	C	22.3	0.684	C	22.3	0.684	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	B	13.8	0.536	B	13.8	0.536	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	B	14.3	0.818	B	14.3	0.818	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	146.8	1.298	F	146.8	1.298	+ 0.000 D/V
# 6 East Commerce Way and Snowy Eg	D	36.9	0.877	D	36.9	0.877	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	C	15.4	0.000	C	15.4	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	D	25.2	0.000	D	25.2	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	F	113.9	1.066	F	113.9	1.066	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	C	19.2	0.000	C	19.2	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	C	18.8	0.000	C	18.8	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	F	113.1	1.179	F	113.1	1.179	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	12.9	0.000	B	12.9	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	A	7.7	0.652	A	7.7	0.652	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	C	31.9	0.893	C	31.9	0.893	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	C	17.8	0.000	C	17.8	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	E	77.1	0.986	E	77.1	0.986	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	C	16.6	0.000	C	16.6	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	F	84.3	1.033	F	84.3	1.033	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	C	18.0	0.000	C	18.0	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	F	81.7	1.097	F	81.7	1.097	+ 0.000 D/V
# 22 Duckhorn Dr. and Natomas Cross	E	69.9	0.940	E	69.9	0.940	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	15.9	0.453	B	15.9	0.453	+ 0.000 D/V

Natomas Crossing
Future Plus Project
PM Peak Hour

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 24 Truxel Road and Arena Boulevar	F	137.8	1.457	F	137.8	1.457	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	D	36.1	0.905	D	36.1	0.905	+ 0.000 D/V

Natomas Crossing
Future Plus Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 El Centro Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.786
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.0
Optimal Cycle:	63	Level Of Service:	C

Street Name:	El Centro Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	179	684	198	181	454	20	37	145	57	168	314	526
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	179	684	198	181	454	20	37	145	57	168	314	526
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	684	198	181	454	20	37	145	57	168	314	526
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	684	198	181	454	20	37	145	57	168	314	526
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	684	198	181	454	20	37	145	57	168	314	526
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.19	0.12	0.10	0.13	0.01	0.02	0.04	0.04	0.09	0.17	0.33
Crit Moves:		****		****			****					****
Green/Cycle:	0.16	0.24	0.24	0.13	0.21	0.21	0.03	0.13	0.13	0.31	0.41	0.41
Volume/Cap:	0.61	0.79	0.51	0.79	0.61	0.06	0.79	0.30	0.27	0.30	0.40	0.79
Delay/Veh:	28.2	27.1	21.8	42.8	24.2	20.2	88.3	25.0	25.2	16.9	13.3	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.2	27.1	21.8	42.8	24.2	20.2	88.3	25.0	25.2	16.9	13.3	22.1
LOS by Move:	C	C	C	D	C	C	F	C	C	B	B	C
HCM2k95thQ:	9	17	8	11	10	1	5	3	3	5	9	20

Note: Queue reported is the number of cars per lane.

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                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
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                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Duckhorn Drive and Arena Boulevard
********************************************************************************
Cycle (sec):           0                  Critical Vol./Cap.(X):        0.684
Loss Time (sec):      12 (Y+R=4.0 sec)    Average Delay (sec/veh):       22.3
Optimal Cycle:        60                  Level Of Service:                 C
********************************************************************************
Street Name:           Duckhorn Drive                    Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1  0  1   2  0  0  1  0   1  0  2  0  1   2  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     415  352    73    55  184     0    27  470   211   282  742    20
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  415  352    73    55  184     0    27  470   211   282  742    20
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   415  352    73    55  184     0    27  470   211   282  742    20
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  415  352    73    55  184     0    27  470   211   282  742    20
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  415  352    73    55  184     0    27  470   211   282  742    20
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 1.00  0.85  0.92 1.00  1.00  0.95 0.95  0.85  0.92 0.95  0.85
Lanes:       1.00 1.00  1.00  2.00 1.00  0.00  1.00 2.00  1.00  2.00 2.00  1.00
Final Sat.:  1805 1900  1615  3502 1900     0  1805 3610  1615  3502 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.19  0.05  0.02 0.10  0.00  0.01 0.13  0.13  0.08 0.21  0.01
Crit Moves:  ****                  ****        ****                   ****
Green/Cycle: 0.34 0.44  0.44  0.04 0.14  0.00  0.02 0.20  0.20  0.12 0.30  0.30
Volume/Cap:  0.68 0.42  0.10  0.42 0.68  0.00  0.68 0.65  0.66  0.66 0.68  0.04
Delay/Veh:   20.4 11.9   9.9  30.4 31.6   0.0  68.9 24.3  26.9  28.7 20.3  14.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  20.4 11.9   9.9  30.4 31.6   0.0  68.9 24.3  26.9  28.7 20.3  14.9
LOS by Move:    C    B     A     C    C     A     E    C     C     C    C     B
HCM2k95thQ:    15    9     2     2    9     0     3   11    10     8   15     1
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Arena Boulevard and I-5 Southbound Ramps
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):        0.536
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):       13.8
Optimal Cycle:        60                Level Of Service:                 B
********************************************************************************
Street Name:       I-5 Southbound Ramps                Arena Boulevard
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  0  0  0   2  0  0  0  1   0  0  2  0  1   0  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  800    0    20    0  379    10    0  655  2498
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  800    0    20    0  379    10    0  655  2498
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:     0    0     0  800    0    20    0  379     0    0  655     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  800    0    20    0  379     0    0  655     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
FinalVolume:    0    0     0  800    0    20    0  379     0    0  655     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.59 1.00  0.85 1.00 0.95  1.00 1.00 0.91  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  1.00 0.00 2.00  1.00 0.00 3.00  1.00
Final Sat.:     0    0     0 2245    0  1615    0 3610  1900    0 5187  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.36 0.00  0.01 0.00 0.10  0.00 0.00 0.13  0.00
Crit Moves:                  ****                                  ****
Green/Cycle: 0.00 0.00  0.00 0.66 0.00  0.66 0.00 0.24  0.00 0.00 0.24  0.00
Volume/Cap:  0.00 0.00  0.00 0.54 0.00  0.02 0.00 0.45  0.00 0.00 0.54  0.00
Delay/Veh:    0.0  0.0   0.0  5.6  0.0   3.4  0.0 20.0   0.0  0.0 20.5   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  5.6  0.0   3.4  0.0 20.0   0.0  0.0 20.5   0.0
LOS by Move:    A    A     A    A    A     A    A    B     A    A    C     A
HCM2k95thQ:     0    0     0    9    0     0    0    7     0    0    9     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future Plus Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Arena Boulevard and I-5 Northbound Ramps

Cycle (sec):	0	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	6 (Y+R=4.0 sec)	Average Delay (sec/veh):	14.3
Optimal Cycle:	60	Level Of Service:	B

Street Name:	I-5 Northbound Ramps						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Ignore			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	0	0 2	0 0	0	0 0	0 0	2	0 1	0 0	4	0 1
Volume Module:												
Base Vol:	200	0	884	0	0	0	0	1149	30	0	2943	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	200	0	884	0	0	0	0	1149	30	0	2943	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	200	0	884	0	0	0	0	1149	0	0	2943	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	200	0	884	0	0	0	0	1149	0	0	2943	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	200	0	884	0	0	0	0	1149	0	0	2943	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	1.00	0.75	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	1.00	0.00	4.00	1.00
Final Sat.:	2282	0	2842	0	0	0	0	3610	1900	0	6916	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.31	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.43	0.00
Crit Moves:			****								****	
Green/Cycle:	0.38	0.00	0.38	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.23	0.00	0.82	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.82	0.00
Delay/Veh:	12.8	0.0	21.8	0.0	0.0	0.0	0.0	10.7	0.0	0.0	13.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.8	0.0	21.8	0.0	0.0	0.0	0.0	10.7	0.0	0.0	13.6	0.0
LOS by Move:	B	A	C	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	3	0	20	0	0	0	0	16	0	0	27	0

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                               Natomas Crossing
                              Future Plus Project
                                 PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #5 East Commerce Way and Del Paso Road
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         1.298
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):       146.8
Optimal Cycle:        180                Level Of Service:                  F
********************************************************************************
Street Name:           East Commerce Way                    Del Paso Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  3  0  1    2  0  3  0  2    3  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     399 1241   620   586  669   294  1069 2248   355   794 2059   506
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  399 1241   620   586  669   294  1069 2248   355   794 2059   506
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   399 1241   620   586  669   294  1069 2248   355   794 2059   506
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  399 1241   620   586  669   294  1069 2248   355   794 2059   506
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  399 1241   620   586  669   294  1069 2248   355   794 2059   506
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.75  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  2.00  3.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  2842  5253 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.24  0.38  0.17 0.13  0.10  0.20 0.43  0.22  0.23 0.40  0.31
Crit Moves:             ****  ****                  ****        ****
Green/Cycle: 0.20 0.30  0.30  0.13 0.23  0.23  0.17 0.33  0.33  0.17 0.34  0.34
Volume/Cap:  0.57 0.81  1.30  1.30 0.57  0.46  1.18 1.30  0.66  1.30 1.18  0.93
Delay/Veh:   66.3 62.0 212.2 228.0 62.7  60.7 167.2  198  54.2 220.1  147  80.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  66.3 62.0 212.2 228.0 62.7  60.7 167.2  198  54.2 220.1  147  80.8
LOS by Move:    E    E     F     F    E     E     F    F     D     F    F     F
HCM2k95thQ:    19   40    80    44   22    15    48  104    29    56   87    49
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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---------------------------------------------------------------------------------
                                Natomas Crossing
                               Future Plus Project
                                  PM Peak Hour
---------------------------------------------------------------------------------
                       Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
*********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
*********************************************************************************
Cycle (sec):            0                 Critical Vol./Cap.(X):         0.877
Loss Time (sec):       12 (Y+R=4.0 sec)   Average Delay (sec/veh):        36.9
Optimal Cycle:        100                 Level Of Service:                  D
*********************************************************************************
Street Name:        East Commerce Way        Snowy Egret Boulevard - Arco Aren
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected         Protected        Protected
Rights:          Include          Include           Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  3  0  1   2  0  3  0  1   1  0  2  0  1   2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     292 1949   414    40 1303   232   272  164   280   648  216    32
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  292 1949   414    40 1303   232   272  164   280   648  216    32
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   292 1949   414    40 1303   232   272  164   280   648  216    32
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  292 1949   414    40 1303   232   272  164   280   648  216    32
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  292 1949   414    40 1303   232   272  164   280   648  216    32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.92 0.91  0.85  0.95 0.95  0.85  0.92 0.93  0.93
Lanes:       1.00 3.00  1.00  2.00 3.00  1.00  1.00 2.00  1.00  2.00 1.74  0.26
Final Sat.:  1805 5187  1615  3502 5187  1615  1805 3610  1615  3502 3084   457
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.38  0.26  0.01 0.25  0.14  0.15 0.05  0.17  0.19 0.07  0.07
Crit Moves:  ****                  ****                     ****  ****
Green/Cycle: 0.18 0.46  0.46  0.01 0.29  0.29  0.28 0.20  0.20  0.21 0.13  0.13
Volume/Cap:  0.88 0.82  0.56  0.82 0.88  0.50  0.54 0.23  0.88  0.88 0.54  0.54
Delay/Veh:   61.7 26.0  20.8 115.8 40.2  30.6  31.8 33.9  61.7  49.7 42.0  42.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  61.7 26.0  20.8 115.8 40.2  30.6  31.8 33.9  61.7  49.7 42.0  42.0
LOS by Move:    E    C     C     F    D     C     C    C     E     D    D     D
HCM2k95thQ:    22   36    18     4   30    12    14    5    21    24    9     9
*********************************************************************************
Note: Queue reported is the number of cars per lane.
*********************************************************************************
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                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: C[ 15.4]
********************************************************************************
Street Name:           E. Commerce Way                          Road B5
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0 2655     0      0 2178    53      0    0    10      0    0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0 2655     0      0 2178    53      0    0    10      0    0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:     0 2655     0      0 2178    53      0    0    10      0    0     0
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:    0 2655     0      0 2178    53      0    0    10      0    0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   753  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   357  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   357  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.03  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  15.4 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             15.4           xxxxxx
ApproachLOS:        *                *                 C                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      1.0       Worst Case Level Of Service: D[ 25.2]
********************************************************************************
Street Name:          E. Commerce Way                      Road B4
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 2655     0     0 2136    53     0     0   191     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 2655     0     0 2136    53     0     0   191     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 2655     0     0 2136    53     0     0   191     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 2655     0     0 2136    53     0     0   191     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   739  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   365  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   365  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.52  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.9  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  25.2 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     D     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx              25.2           xxxxxx
ApproachLOS:          *                *                 D                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                             Natomas Crossing
                            Future Plus Project
                               PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):        1.066
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):      113.9
Optimal Cycle:       180                Level Of Service:                 F
********************************************************************************
Street Name:        East Commerce Way        Arco Arena Main Entrance - Road B
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       2  0  3  0  1   2  0  2  1  0   1  0  1  0  1   2  0  1  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387 1201    16   679 1388   225   463    8   130    67   15   881
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387 1201    16   679 1388   225   463    8   130    67   15   881
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   387 1201    16   679 1388   225   463    8   130    67   15   881
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  387 1201    16   679 1388   225   463    8   130    67   15   881
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  387 1201    16   679 1388   225   463    8   130    67   15   881
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.89  0.89  0.95 1.00  0.85  0.92 1.00  0.75
Lanes:       2.00 3.00  1.00  2.00 2.58  0.42  1.00 1.00  1.00  2.00 1.00  2.00
Final Sat.:  3502 5187  1615  3502 4370   708  1805 1900  1615  3502 1900  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.23  0.01  0.19 0.32  0.32  0.26 0.00  0.08  0.02 0.01  0.31
Crit Moves:  ****                  ****        ****                        ****
Green/Cycle: 0.10 0.22  0.22  0.18 0.30  0.30  0.24 0.43  0.43  0.10 0.29  0.29
Volume/Cap:  1.07 1.06  0.05  1.06 1.07  1.07  1.07 0.01  0.19  0.19 0.03  1.07
Delay/Veh:  146.4  114  55.5 125.7  106 106.0 130.1 29.4  32.0  74.2 45.6 114.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 146.4  114  55.5 125.7  106 106.0 130.1 29.4  32.0  74.2 45.6 114.1
LOS by Move:    F    F     E     F    F     F     F    C     C     E    D     F
HCM2k95thQ:    28   50     1    42   64    64    52    1     8     4    1    56
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                             Natomas Crossing
                           Future Plus Project
                              PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      1.2       Worst Case Level Of Service: C[ 19.2]
********************************************************************************
Street Name:        E. Commerce Way                           Road B2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1691     0     0 1412   198     0     0   219     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1691     0     0 1412   198     0     0   219     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1691     0     0 1412   198     0     0   219     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1691     0     0 1412   198     0     0   219     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   570  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   470  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   470  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.47  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  19.2 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:   xxxxxx            xxxxxx             19.2            xxxxxx
ApproachLOS:        *                 *                C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                               Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
-------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #11 E. Commerce Way and Road B1
*******************************************************************************
Average Delay (sec/veh):      1.2       Worst Case Level Of Service: C[ 18.8]
*******************************************************************************
Street Name:           E. Commerce Way                         Road B1
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled       Stop Sign         Stop Sign
Rights:          Include          Include          Include           Include
Lanes:        0  0  3  0  0   0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1691     0     0 1531    99     0     0   219     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1691     0     0 1531    99     0     0   219     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1691     0     0 1531    99     0     0   219     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1691     0     0 1531    99     0     0   219     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   560  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   477  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   477  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.46  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  18.8 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx            18.8            xxxxxx
ApproachLOS:        *                *                C                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
```

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-------------------------------------------------------------------------------
                               Natomas Crossing
                              Future Plus Project
                                 PM Peak Hour
-------------------------------------------------------------------------------
                       Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):        1.179
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):      113.1
Optimal Cycle:       180                Level Of Service:                 F
********************************************************************************
Street Name:          East Commerce Way                  Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     741  838   798   499  707   532   316 1249   441   532 1938   450
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  741  838   798   499  707   532   316 1249   441   532 1938   450
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   741  838   798   499  707   532   316 1249   441   532 1938   450
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  741  838   798   499  707   532   316 1249   441   532 1938   450
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  741  838   798   499  707   532   316 1249   441   532 1938   450
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.21 0.16  0.49  0.14 0.14  0.33  0.09 0.24  0.27  0.15 0.37  0.28
Crit Moves:             ****  ****             ****                   ****
Green/Cycle: 0.21 0.42  0.42  0.12 0.33  0.33  0.08 0.25  0.25  0.14 0.32  0.32
Volume/Cap:  1.00 0.39  1.18  1.18 0.41  1.00  1.18 0.95  1.08  1.08 1.18  0.88
Delay/Veh:  104.6 36.3 147.7 181.7 47.1 100.0 195.4 81.2 135.0 141.3  149  74.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 104.6 36.3 147.7 181.7 47.1 100.0 195.4 81.2 135.0 141.3  149  74.2
LOS by Move:    F    D     F     F    D     F     F    F     F     F    F     E
HCM2k95thQ:    43   20    91    36   20    55    26   47    51    35   82    43
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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-------------------------------------------------------------------------------
                           Natomas Crossing
                          Future Plus Project
                             PM Peak Hour
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #13 E. Commerce Way and Road C4
*******************************************************************************
Average Delay (sec/veh):      0.1      Worst Case Level Of Service: B[ 12.9]
*******************************************************************************
Street Name:          E. Commerce Way                       Road C4
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 2356     0      0 1662    11      0     0    21      0     0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0 2356     0      0 1662    11      0     0    21      0     0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:     0 2356     0      0 1662    11      0     0    21      0     0     0
Reduct Vol:     0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:    0 2356     0      0 1662    11      0     0    21      0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   560  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   477  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   477  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.04  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             12.9           xxxxxx
ApproachLOS:         *                *                B                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------

                     Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3
********************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):        0.652
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        7.7
Optimal Cycle:        60                Level Of Service:                 A
********************************************************************************
Street Name:           E. Commerce Way          Amelia Earhart Ave. - Road C3
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       1  0  3  0  1   1  0  2  1  0   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       9 2235    19    20 1664     6   115    0    41    18    0    26
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    9 2235    19    20 1664     6   115    0    41    18    0    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     9 2235    19    20 1664     6   115    0    41    18    0    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    9 2235    19    20 1664     6   115    0    41    18    0    26
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    9 2235    19    20 1664     6   115    0    41    18    0    26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.95 0.91  0.91  0.95 1.00  0.85  0.95 1.00  0.85
Lanes:       1.00 3.00  1.00  1.00 2.99  0.01  1.00 0.00  1.00  1.00 0.00  1.00
Final Sat.:  1805 5187  1615  1805 5163    19  1805    0  1615  1805    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.43  0.01  0.01 0.32  0.32  0.06 0.00  0.03  0.01 0.00  0.02
Crit Moves:       ****        ****             ****                         ****
Green/Cycle: 0.01 0.66  0.66  0.02 0.67  0.67  0.10 0.00  0.09  0.03 0.00  0.02
Volume/Cap:  0.48 0.65  0.02  0.65 0.48  0.48  0.65 0.00  0.29  0.29 0.00  0.65
Delay/Veh:   47.9  6.5   3.5  69.8  5.0   5.0  34.5  0.0  26.7  30.8  0.0  61.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  47.9  6.5   3.5  69.8  5.0   5.0  34.5  0.0  26.7  30.8  0.0  61.5
LOS by Move:    D    A     A     E    A     A     C    A     C     C    A     E
HCM2k95thQ:     2   18     0     3   11    11     7    0     2     1    0     3
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future Plus Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 E. Commerce Way and Road C2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.893
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	31.9
Optimal Cycle:	98	Level Of Service:	C

Street Name:		E. Commerce Way						Road C2				
Approach:		North Bound			South Bound			East Bound			West Bound	
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 3 0 0			0 0 3 0 1			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	353	1650	0	0	1429	294	613	0	38	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	353	1650	0	0	1429	294	613	0	38	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	353	1650	0	0	1429	294	613	0	38	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	353	1650	0	0	1429	294	613	0	38	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	353	1650	0	0	1429	294	613	0	38	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.91	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	5187	0	0	5187	1615	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.20	0.32	0.00	0.00	0.28	0.18	0.34	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.22	0.53	0.00	0.00	0.31	0.31	0.38	0.00	0.38	0.00	0.00	0.00
Volume/Cap:	0.89	0.60	0.00	0.00	0.89	0.59	0.89	0.00	0.06	0.00	0.00	0.00
Delay/Veh:	58.8	16.4	0.0	0.0	39.1	30.5	42.5	0.0	19.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.8	16.4	0.0	0.0	39.1	30.5	42.5	0.0	19.3	0.0	0.0	0.0
LOS by Move:	E	B	A	A	D	C	D	A	B	A	A	A
HCM2k95thQ:	25	23	0	0	32	15	35	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                             Natomas Crossing
                            Future Plus Project
                               PM Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #16 E. Commerce Way and Road C1
********************************************************************************
Average Delay (sec/veh):      1.1       Worst Case Level Of Service: C[ 17.8]
********************************************************************************
Street Name:         E. Commerce Way                              Road C1
Approach:      North Bound       South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled      Uncontrolled      Stop Sign        Stop Sign
Rights:           Include           Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 2003     0      0 1320   147     0     0   232     0     0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 2003     0      0 1320   147     0     0   232     0     0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 2003     0      0 1320   147     0     0   232     0     0     0
Reduct Vol:     0    0     0      0    0     0     0     0     0     0     0     0
FinalVolume:    0 2003     0      0 1320   147     0     0   232     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   514  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   511  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   511  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.45  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  17.8 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx             17.8            xxxxxx
ApproachLOS:         *                 *                C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future Plus Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #17 E. Commerce Way and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.986
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	77.1
Optimal Cycle:	180	Level Of Service:	E

Street Name:	E. Commerce Way						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	2 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	127	1353	296	133	1150	269	547	357	51	152	389	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	1353	296	133	1150	269	547	357	51	152	389	103
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	127	1353	296	133	1150	269	547	357	51	152	389	103
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	1353	296	133	1150	269	547	357	51	152	389	103
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	1353	296	133	1150	269	547	357	51	152	389	103
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.37	0.18	0.04	0.32	0.17	0.30	0.10	0.03	0.08	0.20	0.06
Crit Moves:		****		****			****				****	
Green/Cycle:	0.08	0.38	0.38	0.04	0.34	0.34	0.31	0.28	0.28	0.24	0.21	0.21
Volume/Cap:	0.93	0.99	0.48	0.99	0.93	0.49	0.99	0.36	0.11	0.36	0.99	0.31
Delay/Veh:	138.5	76.3	43.0	159.6	69.3	47.3	96.6	52.3	48.6	57.8	113	60.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	138.5	76.3	43.0	159.6	69.3	47.3	96.6	52.3	48.6	57.8	113	60.9
LOS by Move:	F	E	D	F	E	D	F	D	D	E	F	E
HCM2k95thQ:	18	68	22	12	56	21	55	15	4	13	43	9

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                             Natomas Crossing
                            Future Plus Project
                               PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #18 E. Commerce Way and Road D3
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: C[ 16.6]
********************************************************************************
Street Name:           E. Commerce Way                          Road D3
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0    0  0  1  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1776     0      0 1242   113     0     0    91     0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1776     0      0 1242   113     0     0    91     0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1776     0      0 1242   113     0     0    91     0     0     0
Reduct Vol:      0    0     0      0    0     0     0     0     0     0     0     0
FinalVolume:     0 1776     0      0 1242   113     0     0    91     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   678  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   400  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   400  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.23  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.9  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  16.6 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             16.6            xxxxxx
ApproachLOS:        *                *                 C                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #19 East Commerce Way and Road D2
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):        1.033
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):       84.3
Optimal Cycle:       180                Level Of Service:                 F
********************************************************************************
Street Name:           E. Commerce Way                        Road D2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       1  0  2  0  1   1  0  2  0  1   1  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     244  812    70   106 1038   189   887   13   228    47    4    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  244  812    70   106 1038   189   887   13   228    47    4    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   244  812    70   106 1038   189   887   13   228    47    4    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  244  812    70   106 1038   189   887   13   228    47    4    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  244  812    70   106 1038   189   887   13   228    47    4    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.86  0.86  0.95 0.86  0.86
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 0.05  0.95  1.00 0.05  0.95
Final Sat.:  1805 3610  1615  1805 3610  1615  1805   88  1542  1805   80  1548
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.22  0.04  0.06 0.29  0.12  0.49 0.15  0.15  0.03 0.05  0.05
Crit Moves:  ****                  ****        ****                  ****
Green/Cycle: 0.13 0.32  0.32  0.08 0.28  0.28  0.48 0.45  0.45  0.08 0.05  0.05
Volume/Cap:  1.03 0.69  0.13  0.69 1.03  0.42  1.03 0.33  0.33  0.33 1.03  1.03
Delay/Veh:  145.5 54.8  43.0  92.9  102  53.7  86.6 32.7  32.7  79.9  197 196.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 145.5 54.8  43.0  92.9  102  53.7  86.6 32.7  32.7  79.9  197 196.6
LOS by Move:    F    D     D     F    F     D     F    C     C     E    F     F
HCM2k95thQ:    31   35     5    13   58    16    87   16    16     5   14    14
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      1.0       Worst Case Level Of Service: C[ 18.0]
********************************************************************************
Street Name:         E. Commerce Way                          Road D1
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1127     0     0 1237    75     0     0   137     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1127     0     0 1237    75     0     0   137     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1127     0     0 1237    75     0     0   137     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1127     0     0 1237    75     0     0   137     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   656  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   413  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   413  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.33  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   1.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  18.0 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             18.0            xxxxxx
ApproachLOS:          *                *                C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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-------------------------------------------------------------------------------
                               Natomas Crossing
                              Future Plus Project
                                 PM Peak Hour
-------------------------------------------------------------------------------

                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
*******************************************************************************
Cycle (sec):            0               Critical Vol./Cap.(X):        1.097
Loss Time (sec):        9 (Y+R=4.0 sec) Average Delay (sec/veh):       81.7
Optimal Cycle:        180               Level Of Service:                 F
*******************************************************************************
Street Name:           E. Commerce Way                   San Juan Road
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       0  0  0  0  0   2  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0 1223     0   151    73   476     0     0   522  1054
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0     0     0 1223     0   151    73   476     0     0   522  1054
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0     0     0 1223     0   151    73   476     0     0   522  1054
Reduct Vol:    0     0     0    0     0     0     0     0     0     0     0     0
Reduced Vol:   0     0     0 1223     0   151    73   476     0     0   522  1054
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0     0     0 1223     0   151    73   476     0     0   522  1054
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.92 1.00  0.85  0.95 0.95  1.00  1.00 0.95  0.85
Lanes:       0.00 0.00  0.00  2.00 0.00  1.00  1.00 2.00  0.00  0.00 2.00  1.00
Final Sat.:    0     0     0  3502    0  1615  1805 3610     0     0 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.35 0.00  0.09  0.04 0.13  0.00  0.00 0.14  0.65
Crit Moves:                   ****              ****                        ****
Green/Cycle: 0.00 0.00  0.00  0.32 0.00  0.32  0.04 0.63  0.00  0.00 0.59  0.59
Volume/Cap:  0.00 0.00  0.00  1.10 0.00  0.29  1.10 0.21  0.00  0.00 0.24  1.10
Delay/Veh:    0.0  0.0   0.0 118.9  0.0  46.5 226.2 14.1   0.0   0.0 17.3  95.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0 118.9  0.0  46.5 226.2 14.1   0.0   0.0 17.3  95.8
LOS by Move:   A     A     A     F    A     D     F    B     A     A    B     F
HCM2k95thQ:    0     0     0    69    0    12    14   11     0     0   13   108
*******************************************************************************
Note: Queue reported is the number of cars per lane.
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Natomas Crossing
Future Plus Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #22 Duckhorn Dr. and Natomas Crossing Dr.

Cycle (sec):	0	Critical Vol./Cap.(X):	0.940
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	69.9
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Duckhorn Dr.						Natomas Crossing Dr.					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	0	532	331	562	333	85	43	63	0	229	133	424
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	532	331	562	333	85	43	63	0	229	133	424
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	532	331	562	333	85	43	63	0	229	133	424
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	532	331	562	333	85	43	63	0	229	133	424
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	532	331	562	333	85	43	63	0	229	133	424
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.85	0.95	0.97	0.97	0.95	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	0.80	0.20	1.00	1.00	0.00	1.00	1.00	1.00
Final Sat.:	1900	1900	1615	1805	1468	375	1805	1900	0	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.20	0.31	0.23	0.23	0.02	0.03	0.00	0.13	0.07	0.26
Crit Moves:		****		****			****					****
Green/Cycle:	0.00	0.30	0.30	0.33	0.63	0.63	0.03	0.06	0.00	0.24	0.28	0.28
Volume/Cap:	0.00	0.94	0.69	0.94	0.36	0.36	0.94	0.53	0.00	0.53	0.25	0.94
Delay/Veh:	0.0	85.6	60.0	81.6	16.2	16.2	197.7	86.0	0.0	60.5	50.5	91.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	85.6	60.0	81.6	16.2	16.2	197.7	86.0	0.0	60.5	50.5	91.3
LOS by Move:	A	F	E	F	B	B	F	F	A	E	D	F
HCM2k95thQ:	0	52	29	54	19	19	8	8	0	20	11	43

Note: Queue reported is the number of cars per lane.

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                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.453
Loss Time (sec):       9 (Y+R=4.0 sec)  Average Delay (sec/veh):        15.9
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:          Duckhorn Drive                   San Juan Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Permitted        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       0  1  0  0  1    1  0  1  0  1    1  0  0  1  0    1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38  160   102   137  182     0   102  246    76   140  379   304
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   38  160   102   137  182     0   102  246    76   140  379   304
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    38  160   102   137  182     0   102  246    76   140  379   304
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   38  160   102   137  182     0   102  246    76   140  379   304
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   38  160   102   137  182     0   102  246    76   140  379   304
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.92  0.85  0.55 1.00  1.00  0.95 0.97  0.97  0.95 1.00  0.85
Lanes:       0.19 0.81  1.00  1.00 1.00  1.00  1.00 0.76  0.24  1.00 1.00  1.00
Final Sat.:   337 1419  1615  1037 1900  1900  1805 1401   433  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.06  0.13 0.10  0.00  0.06 0.18  0.18  0.08 0.20  0.19
Crit Moves:                   ****                   ****       ****
Green/Cycle: 0.29 0.29  0.29  0.29 0.29  0.00  0.12 0.39  0.39  0.17 0.44  0.44
Volume/Cap:  0.39 0.39  0.22  0.45 0.33  0.00  0.46 0.45  0.45  0.45 0.46  0.43
Delay/Veh:   17.5 17.5  16.3  18.4 17.0   0.0  25.9 14.1  14.1  23.4 12.4  12.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  17.5 17.5  16.3  18.4 17.0   0.0  25.9 14.1  14.1  23.4 12.4  12.2
LOS by Move:    B    B     B     B    B     A     C    B     B     C    B     B
HCM2k95thQ:     7    7     3     5    6     0     5    9     9     6   10     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
               2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):          1.457
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):        137.8
Optimal Cycle:        180                Level Of Service:                   F
********************************************************************************
Street Name:               Truxel Road                      Arena Boulevard
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:         2  0  4  0  1   2  0  4  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    1413 1639   191   142 1380   435   594  862  1050   130 1011   266
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse: 1413 1639   191   142 1380   435   594  862  1050   130 1011   266
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:  1413 1639   191   142 1380   435   594  862  1050   130 1011   266
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1413 1639   191   142 1380   435   594  862  1050   130 1011   266
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume: 1413 1639   191   142 1380   435   594  862  1050   130 1011   266
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.40 0.24  0.12  0.04 0.20  0.27  0.17 0.17  0.65  0.04 0.19  0.16
Crit Moves:  ****                        ****               ****  ****
Green/Cycle: 0.28 0.39  0.39  0.07 0.18  0.18  0.22 0.45  0.45  0.03 0.25  0.25
Volume/Cap:  1.46 0.60  0.30  0.60 1.08  1.46  0.77 0.37  1.46  1.46 0.77  0.65
Delay/Veh:  276.6 43.7  37.7  85.9  123 296.8  70.9 33.2 263.3 344.9 65.4  64.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 276.6 43.7  37.7  85.9  123 296.8  70.9 33.2 263.3 344.9 65.4  64.0
LOS by Move:    F    D     D     F    F     F     E    C     F     F    E     E
HCM2k95thQ:   103   33    13     9   45    65    30   20   145    15   34    24
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Future Plus Project
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #25 Truxel Road and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.905
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	36.1
Optimal Cycle:	126	Level Of Service:	D

Street Name:	Truxel Road						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4	0 1	1 0	4	0 1	1 0	0	1 1	1 0	0	1 0
Volume Module:												
Base Vol:	827	2955	120	69	2582	210	303	13	469	74	15	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	827	2955	120	69	2582	210	303	13	469	74	15	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	827	2955	120	69	2582	210	303	13	469	74	15	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	827	2955	120	69	2582	210	303	13	469	74	15	55
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	827	2955	120	69	2582	210	303	13	469	74	15	55
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.95	0.91	0.85	0.95	0.85	0.85	0.95	0.88	0.88
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	1.00	0.05	1.95	1.00	0.21	0.79
Final Sat.:	3502	6916	1615	1805	6916	1615	1805	88	3158	1805	359	1317
Capacity Analysis Module:												
Vol/Sat:	0.24	0.43	0.07	0.04	0.37	0.13	0.17	0.15	0.15	0.04	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.26	0.62	0.62	0.06	0.41	0.41	0.19	0.18	0.18	0.05	0.05	0.05
Volume/Cap:	0.91	0.69	0.12	0.69	0.91	0.32	0.91	0.82	0.82	0.82	0.91	0.91
Delay/Veh:	57.5	16.6	10.0	77.2	39.3	25.3	77.0	58.4	58.4	101.3	131	130.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.5	16.6	10.0	77.2	39.3	25.3	77.0	58.4	58.4	101.3	131	130.7
LOS by Move:	E	B	A	E	D	C	E	E	E	F	F	F
HCM2k95thQ:	33	36	4	8	47	11	26	20	20	9	10	10

Note: Queue reported is the number of cars per lane.

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Scenario Report

Scenario:	Cumulative Plus Project Saturday
Command:	Cumulative Plus Project Saturday
Volume:	Cumulative Plus Project Saturday
Geometry:	Cumulative
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 El Centro Road and Arena Boule	B	17.9	0.400	B	17.9	0.400	+ 0.000 D/V
# 2 Duckhorn Drive and Arena Boule	C	20.3	0.619	C	20.3	0.619	+ 0.000 D/V
# 3 Arena Boulevard and I-5 Southb	B	12.5	0.430	B	12.5	0.430	+ 0.000 D/V
# 4 Arena Boulevard and I-5 Northb	E	78.7	1.063	E	78.7	1.063	+ 0.000 D/V
# 5 East Commerce Way and Del Paso	F	142.8	1.230	F	142.8	1.230	+ 0.000 D/V
# 6 East Commerce Way and Snowy Eg	C	20.5	0.827	C	20.5	0.827	+ 0.000 D/V
# 7 E. Commerce Way and Road B5	B	12.8	0.000	B	12.8	0.000	+ 0.000 D/V
# 8 E. Commerce Way and Road B4	B	13.2	0.000	B	13.2	0.000	+ 0.000 D/V
# 9 East Commerce Way and Arco Are	D	54.6	0.902	D	54.6	0.902	+ 0.000 D/V
# 10 E. Commerce Way and Road B2	C	15.8	0.000	C	15.8	0.000	+ 0.000 D/V
# 11 E. Commerce Way and Road B1	C	15.7	0.000	C	15.7	0.000	+ 0.000 D/V
# 12 East Commerce Way and Arena Bo	E	79.7	1.014	E	79.7	1.014	+ 0.000 D/V
# 13 E. Commerce Way and Road C4	B	12.5	0.000	B	12.5	0.000	+ 0.000 D/V
# 14 E. Commerce Way and Amelia Ear	C	23.2	0.809	C	23.2	0.809	+ 0.000 D/V
# 15 E. Commerce Way and Road C2	B	12.7	0.677	B	12.7	0.677	+ 0.000 D/V
# 16 E. Commerce Way and Road C1	C	15.8	0.000	C	15.8	0.000	+ 0.000 D/V
# 17 E. Commerce Way and Natomas Cr	C	21.7	0.641	C	21.7	0.641	+ 0.000 D/V
# 18 E. Commerce Way and Road D3	B	12.3	0.000	B	12.3	0.000	+ 0.000 D/V
# 19 East Commerce Way and Road D2	C	20.5	0.640	C	20.5	0.640	+ 0.000 D/V
# 20 E. Commerce Way and Road D1	B	11.9	0.000	B	11.9	0.000	+ 0.000 D/V
# 21 E. Commerce Way and San Juan R	C	23.1	0.841	C	23.1	0.841	+ 0.000 D/V
# 22 Duckhorn Dr. and Natomas Cross	C	21.6	0.641	C	21.6	0.641	+ 0.000 D/V
# 23 Duckhorn Drive and San Juan Ro	B	13.7	0.279	B	13.7	0.279	+ 0.000 D/V

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 24 Truxel Road and Arena Boulevar	E	77.3	1.060	E	77.3	1.060	+ 0.000 D/V
# 25 Truxel Road and Natomas Crossi	B	19.3	0.790	B	19.3	0.790	+ 0.000 D/V

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 El Centro Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.400
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.9
Optimal Cycle:	60	Level Of Service:	B

Street Name:	El Centro Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	1 0	1 0	1
Volume Module:												
Base Vol:	77	349	67	76	443	14	8	269	70	100	285	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	349	67	76	443	14	8	269	70	100	285	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	349	67	76	443	14	8	269	70	100	285	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	349	67	76	443	14	8	269	70	100	285	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	349	67	76	443	14	8	269	70	100	285	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	3610	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.10	0.04	0.04	0.12	0.01	0.00	0.07	0.04	0.06	0.15	0.05
Crit Moves:	****				****		****				****	
Green/Cycle:	0.11	0.29	0.29	0.13	0.31	0.31	0.01	0.22	0.22	0.16	0.38	0.38
Volume/Cap:	0.40	0.34	0.14	0.34	0.40	0.03	0.40	0.34	0.20	0.34	0.40	0.14
Delay/Veh:	26.4	17.0	16.0	24.8	16.7	14.6	42.1	19.9	19.3	22.8	14.1	12.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	17.0	16.0	24.8	16.7	14.6	42.1	19.9	19.3	22.8	14.1	12.5
LOS by Move:	C	B	B	C	B	B	D	B	B	C	B	B
HCM2k95thQ:	4	6	2	3	7	0	1	5	2	4	8	2

Note: Queue reported is the number of cars per lane.

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-------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
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                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Duckhorn Drive and Arena Boulevard
********************************************************************************
Cycle (sec):          0                  Critical Vol./Cap.(X):        0.619
Loss Time (sec):     12 (Y+R=4.0 sec)  Average Delay (sec/veh):         20.3
Optimal Cycle:       60                  Level Of Service:                 C
********************************************************************************
Street Name:          Duckhorn Drive                    Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  1  0  1   2  0  0  1  0   1  0  2  0  1   2  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      82  101   318  166   98     0    5  486    71  408  471    52
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   82  101   318  166   98     0    5  486    71  408  471    52
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    82  101   318  166   98     0    5  486    71  408  471    52
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   82  101   318  166   98     0    5  486    71  408  471    52
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   82  101   318  166   98     0    5  486    71  408  471    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.95 1.00  0.85 0.92 1.00  1.00 0.95 0.95  0.85 0.92 0.95  0.85
Lanes:       1.00 1.00  1.00 2.00 1.00  0.00 1.00 2.00  1.00 2.00 2.00  1.00
Final Sat.:  1805 1900  1615 3502 1900     0 1805 3610  1615 3502 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.05  0.20 0.05 0.05  0.00 0.00 0.13  0.04 0.12 0.13  0.03
Crit Moves:             **** ****                  ****       ****
Green/Cycle: 0.18 0.32  0.32 0.08 0.21  0.00 0.01 0.22  0.22 0.19 0.40  0.40
Volume/Cap:  0.25 0.17  0.62 0.62 0.25  0.00 0.33 0.62  0.20 0.62 0.33  0.08
Delay/Veh:   21.3 14.9  19.7 31.2 20.1   0.0 41.8 22.8  19.5 24.2 12.7  11.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  21.3 14.9  19.7 31.2 20.1   0.0 41.8 22.8  19.5 24.2 12.7  11.3
LOS by Move:    C    B     B    C    C     A    D    C     B    C    B     B
HCM2k95thQ:     3    3    12    6    3     0    1   10     3    9    7     1
********************************************************************************
Note: Queue reported is the number of cars per lane.
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                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
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                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #3 Arena Boulevard and I-5 Southbound Ramps
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.430
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):        12.5
Optimal Cycle:        60                Level Of Service:                  B
********************************************************************************
Street Name:       I-5 Southbound Ramps                 Arena Boulevard
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Permitted        Permitted        Permitted        Permitted
Rights:         Include          Include          Ignore           Ignore
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  0  0  0   2  0  0  0  1   0  0  2  0  1   0  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0  583    0   113    0  317   660    0  664  1482
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   0    0     0  583    0   113    0  317   660    0  664  1482
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:    0    0     0  583    0   113    0  317     0    0  664     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0    0     0  583    0   113    0  317     0    0  664     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
FinalVolume:   0    0     0  583    0   113    0  317     0    0  664     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.59 1.00  0.85 1.00 0.95  1.00 1.00 0.91  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  1.00 0.00 2.00  1.00 0.00 3.00  1.00
Final Sat.:    0    0     0 2248    0  1615    0 3610  1900    0 5187  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.26 0.00  0.07 0.00 0.09  0.00 0.00 0.13  0.00
Crit Moves:                  ****                                 ****
Green/Cycle: 0.00 0.00  0.00 0.60 0.00  0.60 0.00 0.30  0.00 0.00 0.30  0.00
Volume/Cap:  0.00 0.00  0.00 0.43 0.00  0.12 0.00 0.30  0.00 0.00 0.43  0.00
Delay/Veh:    0.0  0.0   0.0  6.6  0.0   5.1  0.0 16.4   0.0  0.0 17.2   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  6.6  0.0   5.1  0.0 16.4   0.0  0.0 17.2   0.0
LOS by Move:   A    A     A    A    A     A    A    B     A    A    B     A
HCM2k95thQ:    0    0     0    7    0     2    0    5     0    0    8     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                      Cumulative Plus Project Scenario
                              Natomas Crossing
                             Saturday Peak Hour
-------------------------------------------------------------------------------

                     Level Of Service Computation Report
           2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #4 Arena Boulevard and I-5 Northbound Ramps
*******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         1.063
Loss Time (sec):       6 (Y+R=4.0 sec)  Average Delay (sec/veh):        78.7
Optimal Cycle:       180                Level Of Service:                  E
*******************************************************************************
Street Name:       I-5 Northbound Ramps                  Arena Boulevard
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Permitted        Permitted        Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  0  1   0  0  4  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     359     0  2188     0     0     0     0   813    77     0  1786   602
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  359     0  2188     0     0     0     0   813    77     0  1786   602
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Volume:   359     0  2188     0     0     0     0   813     0     0  1786     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  359     0  2188     0     0     0     0   813     0     0  1786     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
FinalVolume:  359     0  2188     0     0     0     0   813     0     0  1786     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.58  1.00  0.75  1.00  1.00  1.00  1.00  0.95  1.00  1.00  0.91  1.00
Lanes:       2.00  0.00  2.00  0.00  0.00  0.00  0.00  2.00  1.00  0.00  4.00  1.00
Final Sat.:  2201     0  2842     0     0     0     0  3610  1900     0  6916  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.00  0.77  0.00  0.00  0.00  0.00  0.23  0.00  0.00  0.26  0.00
Crit Moves:              ****                                           ****
Green/Cycle: 0.72  0.00  0.72  0.00  0.00  0.00  0.00  0.24  0.00  0.00  0.24  0.00
Volume/Cap:  0.23  0.00  1.06  0.00  0.00  0.00  0.00  0.93  0.00  0.00  1.06  0.00
Delay/Veh:    8.3   0.0  64.1   0.0   0.0   0.0   0.0  82.3   0.0   0.0   109   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.3   0.0  64.1   0.0   0.0   0.0   0.0  82.3   0.0   0.0   109   0.0
LOS by Move:    A     A     E     A     A     A     A     F     A     A     F     A
HCM2k95thQ:     7     0   121     0     0     0     0    43     0     0    55     0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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--------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
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                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #5 East Commerce Way and Del Paso Road
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):         1.230
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):       142.8
Optimal Cycle:        180                Level Of Service:                  F
********************************************************************************
Street Name:          East Commerce Way                    Del Paso Road
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  2   3  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     199  476   680   650  486   296   498 1594   241   819 2118   713
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  199  476   680   650  486   296   498 1594   241   819 2118   713
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   199  476   680   650  486   296   498 1594   241   819 2118   713
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  199  476   680   650  486   296   498 1594   241   819 2118   713
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  199  476   680   650  486   296   498 1594   241   819 2118   713
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.75  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  2.00  3.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  2842  5253 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.09  0.42  0.19 0.09  0.10  0.09 0.31  0.15  0.23 0.41  0.44
Crit Moves:             ****  ****                  ****        ****
Green/Cycle: 0.17 0.34  0.34  0.15 0.32  0.32  0.08 0.25  0.25  0.19 0.36  0.36
Volume/Cap:  0.33 0.27  1.23  1.23 0.29  0.33  1.22 1.23  0.60  1.23 1.13  1.22
Delay/Veh:   65.4 42.9 177.8 195.7 46.1  46.8 201.8  178  62.0 189.2  122 170.7
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  65.4 42.9 177.8 195.7 46.1  46.8 201.8  178  62.0 189.2  122 170.7
LOS by Move:    E    D     F     F    D     D     F    F     E     F    F     F
HCM2k95thQ:    10   13    83    46   14    13    27   72    22    55   85    86
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
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                      Level Of Service Computation Report
              2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
********************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):        0.827
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):       20.5
Optimal Cycle:         74                Level Of Service:                 C
********************************************************************************
Street Name:        East Commerce Way        Snowy Egret Boulevard - Arco Aren
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected         Protected        Protected
Rights:          Include          Include           Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   2  0  3  0  1   1  0  2  0  1   2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      71 1065   763    29 1193   105   108   96    83   361  517    29
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   71 1065   763    29 1193   105   108   96    83   361  517    29
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    71 1065   763    29 1193   105   108   96    83   361  517    29
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   71 1065   763    29 1193   105   108   96    83   361  517    29
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   71 1065   763    29 1193   105   108   96    83   361  517    29
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.91  0.85  0.92 0.91  0.85  0.95 0.95  0.85  0.92 0.94  0.94
Lanes:       1.00 3.00  1.00  2.00 3.00  1.00  1.00 2.00  1.00  2.00 1.89  0.11
Final Sat.:  1805 5187  1615  3502 5187  1615  1805 3610  1615  3502 3391   190
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.21  0.47  0.01 0.23  0.07  0.06 0.03  0.05  0.10 0.15  0.15
Crit Moves:             ****  ****             ****                    ****
Green/Cycle: 0.08 0.57  0.57  0.01 0.50  0.50  0.07 0.09  0.09  0.17 0.18  0.18
Volume/Cap:  0.46 0.36  0.83  0.83 0.46  0.13  0.83 0.31  0.60  0.60 0.83  0.83
Delay/Veh:   34.5  8.6  19.2 121.5 12.3  10.1  67.3 32.4  39.9  30.1 37.6  37.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  34.5  8.6  19.2 121.5 12.3  10.1  67.3 32.4  39.9  30.1 37.6  37.6
LOS by Move:    C    A     B     F    B     B     E    C     D     C    D     D
HCM2k95thQ:     4   10    29     3   13     3     9    3     6    10   17    17
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                      Cumulative Plus Project Scenario
                              Natomas Crossing
                             Saturday Peak Hour
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                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #7 E. Commerce Way and Road B5
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 12.8]
********************************************************************************
Street Name:          E. Commerce Way                          Road B5
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:         0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0 1898     0      0 1607    31      0     0    22      0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0 1898     0      0 1607    31      0     0    22      0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0 1898     0      0 1607    31      0     0    22      0     0     0
Reduct Vol:      0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:     0 1898     0      0 1607    31      0     0    22      0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   551  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   483  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   483  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.05  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.8 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *      *    *     B      *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *      *    *     *      *    *     *
ApproachDel:      xxxxxx            xxxxxx              12.8            xxxxxx
ApproachLOS:         *                 *                  B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                        Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #8 E. Commerce Way and Road B4
********************************************************************************
Average Delay (sec/veh):      0.2       Worst Case Level Of Service: B[ 13.2]
********************************************************************************
Street Name:           E. Commerce Way                        Road B4
Approach:        North Bound       South Bound       East Bound        West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:         Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:             Include           Include           Include           Include
Lanes:         0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:        0 1898     0      0 1597    31      0     0    44      0     0     0
Growth Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:     0 1898     0      0 1597    31      0     0    44      0     0     0
User Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:      0 1898     0      0 1597    31      0     0    44      0     0     0
Reduct Vol:      0    0     0      0    0     0      0     0     0      0     0     0
FinalVolume:     0 1898     0      0 1597    31      0     0    44      0     0     0
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   548  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   486  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   486  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.09  xxxx xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  13.2 xxxxx xxxx xxxxx
LOS by Move:     *    *     *      *    *     *      *     *     B      *     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *      *    *     *      *     *     *      *     *     *
ApproachDel:     xxxxxx            xxxxxx              13.2            xxxxxx
ApproachLOS:        *                 *                  B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.902
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	54.6
Optimal Cycle:	122	Level Of Service:	D

Street Name:	East Commerce Way						Arco Arena Main Entrance - Road B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	2 1	0	1 0	1 0	1	2 0	1 0	2
Volume Module:												
Base Vol:	648	854	13	562	782	250	407	0	180	94	13	558
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	648	854	13	562	782	250	407	0	180	94	13	558
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	648	854	13	562	782	250	407	0	180	94	13	558
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	648	854	13	562	782	250	407	0	180	94	13	558
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	648	854	13	562	782	250	407	0	180	94	13	558
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.88	0.88	0.95	1.00	0.85	0.92	1.00	0.75
Lanes:	2.00	3.00	1.00	2.00	2.27	0.73	1.00	1.00	1.00	2.00	1.00	2.00
Final Sat.:	3502	5187	1615	3502	3789	1211	1805	1900	1615	3502	1900	2842
Capacity Analysis Module:												
Vol/Sat:	0.19	0.16	0.01	0.16	0.21	0.21	0.23	0.00	0.11	0.03	0.01	0.20
Crit Moves:	****				****		****					****
Green/Cycle:	0.21	0.22	0.22	0.21	0.23	0.23	0.25	0.00	0.38	0.09	0.22	0.22
Volume/Cap:	0.90	0.75	0.04	0.75	0.90	0.90	0.90	0.00	0.30	0.30	0.03	0.90
Delay/Veh:	61.9	47.3	37.5	49.1	55.7	55.7	65.3	0.0	26.9	52.3	37.6	62.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.9	47.3	37.5	49.1	55.7	55.7	65.3	0.0	26.9	52.3	37.6	62.9
LOS by Move:	E	D	D	D	E	E	E	A	C	D	D	E
HCM2k95thQ:	27	22	1	21	30	30	31	0	9	4	1	26

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                     Cumulative Plus Project Scenario
                            Natomas Crossing
                           Saturday Peak Hour
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #10 E. Commerce Way and Road B2
********************************************************************************
Average Delay (sec/veh):      1.5       Worst Case Level Of Service: C[ 15.8]
********************************************************************************
Street Name:          E. Commerce Way                          Road B2
Approach:     North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1583     0     0  860   234     0     0   273     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0 1583     0     0  860   234     0     0   273     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1583     0     0  860   234     0     0   273     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0 1583     0     0  860   234     0     0   273     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   404  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   602  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   602  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.45  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  15.8 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            xxxxxx              15.8            xxxxxx
ApproachLOS:          *                 *                 C                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                    Cumulative Plus Project Scenario
                           Natomas Crossing
                          Saturday Peak Hour
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #11 E. Commerce Way and Road B1
********************************************************************************
Average Delay (sec/veh):      1.4       Worst Case Level Of Service: C[ 15.7]
********************************************************************************
Street Name:            E. Commerce Way                       Road B1
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:         0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1583     0     0 1016   117     0     0   273     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1583     0     0 1016   117     0     0   273     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1583     0     0 1016   117     0     0   273     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1583     0     0 1016   117     0     0   273     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   397  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   608  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   608  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.45  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  15.7 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     C     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             15.7            xxxxxx
ApproachLOS:        *                *                 C                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 East Commerce Way and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.014
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	79.7
Optimal Cycle:	180	Level Of Service:	E

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	440	565	521	338	609	302	617	1878	485	580	1643	339
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	440	565	521	338	609	302	617	1878	485	580	1643	339
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	440	565	521	338	609	302	617	1878	485	580	1643	339
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	440	565	521	338	609	302	617	1878	485	580	1643	339
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	440	565	521	338	609	302	617	1878	485	580	1643	339
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.11	0.32	0.10	0.12	0.19	0.18	0.36	0.30	0.17	0.32	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.17	0.32	0.32	0.10	0.25	0.25	0.19	0.36	0.36	0.16	0.33	0.33
Volume/Cap:	0.76	0.34	1.01	1.01	0.48	0.76	0.95	1.01	0.84	1.01	0.95	0.63
Delay/Veh:	77.3	47.1	104.8	134.5	58.1	70.8	95.5	82.4	63.9	116.6	69.9	52.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.3	47.1	104.8	134.5	58.1	70.8	95.5	82.4	63.9	116.6	69.9	52.8
LOS by Move:	E	D	F	F	E	E	F	F	E	F	E	D
HCM2k95thQ:	24	16	55	24	19	29	35	69	43	36	57	28

Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                     Cumulative Plus Project Scenario
                            Natomas Crossing
                           Saturday Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #13 E. Commerce Way and Road C4
********************************************************************************
Average Delay (sec/veh):      0.0       Worst Case Level Of Service: B[ 12.5]
********************************************************************************
Street Name:          E. Commerce Way                         Road C4
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0    0  0  2  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0 1491     0     0 1649     3     0     0     2     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0 1491     0     0 1649     3     0     0     2     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0 1491     0     0 1649     3     0     0     2     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0 1491     0     0 1649     3     0     0     2     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   551  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   483  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   483  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.5 xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     *    *     B     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             12.5            xxxxxx
ApproachLOS:        *                *                 B                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 E. Commerce Way and Amelia Earhart Ave. - Road C3

Cycle (sec):	0	Critical Vol./Cap.(X):	0.809
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.2
Optimal Cycle:	69	Level Of Service:	C

Street Name:	E. Commerce Way						Amelia Earhart Ave. - Road C3					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 3 0 1			1 0 2 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	133	1025	11	50	1617	7	441	0	5	12	0	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	133	1025	11	50	1617	7	441	0	5	12	0	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	1025	11	50	1617	7	441	0	5	12	0	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	1025	11	50	1617	7	441	0	5	12	0	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	1025	11	50	1617	7	441	0	5	12	0	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.91	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	3.00	1.00	1.00	2.99	0.01	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1805	5187	1615	1805	5159	22	1805	0	1615	1805	0	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.01	0.03	0.31	0.31	0.24	0.00	0.00	0.01	0.00	0.04
Crit Moves:	****				****		****					****
Green/Cycle:	0.09	0.42	0.42	0.06	0.39	0.39	0.30	0.00	0.11	0.24	0.00	0.05
Volume/Cap:	0.81	0.47	0.02	0.47	0.81	0.81	0.81	0.00	0.03	0.03	0.00	0.81
Delay/Veh:	55.8	14.7	11.7	34.7	21.4	21.4	31.1	0.0	27.4	20.2	0.0	79.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.8	14.7	11.7	34.7	21.4	21.4	31.1	0.0	27.4	20.2	0.0	79.1
LOS by Move:	E	B	B	C	C	C	C	A	C	C	A	E
HCM2k95thQ:	10	12	0	4	24	24	20	0	0	0	0	6

Note: Queue reported is the number of cars per lane.

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 E. Commerce Way and Road C2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.677
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.7
Optimal Cycle:	60	Level Of Service:	B

Street Name:	E. Commerce Way						Road C2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		1 0 3 0 0			0 0 3 0 1			1 0 0 0 1			0 0 0 0 0	
Volume Module:												
Base Vol:	191	890	0	0	1125	509	279	0	61	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	191	890	0	0	1125	509	279	0	61	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	191	890	0	0	1125	509	279	0	61	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	191	890	0	0	1125	509	279	0	61	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	191	890	0	0	1125	509	279	0	61	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.91	0.85	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1805	5187	0	0	5187	1615	1805	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.00	0.00	0.22	0.32	0.15	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.16	0.62	0.00	0.00	0.47	0.47	0.23	0.00	0.23	0.00	0.00	0.00
Volume/Cap:	0.68	0.28	0.00	0.00	0.47	0.68	0.68	0.00	0.17	0.00	0.00	0.00
Delay/Veh:	30.3	5.2	0.0	0.0	11.1	15.0	25.6	0.0	18.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.3	5.2	0.0	0.0	11.1	15.0	25.6	0.0	18.8	0.0	0.0	0.0
LOS by Move:	C	A	A	A	B	B	C	A	B	A	A	A
HCM2k95thQ:	9	6	0	0	11	16	12	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

```
-------------------------------------------------------------------------------
                   Cumulative Plus Project Scenario
                          Natomas Crossing
                         Saturday Peak Hour
-------------------------------------------------------------------------------
                  Level Of Service Computation Report
         2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #16 E. Commerce Way and Road C1
*******************************************************************************
Average Delay (sec/veh):      1.5       Worst Case Level Of Service: C[ 15.8]
*******************************************************************************
Street Name:          E. Commerce Way                        Road C1
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  3  0  0   0  0  2  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1081     0      0  932   255      0    0   241      0    0     0
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0 1081     0      0  932   255      0    0   241      0    0     0
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Volume:     0 1081     0      0  932   255      0    0   241      0    0     0
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:    0 1081     0      0  932   255      0    0   241      0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   438  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   572  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   572  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.42  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   2.1  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  15.8 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     C     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx           xxxxxx             15.8            xxxxxx
ApproachLOS:         *                *                C                 *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
```

```
--------------------------------------------------------------------------------
                        Cumulative Plus Project Scenario
                                Natomas Crossing
                               Saturday Peak Hour
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #17 E. Commerce Way and Natomas Crossing Drive
********************************************************************************
Cycle (sec):           0                   Critical Vol./Cap.(X):         0.641
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):          21.7
Optimal Cycle:        60                   Level Of Service:                  C
********************************************************************************
Street Name:           E. Commerce Way                Natomas Crossing Drive
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   2  0  2  0  1   1  0  2  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     101  705    87   201  712   260   247  194    95   137  233   130
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  101  705    87   201  712   260   247  194    95   137  233   130
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   101  705    87   201  712   260   247  194    95   137  233   130
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  101  705    87   201  712   260   247  194    95   137  233   130
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  101  705    87   201  712   260   247  194    95   137  233   130
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.92 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  3502 3610  1615  1805 3610  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.20  0.05  0.06 0.20  0.16  0.14 0.05  0.06  0.08 0.12  0.08
Crit Moves:  ****                  ****        ****                  ****
Green/Cycle: 0.09 0.31  0.31  0.09 0.31  0.31  0.21 0.18  0.18  0.23 0.19  0.19
Volume/Cap:  0.64 0.64  0.18  0.64 0.64  0.52  0.64 0.30  0.33  0.33 0.64  0.42
Delay/Veh:   35.1 19.3  15.5  30.8 19.2  18.1  25.1 21.8  22.3  19.8 26.2  22.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  35.1 19.3  15.5  30.8 19.2  18.1  25.1 21.8  22.3  19.8 26.2  22.3
LOS by Move:    D    B     B     C    B     B     C    C     C     B    C     C
HCM2k95thQ:     6   13     3     6   13     9    10    4     4     5   10     5
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                    Cumulative Plus Project Scenario
                           Natomas Crossing
                          Saturday Peak Hour
-------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Base Volume Alternative)
*******************************************************************************
Intersection #18 E. Commerce Way and Road D3
*******************************************************************************
Average Delay (sec/veh):      0.3      Worst Case Level Of Service: B[ 12.3]
*******************************************************************************
Street Name:         E. Commerce Way                        Road D3
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  0  2  0  0   0  0  1  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  893     0     0  837   107     0     0    50     0     0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  893     0     0  837   107     0     0    50     0     0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  893     0     0  837   107     0     0    50     0     0     0
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:    0  893     0     0  837   107     0     0    50     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   472  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   544  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   544  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.09  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.3  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  12.3 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             12.3           xxxxxx
ApproachLOS:        *                *                 B                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
```

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--------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #19 East Commerce Way and Road D2
********************************************************************************
Cycle (sec):           0                 Critical Vol./Cap.(X):         0.640
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        20.5
Optimal Cycle:        60                 Level Of Service:                 C
********************************************************************************
Street Name:          E. Commerce Way                          Road D2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  1    1  0  2  0  1    1  0  0  1  0    1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     241  540    60    78  631   179   271    4   126    56    5    83
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  241  540    60    78  631   179   271    4   126    56    5    83
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   241  540    60    78  631   179   271    4   126    56    5    83
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  241  540    60    78  631   179   271    4   126    56    5    83
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  241  540    60    78  631   179   271    4   126    56    5    83
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.95 0.86  0.86  0.95 0.86  0.86
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  1.00 0.03  0.97  1.00 0.06  0.94
Final Sat.:  1805 3610  1615  1805 3610  1615  1805   50  1575  1805   93  1539
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.15  0.04  0.04 0.17  0.11  0.15 0.08  0.08  0.03 0.05  0.05
Crit Moves:  ****                  ****        ****                  ****
Green/Cycle: 0.21 0.37  0.37  0.11 0.27  0.27  0.23 0.23  0.23  0.09 0.08  0.08
Volume/Cap:  0.64 0.40  0.10  0.40 0.64  0.41  0.64 0.35  0.35  0.35 0.64  0.64
Delay/Veh:   25.4 14.0  12.3  26.3 20.7  18.4  24.0 19.9  19.9  27.0 36.4  36.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  25.4 14.0  12.3  26.3 20.7  18.4  24.0 19.9  19.9  27.0 36.4  36.4
LOS by Move:    C    B     B     C    C     B     C    B     B     C    D     D
HCM2k95thQ:    10    8     2     4   13     6    11    5     5     3    6     6
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #20 E. Commerce Way and Road D1
********************************************************************************
Average Delay (sec/veh):      0.5       Worst Case Level Of Service: B[ 11.9]
********************************************************************************
Street Name:         E. Commerce Way                          Road D1
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled      Uncontrolled       Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Lanes:        0  0  2  0  0    0  0  1  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0  841     0     0  740    72     0     0    75     0     0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0  841     0     0  740    72     0     0    75     0     0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0  841     0     0  740    72     0     0    75     0     0     0
Reduct Vol:      0    0     0     0    0     0     0     0     0     0     0     0
FinalVolume:     0  841     0     0  740    72     0     0    75     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.9 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   406  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   600  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   600  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.13  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.4  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx  11.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     B     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx            xxxxxx              11.9            xxxxxx
ApproachLOS:         *                 *                 B                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #21 E. Commerce Way and San Juan Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.1
Optimal Cycle:	69	Level Of Service:	C

Street Name:	E. Commerce Way						San Juan Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 0 0 0			2 0 0 0 1			1 0 2 0 0			0 0 2 0 1		
Volume Module:												
Base Vol:	0	0	0	753	0	62	70	231	0	0	214	771
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	753	0	62	70	231	0	0	214	771
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	753	0	62	70	231	0	0	214	771
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	753	0	62	70	231	0	0	214	771
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	753	0	62	70	231	0	0	214	771
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	0.85	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3502	0	1615	1805	3610	0	0	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.04	0.04	0.06	0.00	0.00	0.06	0.48
Crit Moves:				****			****					****
Green/Cycle:	0.00	0.00	0.00	0.26	0.00	0.26	0.05	0.61	0.00	0.00	0.57	0.57
Volume/Cap:	0.00	0.00	0.00	0.84	0.00	0.15	0.84	0.10	0.00	0.00	0.10	0.84
Delay/Veh:	0.0	0.0	0.0	31.5	0.0	20.0	82.8	5.5	0.0	0.0	6.9	19.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	31.5	0.0	20.0	82.8	5.5	0.0	0.0	6.9	19.4
LOS by Move:	A	A	A	C	A	C	F	A	A	A	A	B
HCM2k95thQ:	0	0	0	20	0	2	7	2	0	0	2	29

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                      Cumulative Plus Project Scenario
                              Natomas Crossing
                             Saturday Peak Hour
--------------------------------------------------------------------------------

                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #22 Duckhorn Dr. and Natomas Crossing Dr.
********************************************************************************
Cycle (sec):            0                  Critical Vol./Cap.(X):        0.641
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):       21.6
Optimal Cycle:         60                  Level Of Service:                 C
********************************************************************************
Street Name:           Duckhorn Dr.                   Natomas Crossing Dr.
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1  0  1   1  0  0  1  0   1  0  0  1  0   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    84   188   310    68    51    55    37     0   243    37   314
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    84   188   310    68    51    55    37     0   243    37   314
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    84   188   310    68    51    55    37     0   243    37   314
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0    84   188   310    68    51    55    37     0   243    37   314
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    84   188   310    68    51    55    37     0   243    37   314
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  0.85  0.95 0.94  0.94  0.95 1.00  1.00  0.95 1.00  0.85
Lanes:       1.00 1.00  1.00  1.00 0.57  0.43  1.00 1.00  0.00  1.00 1.00  1.00
Final Sat.:  1900 1900  1615  1805 1016   762  1805 1900     0  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.04  0.12  0.17 0.07  0.07  0.03 0.02  0.00  0.13 0.02  0.19
Crit Moves:             ****  ****             ****                         ****
Green/Cycle: 0.00 0.18  0.18  0.27 0.45  0.45  0.05 0.04  0.00  0.31 0.30  0.30
Volume/Cap:  0.00 0.24  0.64  0.64 0.15  0.15  0.64 0.44  0.00  0.44 0.06  0.64
Delay/Veh:    0.0 21.4  27.5  22.3  9.8   9.8  43.4 31.6   0.0  17.2 14.9  21.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 21.4  27.5  22.3  9.8   9.8  43.4 31.6   0.0  17.2 14.9  21.0
LOS by Move:    A    C     C     C    A     A     D    C     A     B    B     C
HCM2k95thQ:     0    3     9    12    3     3     5    3     0     8    1    12
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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-------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
*******************************************************************************
Intersection #23 Duckhorn Drive and San Juan Road
*******************************************************************************
Cycle (sec):            0                   Critical Vol./Cap.(X):        0.279
Loss Time (sec):        9 (Y+R=4.0 sec)  Average Delay (sec/veh):         13.7
Optimal Cycle:         60                   Level Of Service:                B
*******************************************************************************
Street Name:             Duckhorn Drive                      San Juan Road
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:          Permitted        Permitted        Protected        Protected
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  1  0  0  1   1  0  1  0  1   1  0  0  1  0   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      33  127    92     8  139     0     0  158    34    77  188     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   33  127    92     8  139     0     0  158    34    77  188     7
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    33  127    92     8  139     0     0  158    34    77  188     7
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   33  127    92     8  139     0     0  158    34    77  188     7
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   33  127    92     8  139     0     0  158    34    77  188     7
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.93 0.93  0.85  0.62 1.00  1.00  1.00 0.97  0.97  0.95 1.00  0.85
Lanes:       0.21 0.79  1.00  1.00 1.00  1.00  1.00 0.82  0.18  1.00 1.00  1.00
Final Sat.:   364 1403  1615  1174 1900  1900  1900 1521   327  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.06  0.01 0.07  0.00  0.00 0.10  0.10  0.04 0.10  0.00
Crit Moves:       ****                               ****       ****
Green/Cycle: 0.32 0.32  0.32  0.32 0.32  0.00  0.00 0.37  0.37  0.15 0.53  0.53
Volume/Cap:  0.28 0.28  0.18  0.02 0.23  0.00  0.00 0.28  0.28  0.28 0.19  0.01
Delay/Veh:   15.3 15.3  14.7  13.8 14.9   0.0   0.0 13.4  13.4  23.0  7.6   6.8
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  15.3 15.3  14.7  13.8 14.9   0.0   0.0 13.4  13.4  23.0  7.6   6.8
LOS by Move:    B    B     B     B    B     A     A    B     B     C    A     A
HCM2k95thQ:     5    5     3     0    4     0     0    5     5     3    4     0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #24 Truxel Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.060
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	77.3
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Truxel Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 4 0 1			2 0 4 0 1			2 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	789	1064	102	64	1063	291	360	431	906	80	548	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	789	1064	102	64	1063	291	360	431	906	80	548	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	789	1064	102	64	1063	291	360	431	906	80	548	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	789	1064	102	64	1063	291	360	431	906	80	548	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	789	1064	102	64	1063	291	360	431	906	80	548	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.23	0.15	0.06	0.02	0.15	0.18	0.10	0.08	0.56	0.02	0.11	0.02
Crit Moves:	****					****			****	****		
Green/Cycle:	0.21	0.34	0.34	0.04	0.17	0.17	0.27	0.53	0.53	0.02	0.28	0.28
Volume/Cap:	1.06	0.45	0.18	0.45	0.90	1.06	0.38	0.16	1.06	1.06	0.38	0.07
Delay/Veh:	120.9	46.2	41.8	86.6	83.2	145.7	53.5	21.8	90.3	209.1	52.5	47.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	120.9	46.2	41.8	86.6	83.2	145.7	53.5	21.8	90.3	209.1	52.5	47.7
LOS by Move:	F	D	D	F	F	F	D	C	F	F	D	D
HCM2k95thQ:	47	22	8	5	32	36	15	8	91	9	16	2

Note: Queue reported is the number of cars per lane.

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #25 Truxel Road and Natomas Crossing Drive

Cycle (sec):	0	Critical Vol./Cap.(X):	0.790
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	19.3
Optimal Cycle:	63	Level Of Service:	B

Street Name:	Truxel Road						Natomas Crossing Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4	0 1	1 0	4	0 1	1 0	0	1 1	1 0	0	1 0
Volume Module:												
Base Vol:	528	1955	85	67	2054	115	130	16	445	90	23	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	528	1955	85	67	2054	115	130	16	445	90	23	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	528	1955	85	67	2054	115	130	16	445	90	23	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	528	1955	85	67	2054	115	130	16	445	90	23	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	528	1955	85	67	2054	115	130	16	445	90	23	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.95	0.91	0.85	0.95	0.86	0.86	0.95	0.89	0.89
Lanes:	2.00	4.00	1.00	1.00	4.00	1.00	1.00	0.07	1.93	1.00	0.28	0.72
Final Sat.:	3502	6916	1615	1805	6916	1615	1805	113	3136	1805	482	1215
Capacity Analysis Module:												
Vol/Sat:	0.15	0.28	0.05	0.04	0.30	0.07	0.07	0.14	0.14	0.05	0.05	0.05
Crit Moves:	****				****			****		****		
Green/Cycle:	0.19	0.50	0.50	0.07	0.38	0.38	0.15	0.18	0.18	0.06	0.10	0.10
Volume/Cap:	0.79	0.56	0.11	0.56	0.79	0.19	0.49	0.79	0.79	0.79	0.49	0.49
Delay/Veh:	30.6	11.2	8.3	34.7	19.2	13.4	26.2	31.9	31.9	59.1	29.3	29.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.6	11.2	8.3	34.7	19.2	13.4	26.2	31.9	31.9	59.1	29.3	29.3
LOS by Move:	C	B	A	C	B	B	C	C	C	E	C	C
HCM2k95thQ:	14	15	2	5	22	3	6	13	13	7	5	5

Note: Queue reported is the number of cars per lane.

Natomas Crossing

Technical Appendix

30 December 2008

Intersection Analysis - Mitigation

```
--------------------------------------------------------------------------------
                             Natomas Crossing
                       Baseline Plus Existing Zoning
MITIGATE - Add Exclusive Right Turn Phases to Southbound and Eastbound Approaches

                                PM Peak Hour
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
********************************************************************************
Cycle (sec):           0              Critical Vol./Cap.(X):        0.833
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):      31.2
Optimal Cycle:        77              Level Of Service:                 C
********************************************************************************
Street Name:         East Commerce Way                 Arena Boulevard
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include           Ovl              Ovl            Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     700  245   440   384  356   547   199  869   378   190  841   192
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  700  245   440   384  356   547   199  869   378   190  841   192
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   700  245   440   384  356   547   199  869   378   190  841   192
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  700  245   440   384  356   547   199  869   378   190  841   192
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  700  245   440   384  356   547   199  869   378   190  841   192
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.05  0.27  0.11 0.07  0.34  0.06 0.17  0.23  0.05 0.16  0.12
Crit Moves:  ****                        ****       ****        ****
Green/Cycle: 0.24 0.41  0.41  0.17 0.34  0.41  0.07 0.20  0.44  0.07 0.20  0.20
Volume/Cap:  0.83 0.11  0.66  0.66 0.20  0.83  0.82 0.83  0.53  0.83 0.82  0.60
Delay/Veh:   35.0 14.0  20.8  32.9 18.2  29.3  55.2 35.4  16.5  57.9 35.1  31.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  35.0 14.0  20.8  32.9 18.2  29.3  55.2 35.4  16.5  57.9 35.1  31.4
LOS by Move:    C    B     C     C    B     C     E    D     B     E    D     C
HCM2k95thQ:    20    3    18    11    5    25     9   18    13     9   18    10
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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--------------------------------------------------------------------------------
                               Natomas Crossing
                             Baseline Plus Project
   MITIGATE - Add Exclusive Right Turn Phases to Southbound, Eastbound, and
                             Westbound Approaches
                                 AM Peak Hour
--------------------------------------------------------------------------------

                      Level Of Service Computation Report
             2000 HCM Operations Method (Base Volume Alternative)
********************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.779
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        21.9
Optimal Cycle:        61                Level Of Service:                  C
********************************************************************************
Street Name:        East Commerce Way                  Arena Boulevard
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include            Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  3  0  1    2  0  3  0  1    2  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     402  206   162   171  224   435   347  772   544   415  658   187
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  402  206   162   171  224   435   347  772   544   415  658   187
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   402  206   162   171  224   435   347  772   544   415  658   187
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  402  206   162   171  224   435   347  772   544   415  658   187
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  402  206   162   171  224   435   347  772   544   415  658   187
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.04  0.10  0.05 0.04  0.27  0.10 0.15  0.34  0.12 0.13  0.12
Crit Moves:  ****                        ****              ****  ****
Green/Cycle: 0.15 0.25  0.25  0.12 0.22  0.41  0.19 0.29  0.43  0.15 0.25  0.37
Volume/Cap:  0.78 0.16  0.41  0.41 0.20  0.66  0.52 0.52  0.78  0.78 0.52  0.32
Delay/Veh:   32.5 18.1  19.9  25.5 19.5  16.9  22.8 18.7  20.4  32.1 20.3  14.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  32.5 18.1  19.9  25.5 19.5  16.9  22.8 18.7  20.4  32.1 20.3  14.2
LOS by Move:    C    B     B     C    B     B     C    B     C     C    C     B
HCM2k95thQ:    12    2     6     4    3    15     7   10    20    12    9     6
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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Natomas Crossing
Baseline Plus Proposed Project
MITIGATE - Add Exclusive Right Turn Phases to Southbound, Eastbound, and Westbound Approaches
PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 East Commerce Way and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	0.851
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	34.2
Optimal Cycle:	84	Level Of Service:	C

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 3 0 1			2 0 3 0 1			2 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	889	331	541	363	379	506	442	704	641	343	841	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	889	331	541	363	379	506	442	704	641	343	841	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	889	331	541	363	379	506	442	704	641	343	841	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	889	331	541	363	379	506	442	704	641	343	841	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	889	331	541	363	379	506	442	704	641	343	841	281
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.25	0.06	0.33	0.10	0.07	0.31	0.13	0.14	0.40	0.10	0.16	0.17
Crit Moves:	****					****	****				****	
Green/Cycle:	0.30	0.40	0.40	0.12	0.22	0.37	0.15	0.20	0.50	0.14	0.19	0.31
Volume/Cap:	0.85	0.16	0.85	0.85	0.33	0.85	0.85	0.67	0.79	0.71	0.85	0.56
Delay/Veh:	34.5	16.4	33.3	50.5	27.7	35.7	47.5	32.8	22.9	39.5	40.0	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.5	16.4	33.3	50.5	27.7	35.7	47.5	32.8	22.9	39.5	40.0	25.4
LOS by Move:	C	B	C	D	C	D	D	C	C	D	D	C
HCM2k95thQ:	25	4	27	14	6	26	16	14	28	11	19	13

Note: Queue reported is the number of cars per lane.

Natomas Crossing
Baseline Plus Project Scenarios
MITIGATE - Add Exclusive Right Turn Phase to Southbound, Eastbound, and Westbound Approaches
Saturday Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

****

Intersection #12 East Commerce Way and Arena Boulevard

****

Cycle (sec): 0 Critical Vol./Cap.(X): 0.844
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 29.2
Optimal Cycle: 81 Level Of Service: C

****

Street Name:	East Commerce Way						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 3 0 1			2 0 3 0 1			2 0 3 0 1			2 0 3 0 1		
Volume Module:												
Base Vol:	496	386	290	326	356	509	622	508	788	328	471	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	496	386	290	326	356	509	622	508	788	328	471	272
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	496	386	290	326	356	509	622	508	788	328	471	272
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	496	386	290	326	356	509	622	508	788	328	471	272
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	496	386	290	326	356	509	622	508	788	328	471	272
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.14	0.07	0.18	0.09	0.07	0.32	0.18	0.10	0.49	0.09	0.09	0.17
Crit Moves:	****					****			****	****		
Green/Cycle:	0.17	0.22	0.22	0.11	0.16	0.51	0.34	0.41	0.58	0.11	0.18	0.29
Volume/Cap:	0.84	0.34	0.82	0.82	0.42	0.62	0.52	0.24	0.84	0.84	0.52	0.58
Delay/Veh:	43.5	27.0	44.8	48.3	30.8	15.8	21.5	15.7	21.2	50.8	30.7	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.5	27.0	44.8	48.3	30.8	15.8	21.5	15.7	21.2	50.8	30.7	26.5
LOS by Move:	D	C	D	D	C	B	C	B	C	D	C	C
HCM2k95thQ:	17	6	18	13	7	18	13	6	32	13	9	13

****

Note: Queue reported is the number of cars per lane.

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-------------------------------------------------------------------------------
                             Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
     MITIGATION - Add exclusive right turn phases on all four approaches
-------------------------------------------------------------------------------

                    Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
*******************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         1.143
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        92.0
Optimal Cycle:       180                Level Of Service:                  F
*******************************************************************************
Street Name:        East Commerce Way                  Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     413  540   605   290  556   927   258 1279   514   707 1275   277
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  413  540   605   290  556   927   258 1279   514   707 1275   277
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  413  540   605   290  556   927   258 1279   514   707 1275   277
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   413  540   605   290  556   927   258 1279   514   707 1275   277
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  413  540   605   290  556   927   258 1279   514   707 1275   277
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  413  540   605   290  556   927   258 1279   514   707 1275   277
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.10  0.37  0.08 0.11  0.57  0.07 0.25  0.32  0.20 0.25  0.17
Crit Moves:  ****                        ****        ****        ****
Green/Cycle: 0.10 0.37  0.54  0.18 0.44  0.53  0.09 0.22  0.32  0.18 0.30  0.48
Volume/Cap:  1.14 0.28  0.69  0.47 0.24  1.09  0.81 1.14  1.00  1.14 0.81  0.36
Delay/Veh:  172.8 40.5  32.5  67.3 31.9  99.5  95.2  146 100.3 156.6 61.6  30.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 172.8 40.5  32.5  67.3 31.9  99.5  95.2  146 100.3 156.6 61.6  30.0
LOS by Move:    F    D     C     E    C     F     F    F     F     F    E     C
HCM2k95thQ:    31   14    40    14   13    95    17   56    54    46   41    17
*******************************************************************************
Note: Queue reported is the number of cars per lane.
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MITIG8 - Cumulative Plus PrSun Dec 21, 2008 17:18:24                Page 1-1
-------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                               Natomas Crossing
                              Saturday Peak Hour
      MITIGATION - Add exclusive right turn phases on all four approaches
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #12 East Commerce Way and Arena Boulevard
*******************************************************************************
Cycle (sec):             0                Critical Vol./Cap.(X):         0.883
Loss Time (sec):        12 (Y+R=4.0 sec)  Average Delay (sec/veh):        38.7
Optimal Cycle:         104                Level Of Service:                  D
*******************************************************************************
Street Name:         East Commerce Way                  Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  3  0  1   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     440  565   521   338  609   302   617 1878   485   580 1643   339
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  440  565   521   338  609   302   617 1878   485   580 1643   339
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  440  565   521   338  609   302   617 1878   485   580 1643   339
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   440  565   521   338  609   302   617 1878   485   580 1643   339
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  440  565   521   338  609   302   617 1878   485   580 1643   339
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  440  565   521   338  609   302   617 1878   485   580 1643   339
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 5187  1615  3502 5187  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.11  0.32  0.10 0.12  0.19  0.18 0.36  0.30  0.17 0.32  0.21
Crit Moves:             ****  ****                  ****        ****
Green/Cycle: 0.15 0.18  0.37  0.11 0.14  0.35  0.21 0.41  0.56  0.19 0.38  0.49
Volume/Cap:  0.85 0.61  0.88  0.88 0.85  0.53  0.82 0.88  0.54  0.88 0.82  0.43
Delay/Veh:   55.4 40.7  45.6  66.4 52.9  27.8  46.5 33.1  15.1  54.5 31.8  17.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  55.4 40.7  45.6  66.4 52.9  27.8  46.5 33.1  15.1  54.5 31.8  17.3
LOS by Move:    E    D     D     E    D     C     D    C     B     D    C     B
HCM2k95thQ:    18   13    32    16   18    15    22   39    18    23   33    13
*******************************************************************************
Note: Queue reported is the number of cars per lane.
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MITIG8 - Cumulative Plus PrSun Dec 21, 2008 17:23:15              Page 1-1
-------------------------------------------------------------------------------
                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
     MITIGATION - Add Exclusive Northbound Right Turn Signal Phase
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #17 E. Commerce Way and Natomas Crossing Drive
*******************************************************************************
Cycle (sec):            0                Critical Vol./Cap.(X):          0.986
Loss Time (sec):       12 (Y+R=4.0 sec)  Average Delay (sec/veh):         75.5
Optimal Cycle:        180                Level Of Service:                   E
*******************************************************************************
Street Name:         E. Commerce Way                Natomas Crossing Drive
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:            Ovl            Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  1    2  0  2  0  1    1  0  2  0  1    1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     127 1353   296   133 1150   269   547  357    51   152  389   103
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  127 1353   296   133 1150   269   547  357    51   152  389   103
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  127 1353   296   133 1150   269   547  357    51   152  389   103
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   127 1353   296   133 1150   269   547  357    51   152  389   103
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  127 1353   296   133 1150   269   547  357    51   152  389   103
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  127 1353   296   133 1150   269   547  357    51   152  389   103
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.92 0.95  0.85  0.95 0.95  0.85  0.95 1.00  0.85
Lanes:       1.00 2.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00  1.00 1.00  1.00
Final Sat.:  1805 3610  1615  3502 3610  1615  1805 3610  1615  1805 1900  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.37  0.18  0.04 0.32  0.17  0.30 0.10  0.03  0.08 0.20  0.06
Crit Moves:       ****        ****             ****                   ****
Green/Cycle: 0.08 0.38  0.62  0.04 0.34  0.34  0.31 0.28  0.28  0.24 0.21  0.21
Volume/Cap:  0.93 0.99  0.30  0.99 0.93  0.49  0.99 0.36  0.11  0.36 0.99  0.31
Delay/Veh:  138.5 76.3  16.4 159.6 69.3  47.3  96.6 52.3  48.6  57.8  113  60.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh: 138.5 76.3  16.4 159.6 69.3  47.3  96.6 52.3  48.6  57.8  113  60.9
LOS by Move:    F    E     B     F    E     D     F    D     D     E    F     E
HCM2k95thQ:    18   68    14    12   56    21    55   15     4    13   43     9
*******************************************************************************
Note: Queue reported is the number of cars per lane.
```

Natomas Crossing
Cumulative Plus Project
AM Peak Hour
MITIGATION - Add Eastbound Double Left Turn Lane and
Southbound Exclusive Right Turn Signal Phase

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #19 East Commerce Way and Road D2

Cycle (sec):	0	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	28.5
Optimal Cycle:	78	Level Of Service:	C

Street Name:	E. Commerce Way						Road D2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	532	858	54	62	890	514	328	3	107	63	17	105
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	532	858	54	62	890	514	328	3	107	63	17	105
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	532	858	54	62	890	514	328	3	107	63	17	105
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	532	858	54	62	890	514	328	3	107	63	17	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	532	858	54	62	890	514	328	3	107	63	17	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	532	858	54	62	890	514	328	3	107	63	17	105
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.92	0.85	0.85	0.95	0.87	0.87
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	0.03	0.97	1.00	0.14	0.86
Final Sat.:	1805	3610	1615	1805	3610	1615	3502	44	1578	1805	231	1424
Capacity Analysis Module:												
Vol/Sat:	0.29	0.24	0.03	0.03	0.25	0.32	0.09	0.07	0.07	0.03	0.07	0.07
Crit Moves:	****				****		****				****	
Green/Cycle:	0.35	0.56	0.56	0.08	0.29	0.41	0.11	0.13	0.13	0.07	0.09	0.09
Volume/Cap:	0.84	0.42	0.06	0.42	0.84	0.78	0.84	0.51	0.51	0.51	0.84	0.84
Delay/Veh:	32.8	9.8	7.7	36.0	31.7	26.3	48.6	33.7	33.7	38.8	67.6	67.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.8	9.8	7.7	36.0	31.7	26.3	48.6	33.7	33.7	38.8	67.6	67.6
LOS by Move:	C	A	A	D	C	C	D	C	C	D	E	E
HCM2k95thQ:	26	12	1	4	24	23	13	6	6	5	10	10

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                           Natomas Crossing
                          Future Plus Project
                             PM Peak Hour
           MITIGATION - Add Eastbound Double Left Turn Lane and
             Southbound Exclusive Right Turn Signal Phase
--------------------------------------------------------------------------------
                  Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #19 East Commerce Way and Road D2
********************************************************************************
Cycle (sec):          0                Critical Vol./Cap.(X):        0.848
Loss Time (sec):     12 (Y+R=4.0 sec)  Average Delay (sec/veh):       30.5
Optimal Cycle:       83                Level Of Service:                 C
********************************************************************************
Street Name:          E. Commerce Way                      Road D2
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Include            Ovl            Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  2  0  1   2  0  0  1  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     244  812    70   106 1038   189   887   13   228    47    4    77
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  244  812    70   106 1038   189   887   13   228    47    4    77
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  244  812    70   106 1038   189   887   13   228    47    4    77
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   244  812    70   106 1038   189   887   13   228    47    4    77
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  244  812    70   106 1038   189   887   13   228    47    4    77
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  244  812    70   106 1038   189   887   13   228    47    4    77
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.95 0.95  0.85  0.95 0.95  0.85  0.92 0.86  0.86  0.95 0.86  0.86
Lanes:       1.00 2.00  1.00  1.00 2.00  1.00  2.00 0.05  0.95  1.00 0.05  0.95
Final Sat.:  1805 3610  1615  1805 3610  1615  3502   88  1542  1805   80  1548
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14 0.22  0.04  0.06 0.29  0.12  0.25 0.15  0.15  0.03 0.05  0.05
Crit Moves:  ****                  ****        ****                  ****
Green/Cycle: 0.16 0.40  0.40  0.10 0.34  0.64  0.30 0.30  0.30  0.05 0.06  0.06
Volume/Cap:  0.85 0.57  0.11  0.57 0.85  0.18  0.85 0.49  0.49  0.49 0.85  0.85
Delay/Veh:   54.3 20.1  16.0  39.6 31.2   6.3  34.0 24.4  24.4  42.0 85.9  85.9
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  54.3 20.1  16.0  39.6 31.2   6.3  34.0 24.4  24.4  42.0 85.9  85.9
LOS by Move:    D    C     B     D    C     A     C    C     C     D    F     F
HCM2k95thQ:    17   17     2     7   28     4    25   11    11     4    8     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
--------------------------------------------------------------------------------
                              Natomas Crossing
                          Cumulative Plus Project
                               AM Peak Hour
       MITIGATION - Provide Westbound Exclusive Right Turn Signal Phase
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
********************************************************************************
Cycle (sec):          0                Critical Vol./Cap.(X):        0.938
Loss Time (sec):      9 (Y+R=4.0 sec)  Average Delay (sec/veh):       36.8
Optimal Cycle:      163                Level Of Service:                 D
********************************************************************************
Street Name:          E. Commerce Way                  San Juan Road
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include            Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  0  0  0    2  0  0  0  1    1  0  2  0  0    0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0  908    0    57  128  497     0    0  497  1316
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0    0     0  908    0    57  128  497     0    0  497  1316
Added Vol:     0    0     0    0    0     0    0    0     0    0    0     0
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   0    0     0  908    0    57  128  497     0    0  497  1316
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0    0     0  908    0    57  128  497     0    0  497  1316
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0    0     0  908    0    57  128  497     0    0  497  1316
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0    0     0  908    0    57  128  497     0    0  497  1316
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.92 1.00  0.85  0.95 0.95  1.00  1.00 0.95  0.85
Lanes:       0.00 0.00  0.00  2.00 0.00  1.00  1.00 2.00  0.00  0.00 2.00  1.00
Final Sat.:    0    0     0  3502    0  1615  1805 3610     0     0 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.26 0.00  0.04  0.07 0.14  0.00  0.00 0.14  0.81
Crit Moves:                   ****              ****                        ****
Green/Cycle: 0.00 0.00  0.00  0.28 0.00  0.28  0.08 0.67  0.00  0.00 0.59  0.87
Volume/Cap:  0.00 0.00  0.00  0.94 0.00  0.13  0.94 0.21  0.00  0.00 0.23  0.94
Delay/Veh:    0.0  0.0   0.0  73.6  0.0  44.3 133.0 10.4   0.0   0.0 15.7  19.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  73.6  0.0  44.3 133.0 10.4   0.0   0.0 15.7  19.6
LOS by Move:   A    A     A     E    A     D     F    B     A     A    B     B
HCM2k95thQ:    0    0     0    44    0     4    17    9     0     0   11    78
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
MITIG8 - Cumulative Plus PrSun Dec 21, 2008 17:39:29            Page 1-1
------------------------------------------------------------------------------
                            Natomas Crossing
                           Future Plus Project
      MITIGATION - Provide Westbound Exclusive Right Turn Signal Phase
                              PM Peak Hour
------------------------------------------------------------------------------
                     Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
******************************************************************************
Intersection #21 E. Commerce Way and San Juan Road
******************************************************************************
Cycle (sec):          0                 Critical Vol./Cap.(X):        0.813
Loss Time (sec):      9 (Y+R=4.0 sec)   Average Delay (sec/veh):       14.5
Optimal Cycle:       61                 Level Of Service:                 B
******************************************************************************
Street Name:        E. Commerce Way                  San Juan Road
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include            Ovl
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  0  0  0   2  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0  1223     0   151    73   476     0     0   522  1054
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0     0     0  1223     0   151    73   476     0     0   522  1054
Added Vol:     0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:   0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   0     0     0  1223     0   151    73   476     0     0   522  1054
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0     0     0  1223     0   151    73   476     0     0   522  1054
Reduct Vol:    0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   0     0     0  1223     0   151    73   476     0     0   522  1054
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   0     0     0  1223     0   151    73   476     0     0   522  1054
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.92 1.00  0.85  0.95 0.95  1.00  1.00 0.95  0.85
Lanes:       0.00 0.00  0.00  2.00 0.00  1.00  1.00 2.00  0.00  0.00 2.00  1.00
Final Sat.:    0     0     0  3502     0  1615  1805 3610     0     0 3610  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.35 0.00  0.09  0.04 0.13  0.00  0.00 0.14  0.65
Crit Moves:                   ****             ****                         ****
Green/Cycle: 0.00 0.00  0.00  0.43 0.00  0.43  0.05 0.42  0.00  0.00 0.37  0.80
Volume/Cap:  0.00 0.00  0.00  0.81 0.00  0.22  0.81 0.31  0.00  0.00 0.39  0.81
Delay/Veh:    0.0  0.0   0.0  18.8  0.0  11.1  69.8 11.8   0.0   0.0 14.2   7.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0  18.8  0.0  11.1  69.8 11.8   0.0   0.0 14.2   7.5
LOS by Move:    A    A     A     B    A     B     E    B     A     A    B     A
HCM2k95thQ:     0    0     0    23    0     4     7    7     0     0    8    25
******************************************************************************
Note: Queue reported is the number of cars per lane.
```

Natomas Crossing
Cumulative Plus Project
AM Peak Hour
MITIGATION - Provide Exclusive Eastbound Right Turn Signal Phase

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #24 Truxel Road and Arena Boulevard

Cycle (sec):	0	Critical Vol./Cap.(X):	1.039
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	72.0
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Truxel Road						Arena Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	4	0 1	2 0	4	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1182	978	108	234	1473	422	375	942	1080	138	756	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1182	978	108	234	1473	422	375	942	1080	138	756	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1182	978	108	234	1473	422	375	942	1080	138	756	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.34	0.14	0.07	0.07	0.21	0.26	0.11	0.18	0.67	0.04	0.15	0.11
Crit Moves:	****					****			****	****		
Green/Cycle:	0.32	0.39	0.39	0.19	0.25	0.25	0.15	0.32	0.64	0.04	0.21	0.21
Volume/Cap:	1.04	0.36	0.17	0.36	0.85	1.04	0.71	0.57	1.04	1.04	0.71	0.52
Delay/Veh:	98.0	38.9	35.8	64.4	68.1	122.4	77.1	51.5	70.5	175.3	68.7	65.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.0	38.9	35.8	64.4	68.1	122.4	77.1	51.5	70.5	175.3	68.7	65.0
LOS by Move:	F	D	D	E	E	F	E	D	E	F	E	E
HCM2k95thQ:	64	19	7	11	39	48	20	27	104	13	26	16

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                     Cumulative Plus Project Scenario
                             Natomas Crossing
                            Saturday Peak Hour
         MITIGATION - Provide Exclusive Eastbound Right Turn Signal Phase
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
              2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #24 Truxel Road and Arena Boulevard
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.872
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        32.7
Optimal Cycle:        97                Level Of Service:                  C
********************************************************************************
Street Name:                 Truxel Road                     Arena Boulevard
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include           Ovl             Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  4  0  1    2  0  4  0  1    2  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     789 1064   102    64 1063   291   360  431   906    80  548    30
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  789 1064   102    64 1063   291   360  431   906    80  548    30
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  789 1064   102    64 1063   291   360  431   906    80  548    30
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   789 1064   102    64 1063   291   360  431   906    80  548    30
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  789 1064   102    64 1063   291   360  431   906    80  548    30
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  789 1064   102    64 1063   291   360  431   906    80  548    30
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85  0.92 0.91  0.85
Lanes:       2.00 4.00  1.00  2.00 4.00  1.00  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  3502 6916  1615  3502 6916  1615  3502 5187  1615  3502 5187  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.23 0.15  0.06  0.02 0.15  0.18  0.10 0.08  0.56  0.02 0.11  0.02
Crit Moves:  ****                        ****              ****  ****
Green/Cycle: 0.26 0.42  0.42  0.05 0.21  0.21  0.20 0.38  0.64  0.03 0.21  0.21
Volume/Cap:  0.87 0.37  0.15  0.37 0.74  0.87  0.51 0.22  0.87  0.87 0.51  0.09
Delay/Veh:   43.7 19.6  17.8  46.0 38.2  58.5  35.0 20.1  22.3 101.6 34.4  31.1
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  43.7 19.6  17.8  46.0 38.2  58.5  35.0 20.1  22.3 101.6 34.4  31.1
LOS by Move:    D    B     B     D    D     E     C    C     C     F    C     C
HCM2k95thQ:    26   12     4     3   18    21    11    6    41     6   11     2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
MITIG8 - Cumulative Plus PrSun Dec 21, 2008 17:55:15              Page 1-1
---------------------------------------------------------------------------
                           Natomas Crossing
                          Future Plus Project
                             PM Peak Hour
           MITIGATION - Provide East-West Split Signal Phasing and
                     Eastbound Right Turn Overlap Phasing
---------------------------------------------------------------------------
                    Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #25 Truxel Road and Natomas Crossing Drive
***************************************************************************
Cycle (sec):           0                  Critical Vol./Cap.(X):       0.905
Loss Time (sec):      12 (Y+R=4.0 sec)   Average Delay (sec/veh):      34.2
Optimal Cycle:       126                  Level Of Service:                C
***************************************************************************
Street Name:             Truxel Road                Natomas Crossing Drive
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected       Split Phase      Split Phase
Rights:           Include          Include           Ovl            Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  4  0  1   1  0  4  0  1   1  0  0  1  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      827 2955   120    69 2582   210   303    13   469    74    15    55
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   827 2955   120    69 2582   210   303    13   469    74    15    55
Added Vol:       0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   827 2955   120    69 2582   210   303    13   469    74    15    55
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    827 2955   120    69 2582   210   303    13   469    74    15    55
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   827 2955   120    69 2582   210   303    13   469    74    15    55
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   827 2955   120    69 2582   210   303    13   469    74    15    55
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:     1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:   0.92 0.91  0.85  0.95 0.91  0.85  0.95 0.85  0.85  0.95 0.88  0.88
Lanes:        2.00 4.00  1.00  1.00 4.00  1.00  1.00 0.05  1.95  1.00 0.21  0.79
Final Sat.:   3502 6916  1615  1805 6916  1615  1805   88  3158  1805  359  1317
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      0.24 0.43  0.07  0.04 0.37  0.13  0.17 0.15  0.15  0.04 0.04  0.04
Crit Moves:   ****                   ****        ****                   ****
Green/Cycle:  0.26 0.62  0.62  0.06 0.41  0.41  0.19 0.19  0.45  0.05 0.05  0.05
Volume/Cap:   0.91 0.69  0.12  0.69 0.91  0.32  0.91 0.80  0.33  0.89 0.91  0.91
Delay/Veh:    57.5 16.6  10.0  77.2 39.3  25.3  77.0 56.7  22.8 122.6  131 130.7
User DelAdj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   57.5 16.6  10.0  77.2 39.3  25.3  77.0 56.7  22.8 122.6  131 130.7
LOS by Move:     E    B     A     E    D     C     E    E     C     F    F     F
HCM2k95thQ:     33   36     4     8   47    11    26   20    12    10   10    10
***************************************************************************
Note: Queue reported is the number of cars per lane.
```

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour
MITIGATION - Add Exclusive Northbound Right Turn Signal Phase

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #5 East Commerce Way and Del Paso Road

Cycle (sec):	0	Critical Vol./Cap.(X):	0.979
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	73.0
Optimal Cycle:	180	Level Of Service:	E

Street Name:	East Commerce Way						Del Paso Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	2	3 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	199	476	680	650	486	296	498	1594	241	819	2118	713
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	199	476	680	650	486	296	498	1594	241	819	2118	713
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	199	476	680	650	486	296	498	1594	241	819	2118	713
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	199	476	680	650	486	296	498	1594	241	819	2118	713
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	199	476	680	650	486	296	498	1594	241	819	2118	713
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	199	476	680	650	486	296	498	1594	241	819	2118	713
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.75	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	2.00	3.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	2842	5253	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.09	0.42	0.19	0.09	0.10	0.09	0.31	0.15	0.23	0.41	0.44
Crit Moves:			****	****				****		****		
Green/Cycle:	0.13	0.19	0.43	0.19	0.25	0.25	0.10	0.31	0.31	0.24	0.45	0.45
Volume/Cap:	0.42	0.48	0.98	0.98	0.38	0.42	0.97	0.98	0.48	0.98	0.90	0.97
Delay/Veh:	72.1	65.2	79.4	102.2	56.6	57.5	113.1	78.7	50.5	94.0	50.2	73.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.1	65.2	79.4	102.2	56.6	57.5	113.1	78.7	50.5	94.0	50.2	73.8
LOS by Move:	E	E	E	F	E	E	F	E	D	F	D	E
HCM2k95thQ:	11	16	65	38	15	15	23	58	19	45	65	67

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                              Natomas Crossing
                            Future Plus Project
                               PM Peak Hour
        MITIGATION - Add Exclusive Eastbound Right Turn Signal Phase

--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #6 East Commerce Way and Snowy Egret Boulevard - Arco Arena West En
********************************************************************************
Cycle (sec):           0              Critical Vol./Cap.(X):         0.792
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):       22.2
Optimal Cycle:        64              Level Of Service:                 C
********************************************************************************
Street Name:        East Commerce Way       Snowy Egret Boulevard - Arco Aren
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include            Ovl            Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       1  0  3  0  1   2  0  3  0  1   1  0  2  0  1   2  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     292 1949  414    40 1303  232   272  164  280   648  216   32
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:  292 1949  414    40 1303  232   272  164  280   648  216   32
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:  292 1949  414    40 1303  232   272  164  280   648  216   32
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Volume:   292 1949  414    40 1303  232   272  164  280   648  216   32
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  292 1949  414    40 1303  232   272  164  280   648  216   32
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:  292 1949  414    40 1303  232   272  164  280   648  216   32
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  0.95 0.91 0.85  0.92 0.91 0.85  0.95 0.95 0.85  0.92 0.93 0.93
Lanes:       1.00 3.00 1.00  2.00 3.00 1.00  1.00 2.00 1.00  2.00 1.74 0.26
Final Sat.:  1805 5187 1615  3502 5187 1615  1805 3610 1615  3502 3084  457
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.38 0.26  0.01 0.25 0.14  0.15 0.05 0.17  0.19 0.07 0.07
Crit Moves:  ****                 ****             ****        ****
Green/Cycle: 0.20 0.51 0.51  0.02 0.32 0.32  0.20 0.06 0.26  0.23 0.09 0.09
Volume/Cap:  0.79 0.74 0.51  0.74 0.79 0.45  0.76 0.79 0.66  0.79 0.76 0.76
Delay/Veh:   35.3 13.7 11.0  73.7 22.6 18.1  33.2 48.3 25.0  28.4 38.2 38.2
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  35.3 13.7 11.0  73.7 22.6 18.1  33.2 48.3 25.0  28.4 38.2 38.2
LOS by Move:    D    B    B     E    C    B     C    D    C     C    D    D
HCM2k95thQ:    15   23   11     3   20    8    14    7   12    16    9    9
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

```
-------------------------------------------------------------------------------
                              Natomas Crossing
                             Future Plus Project
                                PM Peak Hour
        MITIGATION - Add Westbound Right Turn Exclusive Traffic Signal Phase
-------------------------------------------------------------------------------

                      Level Of Service Computation Report
              2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3
********************************************************************************
Cycle (sec):           0                Critical Vol./Cap.(X):         0.895
Loss Time (sec):      12 (Y+R=4.0 sec)  Average Delay (sec/veh):        48.2
Optimal Cycle:       114                Level Of Service:                  D
********************************************************************************
Street Name:         East Commerce Way        Arco Arena Main Entrance - Road B
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include           Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  3  0  1   2  0  2  1  0   1  0  1  0  1   2  0  1  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     387 1201    16   679 1388   225   463    8   130    67   15   881
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  387 1201    16   679 1388   225   463    8   130    67   15   881
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  387 1201    16   679 1388   225   463    8   130    67   15   881
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   387 1201    16   679 1388   225   463    8   130    67   15   881
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  387 1201    16   679 1388   225   463    8   130    67   15   881
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  387 1201    16   679 1388   225   463    8   130    67   15   881
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.91  0.85  0.92 0.89  0.89  0.95 1.00  0.85  0.92 1.00  0.75
Lanes:       2.00 3.00  1.00  2.00 2.58  0.42  1.00 1.00  1.00  2.00 1.00  2.00
Final Sat.:  3502 5187  1615  3502 4370   708  1805 1900  1615  3502 1900  2842
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.23  0.01  0.19 0.32  0.32  0.26 0.00  0.08  0.02 0.01  0.31
Crit Moves:  ****                  ****        ****                        ****
Green/Cycle: 0.12 0.26  0.26  0.22 0.35  0.35  0.29 0.34  0.34  0.08 0.13  0.35
Volume/Cap:  0.89 0.89  0.04  0.89 0.89  0.89  0.89 0.01  0.24  0.24 0.06  0.89
Delay/Veh:   69.8 48.2  31.5  55.7 41.0  41.0  56.9 25.2  27.5  49.6 43.6  45.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  69.8 48.2  31.5  55.7 41.0  41.0  56.9 25.2  27.5  49.6 43.6  45.4
LOS by Move:    E    D     C     E    D     D     E    C     C     D    D     D
HCM2k95thQ:    18   31     1    27   38    38    32    0     7     3    1    34
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

Cumulative Plus Project Scenario
Natomas Crossing
Saturday Peak Hour
MITIGATION - Add Westbound Right Turn Exclusive Traffic Signal Phase

---

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

****

Intersection #9 East Commerce Way and Arco Arena Main Entrance - Road B3

****

Cycle (sec):	0	Critical Vol./Cap.(X):	0.798
Loss Time (sec):	12 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.9
Optimal Cycle:	66	Level Of Service:	C

****

Street Name:	East Commerce Way						Arco Arena Main Entrance - Road B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Protected	
Rights:		Include			Include			Include			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0 3 0 1			2 0 2 1 0			1 0 1 0 1			2 0 1 0 2		
Volume Module:												
Base Vol:	648	854	13	562	782	250	407	0	180	94	13	558
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	648	854	13	562	782	250	407	0	180	94	13	558
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	648	854	13	562	782	250	407	0	180	94	13	558
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	648	854	13	562	782	250	407	0	180	94	13	558
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	648	854	13	562	782	250	407	0	180	94	13	558
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	648	854	13	562	782	250	407	0	180	94	13	558
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.88	0.88	0.95	1.00	0.85	0.92	1.00	0.75
Lanes:	2.00	3.00	1.00	2.00	2.27	0.73	1.00	1.00	1.00	2.00	1.00	2.00
Final Sat.:	3502	5187	1615	3502	3789	1211	1805	1900	1615	3502	1900	2842
Capacity Analysis Module:												
Vol/Sat:	0.19	0.16	0.01	0.16	0.21	0.21	0.23	0.00	0.11	0.03	0.01	0.20
Crit Moves:	****				****		****					****
Green/Cycle:	0.23	0.25	0.25	0.24	0.26	0.26	0.28	0.00	0.26	0.06	0.04	0.29
Volume/Cap:	0.80	0.66	0.03	0.66	0.80	0.80	0.80	0.00	0.42	0.42	0.15	0.68
Delay/Veh:	29.5	23.6	18.8	24.6	26.4	26.4	30.5	0.0	20.8	31.0	31.1	23.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	23.6	18.8	24.6	26.4	26.4	30.5	0.0	20.8	31.0	31.1	23.3
LOS by Move:	C	C	B	C	C	C	C	A	C	C	C	C
HCM2k95thQ:	16	13	0	13	18	18	19	0	7	3	1	14

****

Note: Queue reported is the number of cars per lane.

```
--------------------------------------------------------------------------------
                       Cumulative Plus Project Scenario
                              Natomas Crossing
                             Saturday Peak Hour
     MITIGATION - REVISE NORTHBOUND LANES TO SINGLE LEFT AND TRIPLE RIGHT
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #4 Arena Boulevard and I-5 Northbound Ramps
********************************************************************************
Cycle (sec):            0                 Critical Vol./Cap.(X):        0.853
Loss Time (sec):        6 (Y+R=4.0 sec)   Average Delay (sec/veh):       18.1
Optimal Cycle:         63                 Level Of Service:                 B
********************************************************************************
Street Name:         I-5 Northbound Ramps                Arena Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted        Permitted        Permitted
Rights:             Ovl            Include          Ignore           Ignore
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        1  0  0  0  3   0  0  0  0  0   0  0  2  0  1   0  0  4  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     359     0  2188     0     0     0     0   813    77     0  1786   602
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  359     0  2188     0     0     0     0   813    77     0  1786   602
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  359     0  2188     0     0     0     0   813    77     0  1786   602
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
PHF Volume:   359     0  2188     0     0     0     0   813     0     0  1786     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  359     0  2188     0     0     0     0   813     0     0  1786     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00  1.00  1.00  0.00
FinalVolume:  359     0  2188     0     0     0     0   813     0     0  1786     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.77  1.00  0.75  1.00  1.00  1.00  1.00  0.95  1.00  1.00  0.91  1.00
Lanes:       1.00  0.00  3.00  0.00  0.00  0.00  0.00  2.00  1.00  0.00  4.00  1.00
Final Sat.:  1461     0  4264     0     0     0     0  3610  1900     0  6916  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25  0.00  0.51  0.00  0.00  0.00  0.00  0.23  0.00  0.00  0.26  0.00
Crit Moves:              ****                                          ****
Green/Cycle: 0.60  0.00  0.60  0.00  0.00  0.00  0.00  0.30  0.00  0.00  0.30  0.00
Volume/Cap:  0.41  0.00  0.85  0.00  0.00  0.00  0.00  0.74  0.00  0.00  0.85  0.00
Delay/Veh:    6.9   0.0  13.2   0.0   0.0   0.0   0.0  22.6   0.0   0.0  24.2   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   6.9   0.0  13.2   0.0   0.0   0.0   0.0  22.6   0.0   0.0  24.2   0.0
LOS by Move:    A     A     B     A     A     A     A     C     A     A     C     A
HCM2k95thQ:     8     0    29     0     0     0     0    17     0     0    22     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

APPENDIX E

AIR QUALITY IMPACT ASSESSMENT

FOR

NATOMAS CROSSING
SACRAMENTO, CA

MARCH 31, 2009

PREPARED FOR:

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TABLE OF CONTENTS

Introduction 1
Existing Environmental Setting 1
  Climate and Meteorology 1
  Human Health 2
  Sensitive Receptors 4
  Ambient Air Quality 4
Regulatory Framework 14
  Federal 14
  State 16
  Local 20
Impacts and Mitigation Measures 24
  Methods of Analysis 24
  Standards of Significance 27
  Project-Specific Impacts and Mitigation Measures 29
Cumulative Setting 51
Cumulative Impacts and Mitigation Measures 51
References 57

LIST OF TABLES

Table 1 Common Pollutant Sources & Adverse Effects 3
Table 2 Summary of Annual Ambient Air Quality Data[1] 5
Table 3 Attainment Status Designations 6
Table 4 Summary of Ambient Air Quality Standards 15
Table 5 Project Construction Schedules 25
Table 6 SMAQMD Particulate Matter Screening Levels for Construction Projects 26
Table 7 Short-term Construction-Generated Emissions – Proposed Project Ozone-Precursor Pollutants by Construction Phase (Unmitigated) 30
Table 8 Short-term Construction-Generated NO_X Emissions – Proposed Project by Construction Year (Unmitigated) 32
Table 9 Mitigated Construction-Generated NOx Emissions 35
Table 10 Long-term Operational Emissions of Criteria Air Pollutants (Unmitigated) 39
Table 11 Local Mobile-Source Carbon Monoxide Concentrations Baseline Conditions 42
Table12 Local Mobile-Source Carbon Monoxide Concentrations Future Cumulative Conditions 43
Table 13 Short-term Construction-Generated Greenhouse Gas Emissions Proposed Project 48
Table 14 Long-term Operational Greenhouse Gas Emissions Proposed Project 49
Table 15 Greenhouse Gas Reduction Measures 52

Introduction

This report includes a summary of applicable regulations, a description of existing air quality conditions, and an analysis of potential air quality impacts associated with the proposed project. Mitigation measures are recommended, as necessary, to reduce significant air quality impacts.

Existing Environmental Setting

The proposed Project is located within the Sacramento Valley Air Basin (SVAB). Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below.

Climate and Meteorology

Ambient air quality is commonly characterized by climatological conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.

Regional Topography & Climate

The Project site is located in the SVAB, which is under the jurisdiction of the SMAQMD. The SVAB is relatively flat, bordered by mountains to the east, west and the north. Air flows into the SVAB through the Carquinez Strait, moving across the Delta, and bringing with it pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storms. From May to October, the region's intense heat and sunlight lead to high ozone concentrations. Summer inversions are strong and frequent, but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Most precipitation in the SVAB results from air masses moving in from the Pacific Ocean during the winter months. These storms usually move through the area from the west or northwest. During the winter rainy season (November through February) over half the total annual precipitation falls while the average winter temperature is a moderate 49 degrees. During the summer, daytime temperatures can exceed 100 degrees Fahrenheit. Dense fog occurs mostly in mid-winter and never in the summer. Daytime temperatures from April through October average between 70 and 90 degrees with extremely low humidity. The inland location and surrounding mountains shelter the valley from much of the ocean breezes that keep the coastal regions moderate in temperature. The only breech in the mountain barrier is the Carquinez Straits, which exposes the midsection of the valley to the coastal air mass.

Winds across the study area are an important meteorological parameter because they control the dilution of locally-generated air pollutant emissions and their regional trajectory. Based on data obtained from the Sacramento Executive Airport, the closest station that measures wind speed and direction, southwest winds are the most predominant (ARB 1992).

Meteorological Influences on Air Quality

Regional flow patterns affect air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions, such as moderate winds disperse pollutants and reduce pollutant concentrations. However, the mountains surrounding the Sacramento Valley can create a barrier to airflow, which can trap air pollutants in the Valley when meteorological conditions are right. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog and pollutants near the ground (SMAQMD 2004).

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds with the delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. Essentially this phenomenon causes the air pollutants to be blown south toward the Sacramento nonattainment area. This phenomenon’s effect exacerbates the pollution levels in the area and increases the likelihood of violating federal or state standards (SMAQMD 2004).

Human Health

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics.

For the protection of public health and welfare, the FCAA requires the U.S. EPA established NAAQS for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air without harm to the public’s health. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. The FCAA allows states to adopt additional or more health-protective standards.

Common air pollutants, emission sources, and associated health and welfare effects are summarized in **Table 1**. Within the SVAB, the air pollutants of primary concern, with regard to human health, include ozone, CO, and PM. As depicted in **Table 1**, exposure to increased pollutant concentrations of ozone, PM, CO can result in various heart and lung ailments, cardiovascular and nervous system impairment, and death.

Table 1
Common Pollutant Sources & Adverse Effects

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Particulate Matter (PM_{10} & $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Ozone (O_3)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NOx) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, textiles and dyes.
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely;' a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Motor vehicles; electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

*Source: ARB 2008

Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term "sensitive receptors" refers to specific population groups, as well as the land uses where they would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics.

Existing sensitive receptors located in the project area consist predominantly of residential dwellings. The nearest residential dwellings are located east of the project site, across E. Commerce Way, south of Arena Boulevard.

Ambient Air Quality

Criteria Air Pollutants

Ambient air quality in the project area can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. The North Highlands-Blackfoot Way air quality monitoring station and the Sacramento-T Street monitoring station are the stations located nearest the project site. **Table 2** summarizes the last 3 years of published ambient air quality data obtained from the North-Highlands-Blackfoot Way monitoring station for O_3, PM_{10}, and CO. Ambient concentrations of $PM_{2.5}$ were obtained from the Sacramento-T Street monitoring station. As depicted in **Table 2**, state and federal ozone and PM_{10} standards have been exceeded on several occasions during the last three years of available data.

Attainment Status

The attainment status of Sacramento County is summarized in **Table 3**. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria.

As depicted in **Table 3**, Sacramento County is currently designated nonattainment for the State and Federal ozone and PM_{10} standards, as well as the State $PM_{2.5}$ standard. Sacramento County is designated either attainment or unclassified for the remaining federal and state ambient air quality standards.

Table 2 Summary of Annual Ambient Air Quality Data[1]			
Pollutant	**2005**	**2006**	**2007**
Ozone (O3)			
Maximum concentration (1-hr/8-hr avg, ppm)	0.108/0.087	0.106/0.090	0.109/0.089
Number of days 1-hr state/national standard exceeded	4/0	6/0	2/0
Number of days state/national 8-hr standard exceeded	5/4	14/6	7/2
Carbon Monoxide (CO)			
Maximum concentration (1-hr/8-hr avg, ppm)	3.9/2.97	4.7/3.15	6.3/5.58
Number of days state standard exceeded	0	0	0
Number of days national standard exceeded	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum concentration (µg/m3)	55.0	111.0	57.4.0
Number of days state standard exceeded (calculated2)	4	8	5
Number of days national standard exceeded (calculated2)	0	0	0
Fine Particulate Matter (PM2.5)			
Maximum concentration (µg/m3)	59.0	54.0	58.0
Days exceeding state/national standards (measured/calculated2)	10/10.7	14/NA	19/27.6

1. *Based on data obtained from the Sacramento-1309 T Street monitoring station. CO concentrations obtained from the Sacramento-3801 Airport Road monitoring station.*
2. *Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.*

NA=Data not available
Sources: ARB 2008

Table 3
Attainment Status Designations

Pollutant	California Standard	Federal Standard
Ozone	Non-Attainment Classification: Serious	Non-Attainment Classification: Serious
PM_{10}	Non-Attainment	Non-Attainment Classification: Moderate
$PM_{2.5}$	Non-Attainment	Attainment/Unclassified
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard

Sources: SMAQMD 2008

Toxic Air Contaminants

Toxic air contaminants (TACs) are not considered criteria pollutants in that the federal and California Clean Air Acts do not address them specifically through the setting of National or State Ambient Air Quality Standards. Instead, EPA and ARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), as required by the federal Clean Air Act Amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

At the state level, the ARB has authority for the regulation of emissions, including TACs, from motor vehicles, fuels, and consumer products. Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC.

At the local level, air districts have the authority over stationary or industrial sources. All projects that require air quality permits from the SMAQMD are evaluated for TAC emissions. The SMAQMD limits emissions and public exposure to TACs through a number of programs. The SMAQMD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The SMAQMD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to AB 2588.

Diesel-Exhaust Particulate Matter

Diesel-exhaust particulate matter (DPM) was recently added to the CARB list of TACs. Diesel-exhaust particulate matter is the primary TAC of concern for mobile sources. Of all controlled TACs, emissions of DPM are estimated to be responsible for approximately 70 percent of the total ambient TAC risk. The CARB has made the reduction of the public's exposure to DPM a high priority, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles.

Land Use Compatibility with TAC Emission Sources

The location of a development project is a major factor in determining whether the project will result in localized air quality impacts. The potential for adverse air quality impacts increases as the distance between the source of emissions and members of the public decreases. While impacts on all members of the population should be considered, impacts on sensitive receptors are of particular concern. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, residential dwellings, and convalescent-care facilities are examples of sensitive receptors.

The ARB released an informational guide entitled: *Air Quality and Land Use Handbook: A Community Health Perspective* (*Handbook*). The purpose of CARB's *Handbook* is to provide information to aid local jurisdictions in addressing issues and concerns related to the siting of sensitive land uses near major sources of air pollution, such as Interstate 80 that is adjacent to the site. The *Handbook* includes recommended separation distances for various sensitive land uses and sources of TACs. One particular source of TACs addressed in the guidance is freeways and high-traffic roadways. The *Handbook* defines such roadways as "urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day." These roadways are sources of DPM, which (as noted above) has been listed as a TAC by the ARB. The *Handbook* recommends that sensitive land uses should typically not be located closer than 500 feet from a freeway or other high traffic roadway. This recommendation was based on traffic related studies that showed a 70 percent drop in DPM concentrations at a distance of 500 feet from the roadway. However, the recommendations contained in the *Handbook* are not site specific and should not be interpreted as defined "buffer zones." The recommendations of the *Handbook* are advisory and need to be balanced with other State and local policies and site-specific conditions (CARB 2005).

In response to the ARB's recommendations and to further assist local land use jurisdictions in assessing the potential cancer risk of siting sensitive land uses adjacent to major roadways located within the Sacramento region, the SMAQMD recently released a protocol document entitled: *Recommended Protocol For Evaluating The Location Of Sensitive Land Uses Adjacent To Major Roadways* (Protocol). The Protocol was most recently updated in March 2009. The Protocol provides a methodology for the assessment and disclosure of potential cancer risk from DPM along major roadways located within the Sacramento region. As with the methodology relied upon in CARB's Handbook, SMAQMD's screening-level protocol is based on the distance at which a 70-percent reduction in DPM would be predicted to occur. This reduction or drop-off in emissions equates to a predicted cancer-risk criterion threshold of approximately 296 in one million within the Sacramento region (excluding background risks). As a result, predicted incremental increases in cancer risks that exceed this screening-level criterion would be recommended to conduct a more detailed health risk assessment (SMAQMD 2009).

No major stationary sources of toxic air contaminants have been identified within one-quarter mile of the Project site (CHAPIS 2008). Interstate 5 (I-5) is located adjacent to and west of the project site. Diesel-fueled trucks traveling along I-5 would be considered a major source of DPM that could adversely affect proposed onsite sensitive land uses.

Greenhouse Gases and Climate Change

To fully understand global climate change it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases that contribute to this phenomenon. The temperature on Earth is regulated by this "greenhouse effect," which is so named because the Earth's atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light yet prevent heat from escaping.

Greenhouse gases (GHG) are naturally occurring gases such as water vapor, carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) that absorb heat radiated from the Earth's surface. Greenhouse gases -- carbon dioxide, methane, nitrous oxide, and others -- are transparent to certain wavelengths of the Sun's radiant energy, allowing them to penetrate deep into the atmosphere or all the way to Earth's surface (NASA, 2007). Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest (70 percent of the radiation received from the Sun) before releasing it back toward space as infrared radiation. The greenhouse gases and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near Earth's surface where it warms the lower atmosphere. If this natural barrier of atmospheric gases were not present, the heat would escape into space, and Earth's average global temperatures could be as much as 61 degrees Fahrenheit cooler (NASA, 2007).

In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. Measured atmospheric levels of certain greenhouse gases such as carbon dioxide, methane, and nitrous oxide have risen substantially in recent decades (Miller, 2000). This increase in atmospheric levels of greenhouse gases unnaturally enhances the "greenhouse effect" by trapping more infrared radiation as it rebounds from the Earth's surface and thus trapping more heat near the Earth's surface.

According to the U.S. Environmental Protection Agency (EPA), the Earth's average surface temperature has increased by about 1.2 to 1.4ºF since 1900. The warmest global average temperatures on record have all occurred within the past 15 years, with the warmest two years being 1998 and 2005. Eleven of the last 12 years rank among the hottest years on record (since 1850, when reliable worldwide temperature measurements began) (IPCC, 2007). Most of the warming in recent decades is likely the result of human activities. Other aspects of the climate are also changing such as rainfall patterns, snow and ice cover, and sea level.

Many complex mechanisms interact within Earth's energy budget to establish the global average temperature. For example, a change in ocean temperature would be expected to lead to changes in the circulation of ocean currents, which, in turn would further alter ocean temperatures. There is uncertainty about how some factors could affect global climate change because they have the potential to both enhance and neutralize future climate warming. For instance aerosols, including particulate matter, reflect sunlight back to space. As particulate matter attainment designations are met, and fewer emissions of particulate matter occur, the cooling effect of anthropogenic aerosols would be reduced, and the greenhouse effect would be further enhanced. Similarly, aerosols act as cloud condensation nuclei, aiding in cloud formation and increasing cloud lifetime. Clouds can efficiently reflect solar radiation back to space (see discussion of the cloud effect below). As particulate matter emissions are reduced, the indirect positive effect of aerosols on clouds would be reduced, potentially further amplifying the greenhouse effect.

Another mechanism effecting climate is cloud cover. As global temperature rises, the ability of the air to hold moisture increases, facilitating cloud formation. If an increase in cloud cover occurs at low or middle altitudes, resulting in clouds with greater liquid water content such as stratus or cumulus clouds, more radiation would be reflected back to space, resulting in a negative feedback mechanism, wherein the side effect of more cloud cover resulting from global warming acts to balance further warming. If clouds form at higher altitudes in the form of cirrus clouds, however, these clouds actually allow more solar radiation to pass through than they reflect, and ultimately they act as a GHG themselves. This results in a positive feedback mechanism in which the side effect of global warming acts to enhance the warming process. This feedback mechanism, known as the "cloud effect" contributes to uncertainties associated with projecting future global climate conditions.

Other mechanisms include permafrost and polar and sea ice. As global temperature continues to rise, CH_4 gas currently trapped in permafrost, would be released into the atmosphere when areas of permafrost thaw. Thawing of permafrost attributable to global warming would be expected to accelerate and enhance global warming trends. Additionally, as the surface area of polar and sea ice continues to diminish, the Earth's albedo, or reflectivity, is also anticipated to decrease. More incoming solar radiation will likely be absorbed by the Earth rather than being reflected back to space, further enhancing the greenhouse effect. The scientific community is still studying these and other positive and negative feedback mechanisms to better understand their potential effects on global climate change.

Global Implications of Climate Change

Recognizing the problem of global climate change, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. It is open to all members of the United Nations and WMO. The role of the IPCC is to assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. According to climate models, the IPCC projects that the Earth's average surface temperature should rise 1.8 – 6.3 ºF before the year 2100. If the atmospheric concentration of CO_2 doubles from its late 1700's level of 280 parts per million to 560 parts per million, the most likely rise in temperature would be about 3.6 ºF. This may not seem like a significant increase, yet even at the lowest projected increase of 1.8 ºF, the Earth would be warmer than it has been for 10,000 years (Miller, 2000).

As previously stated, 11 of the last 12 years rank among the hottest years on record. The IPCC Fourth Assessment Report's Working Group I Summary for Policymakers (Report) synthesizes current scientific understanding of global climate change and projects future climate change using the most comprehensive set of well-established global climate models. The Report incorporates findings of the current effects of global climate change. These finding include:

- The intensity of tropical cyclones (hurricanes) in the North Atlantic has increased over the past 30 years, which correlates with increases in tropical sea surface temperatures.

- Droughts have become longer and more intense, and have affected larger areas since the 1970s, especially in the tropics and subtropics.

- Since 1900 the Northern Hemisphere has lost seven percent of the maximum area covered by seasonally frozen ground.

- Mountain glaciers and snow cover have declined worldwide.

- Satellite data since 1978 show that the extent of Arctic sea ice during the summer has shrunk by more than 20 percent.

- Since 1961, the world's oceans have been absorbing more than 80 percent of the heat added to the climate, causing ocean water to expand and contributing to rising sea levels. Between 1993 and 2003 ocean expansion was the largest contributor to sea-level rise.

- Melting glaciers and losses from the Greenland and Antarctic ice sheets have also contributed to recent sea-level rise.

An enhanced greenhouse effect will generate new patterns of microclimate and will have significant impacts on the economy, environment, and transportation infrastructure and operations due to increased temperatures, intensity of storms, sea level rise, and changes in precipitation. Impacts may include flooding of tunnels, coastal highways, runways, and railways; buckling of highways and railroad tracks, submersion of dock facilities, and shift in agriculture to areas that are now cooler. Such prospects will have strategic security as well as transportation implications.

Climate change affects public health and the environment. Increased smog and emissions, respiratory disease, reduction in the State's water supply, extensive coastal damage, and changes in vegetation and crop patterns have been identified as effects of climate change. The impacts of climate change are broad-ranging and interact with other market failures and economic dynamics, giving rise to many complex policy problems. If global greenhouse gas emissions continue rising on their current trajectory, the costs of climate change could eventually total 5 - 20 percent of the annual global gross domestic product (GDP) (Caltrans, 2006, page 2). The findings are the latest in a string of reports warning that the rate of carbon dioxide accumulating in the atmosphere is increasing at an alarming pace.

California Implications of Climate Change

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Worldwide, California is the 12th to 16th largest emitter of CO_2, and is responsible for approximately two percent of the world's CO_2 emissions (CEC, 2006a, 2006b). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CEC, 2006a).

Increased global average temperature increases ocean temperatures and the Pacific Ocean strongly influences the climate within California. If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to the California Energy Commission (CEC) report, the snowpack portion of the supply could potentially decline by 70 to 90 percent by the end of the 21st century (CEC, 2006c). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population.

Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system. Sea level has risen approximately seven inches during the last century and, according to the CEC report, it is predicted to rise an additional 22-35 inches by 2100, depending on the future GHG emissions levels (CEC 2006c). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (CEC, 2006c). As the existing climate throughout California changes over times, mass migration of species, or worse, failure of species to migrate in time to adapt to the perturbations in climate, could also result.

According to the California Environmental Protection Agency, the climate changes for global warming could affect agriculture, the fishing industry, California's coastline, forests, and ecosystems, increase air pollution, and energy production (CCCP 2009).

- **Agriculture** - Potential impacts, such as reduced water supply, more severe droughts, more winter floods, and drier growing seasons will affect California's agriculture. Many farms, especially in the fruit and nut business require long-term investments making fast adaptation difficult, and could thus experience serious losses if climate change continues.

- **Fishing** - Studies found that as a result of changes in ocean conditions, the distribution and abundance of major fish stocks will change substantially. Impacts to fisheries related to El Nino/ Southern Oscillation illustrate how climate directly impacts marine fisheries on short term scales. Higher sea surface temperatures in 1997-1998 during the El Nino had a great impact on market squid, California's largest fishery by volume. The California Regional Assessment reports that landings fell to less than 1,000 metric tons in that season, down from 110,000 tons in the 1996-1997 season. Other unusual events also occurred such as poor salmon returns, a series of plankton blooms, and seabird die-offs.

- **Coastline** - With climate changes, recreational facilities and developed coastlines will also be more vulnerable to hurricanes, storm surges, flooding increases. Increasing population growth in coastal areas is a reason for further concern, since these areas could be more vulnerable to climate change impacts. Impacts of expected sea level rise and increased storm surges are numerous. Beachfront homes and harbors as well as wetlands may flood. Sewage systems may be overwhelmed by storm runoff and high tides. Coastal airports are vulnerable to flooding (San Francisco, Oakland and Santa Barbara). Jetties and seawalls may have to be raised and strengthened to protect harbors which are used for shipping, recreation, and tourism.

- **Forests** - The California Regional Assessment notes an increase in the number and extent of areas burned by wildfires in recent years, and modeling results under changing climate conditions suggest that fires may be hotter, move faster, and be more difficult to contain under future climate conditions. The factors which contribute to the risk of catastrophic fires (fuel loads, high temperatures, dry conditions, and wind) are typically present already in summer and fall seasons in California, but can exist at other times of the year, especially in drought conditions. Public safety is an issue as more home and tourism developments on coastal hills and mountains and the foothills and higher elevations in the Sierra Nevada are highly susceptible to catastrophic wild fires.

- **Ecosystems** - The current distribution, abundance, and vitality of species and habitats are strongly dependent on climatic (and microclimatic) conditions. Climate change is expected to result in warmer temperatures year-round, accompanied by substantially wetter winters. Rising sea level will significantly affect coastal wetlands because they are mostly within a few feet of sea level. As the sea rises, these wetlands will move inland. The overall acreage of wetlands will be reduced due to constraints of existing urban development and steeper slopes immediately inland of existing wetlands. Tidal rivers, estuaries, and relatively flat shoreline habitats will be more subject to damage by flooding and erosion. More severe storm surges from the ocean, due to higher sea levels, combined with higher river runoff could significantly increase flood levels by more than the rise in sea level alone. Erosion of beaches would decrease habitat for beach-dependent species, such as seals, shorebirds, and endangered species (for example, snowy plover and least tern). Aquatic habitats are also likely to be significantly affected by climatic changes. Most fish have limits to how hot or cold the water can be before they must either find more hospitable temperatures or die. As temperatures warm, many fish will have to retreat to cooler waters.

  Changes in temperature and precipitation patterns would also shift California's current climate zones, and thus habitats associated with these zones, northward by approximately 100 - 400 miles, as well as upwards in elevation by 500-1500 feet. Global climate change would alter the composition, structure and arrangement of the vegetation cover of the state (forest and wildland). Species distribution would move geographically as the climate changes, with forest stands, woodlands and grassland species predicted to move northward and higher in elevation. The entire vegetative community may be affected if non-native invasive species occupy sites and replace native plants. Outbreaks of insects and diseases could compromise forest health and the capability of the forest stands reproduce and to store carbon on a landscape basis. Forest fires are likely to become more frequent and severe if soils become drier. Changes in pest populations could further increase the stress on forests.

- **Air Quality** - Projected climate changes will impact the quality of California's air, public health, and environment. Higher temperatures increase the formation of ground level ozone and particulate matter, making it more difficult to meet the health-base air quality standards for these pollutants. Ground-level ozone has been shown to aggravate existing respiratory illnesses such as asthma, reduce lung function, and induce respiratory inflammation. Ambient ozone also reduces agricultural crop yields and impairs ecosystem health.

  The particulate matter of most concern – PM_{10} – has a diameter smaller than 10 micrometers and can easily pass into the lung, contributing to the development of lung tissue damage. PM_{10} has been implicated in exacerbation of cardiovascular disease, asthma, other respiratory diseases, and associated with increased mortality. Air pollution is also made worse by increases in natural hydrocarbon emissions and evaporative emissions of fuels and solvents which leads to higher levels of ozone and PM_{10} during hot weather. Warmer temperatures that cause increased use of air conditioners can cause increased air pollutants from power plants and from vehicle operation. In addition, warming, drying, and increased winds could mean hotter, harder-to-control wildfires. These wildfires could result in increased levels of fine particulate matter that could also exceed State and federal standards and harm public health.

- **Electricity Generation -** California's electricity generation is currently relatively efficient when it comes to emissions of greenhouse gases. The national average for the electricity generation share of total greenhouse gas emissions is approximately 40 percent, while California electricity accounts for only 16 percent of statewide emissions. This is in part due to California’s significant amount of imported electricity, mild climate, and lack of energy-intensive industry. Over the past two decades, California has developed one of the largest and most diverse renewable electricity generation industries in the world. However, changes in climate of the magnitude predicted by the Intergovernmental Panel of Climate Change would substantially affect electricity generation throughout California and the entire Western States grid, particularly for hydroelectric facilities.

  Less snowpack would result in lower levels of hydro-generation in the summer and fall seasons due to reduced runoff in those seasons. Additional hydropower may be available during the winter and the spring. However, on balance hydropower is more useful and valuable within the grid mix of generation sources when it is available throughout the peak summer and fall seasons. The Natural gas distribution system may also be damaged because of landslides and fires. Flooding could also impact pipelines, wells and related petroleum extraction equipment. Warmer weather would result in an increased demand for electricity for cooling appliances in homes, and businesses.

Regulatory Framework

Air quality within the SVAB is regulated by several jurisdictions including the United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (ARB), and the SMAQMD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent.

Pollutants subject to federal ambient standards are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. Criteria air pollutants, common sources, and associated effects are summarized in **Table 1**. The federal and state standards for criteria pollutants and other state regulated air pollutants are depicted in **Table 4**.

Federal

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The Federal Clean Air Act (FCAA) required the U.S. EPA to establish National Ambient Air Quality Standards (NAAQS or AAQS), and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. National AAQS are summarized in **Table 4**.

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The U.S. EPA has responsibility to review all state SIPs to determine conformance to the mandates of the FCAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the

Table 4
Summary of Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary [(a)]	Secondary[(b)]
Ozone (O_3)	1-hour	0.09 ppm	–	Same as Primary
	8-hour	0.070 ppm	0.075 ppm	
Particulate Matter (PM_{10})	AAM	20 $\mu g/m^3$	–	
	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 $\mu g/m^3$	15 $\mu g/m^3$	
	24-hour	No Standard	35 $\mu g/m^3$	
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	None
	8-hour	9 ppm	9 ppm	
	8-hour (Lake Tahoe)	6 ppm	–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	0.053 ppm	Same as Primary
	1-hour	0.18 ppm	–	
Sulfur Dioxide (SO_2)	AAM	–	0.03 ppm	–
	24-hour	0.04 ppm	0.14 ppm	–
	3-hour	–	–	0.5 ppm
	1-hour	0.25 ppm	–	–
Lead	30-day Average	1.5 $\mu g/m^3$	–	–
	Calendar Quarter	–	1.5 $\mu g/m^3$	Same as Primary
	Rolling 3-Month Average	–	0.15 $\mu g/m^3$	Same as Primary
Sulfates	24-hour	25 $\mu g/m^3$	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm		
Vinyl Chloride	24-hour	0.01 ppm		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.		

a. Levels necessary to protect the public health.
b. Levels necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
Source: ARB 2008

mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

State

California Air Resources Board

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing CAAQS (which in many cases are more stringent than the NAAQS), and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

California Clean Air Act

The California Clean Air Act (CCAA), 1988, requires that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for ozone, CO, SO_2, and nitrogen dioxide (NO_2) by the earliest practical date. Plans for attaining CAAQS were to be submitted to CARB by June 30, 1991. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either achieve a five percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both State and federal planning requirements.

As stated above, the CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing the CAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

California Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. These standards are codified in Title 24, Part 6, of the California Code of Regulations and are generally referred to as “Title 24 Standards.” The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The most recent update was adopted in 2003 and took effect as of October 1, 2005. California's building efficiency standards (along with those for energy efficient appliances) have saved more than $56 billion in electricity and natural gas costs since 1978. Estimates have put savings related to the standards at an additional $23 billion by 2013 (CEC 2007). By reducing the heating and cooling demands of buildings, California's Energy Efficiency Standards result in decreased emissions associated with the use of natural gas fired appliances and electricity production. Reduction in energy consumption reduces the amount of air pollutants emitted by energy purveyors.

Senate Bill 656 – Reducing Particulate Matter in California

In 2003, the Legislature passed Senate Bill 656 to reduce public exposure to PM_{10} and $PM_{2.5}$. The legislation requires the ARB, in consultation with local air pollution control and air quality management districts (air districts), to adopt a list of the most readily available, feasible, and cost-effective control measures that could be implemented by air districts to reduce PM_{10} and $PM_{2.5}$. The legislation establishes a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$, and provides new direction on PM reductions in those areas not subject to federal requirements for PM. Sources categories addressed by SB 656 include measures to address residential wood combustion and outdoor greenwaste burning; fugitive dust sources such as paved and unpaved roads and construction; combustion sources such as boilers, heaters, and charbroiling; solvents and coatings; and product manufacturing.

Senate Bill 1771 - Greenhouse Gas Emission Reductions: Climate Change

Senate Bill 1771, chaptered in September of 2000, specified the creation of the non-profit organization, the California Climate Action Registry. The Registry helps various California entities' to establish greenhouse gas (GHG) emissions baselines. Also, the Registry enables participating entities to voluntarily record their annual GHG emissions inventories.

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed Assembly Bill (AB) 1493. AB 1493 requires California Air Resources Board (ARB) to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in the state. It citied several risks that California faces from climate change, including reduction in the state's water supply, increased air pollution creation by higher temperatures, harm to agriculture, an increase in wildfires, damage to the coastline, and economic losses caused by higher food, water energy, and insurance prices. Further, the legislature stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

Executive Order S-3-05

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary will also submit biannual reports to the governor and state legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Act Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Assembly Bill 32 - the California Climate Solutions Act of 2006

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (PUC) to establish a greenhouse gas emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The California Energy Commission (CEC) must establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Senate Bill 97 - CEQA: Greenhouse Gas Emissions

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. This bill also protects projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E) from claims of inadequate analysis of GHG as a legitimate cause of action. This latter provision will be repealed on January 1, 2010. Thus, this "protection" is highly limited to a handful of projects and for a short time period (CAPCOA 2008).

California Code of Regulations Title 17 Sections 95100 to 95133

On December 6, 2007, the Air Resources Board (ARB) approved a regulation for the mandatory reporting of greenhouse gas emissions from major sources, pursuant to the California Global Warming Solutions Act of 2006. Sections 95100 to 95133 of Title 17 of the California Code of Regulations enacts mandatory reporting for the following:

(1) Operators of cement plants in California;
(2) Operators of petroleum refineries in California that emit greater than or equal to 25,000 metric tonnes of CO_2 in any calendar year after 2007 from the combination of stationary combustion and process sources;

(3) Operators of hydrogen plants in California that emit greater than or equal to 25,000 metric tonnes of CO_2 in any calendar year after 2007 from the combination of stationary combustion sources and hydrogen production processes;

(4) Operators of electricity generating facilities that are located in California or operated by a retail provider as defined in section 95102(a), that individually have a nameplate generating capacity greater than or equal to 1 megawatt (MW), and that emit greater than or equal to 2,500 metric tonnes of CO_2 in any calendar year after 2007 from electricity generating activities, including hybrid generating facilities;

(5) Retail providers as defined in section 95102(a);

(6) Marketers as defined in section 95102(a);

(7) Operators of cogeneration facilities that are located in California or operated by a retail provider as defined in section 95102(a) that individually have a nameplate generating capacity greater than or equal to 1 megawatt (MW), and that emit greater than or equal to 2,500 metric tonnes of CO_2 in any calendar year after 2007 from electricity generating activities;

(8) Operators of other facilities in California that emit greater than or equal to 25,000 metric tonnes per year of CO2 from stationary combustion sources in any calendar year after 2007.

Section 95101(c) removes certain industries from this reporting requirement. These are as follows:

(1) Electricity generating facilities that are solely powered by nuclear, Hydroelectric, wind, or solar energy;

(2) Portable equipment;

(3) Generating units designated as backup or emergency generators in a permit Issued by an air pollution control district or air quality management district;

(4) Hospitals with a North American Industry Classification System (NAICS) Code starting with 62;

(5) Primary and secondary schools with a NAICS code of 611110.

Assembly Bills 1807 & 2588 - Air Toxics

Within California, toxic air contaminants (TACs) are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

Local

Sacramento Metropolitan Air Quality Management District

The SMAQMD in coordination with the air quality management districts and air pollution control districts of El Dorado, Placer, Solano, Sutter, and Yolo counties prepared and submitted the *1991 Air Quality Attainment Plan* (AQAP) in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone and to a lesser extent, CO and PM_{10}. The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the *1994 Ozone Attainment Plan* (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing ozone precursor emissions of ROG and NO_X. It promotes active public involvement, enforcement of compliance with SMAQMD rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of stationary and mobile-source control measures. The OAP became part of the SIP in accordance with the requirements of the CAAA and amended the 1991 AQAP. However, at that time the region could not show that the national ozone (1-hour) standard would be met by 1999. In exchange for moving the deadline to 2005, the region accepted a designation of “severe nonattainment” coupled with additional emission requirements on stationary sources. Additional triennial reports were also prepared in 1997, 2000, and 2003 in compliance with the CCAA that act as incremental updates (SMAQMD 2008).

As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations in accordance with the CAAA. Milestone reports were prepared for 1996, 1999, and 2002. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento nonattainment area. The air quality attainment plans and reports present comprehensive strategies to reduce ROG, NO_X, and PM_{10} emissions from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect source review program; adoption of local air quality plans; and stationary-, mobile-, and indirect-source control measures (SMAQMD 2008).

The EPA recently promulgated a new 8-hour ozone standard. This change lowered the standard for ambient ozone from 0.08 ppm (parts per million) averaged over eight hours to 0.075 ppm. The newer 8-hour standard replaces the previous 1-hour standard. In general, the 8-hour standard is more protective of public health and more stringent than the 1-hour standard. The promulgation of this standard prompted new designations and nonattainment classifications in June 2004, and resulted in the revocation of the 1-hour standard in June 2005. The region has been designated as a nonattainment (serious) area for the national (8-hour) ozone standard with an attainment deadline of June 2013. SMAQMD has recently completed the *Federal 8-Hour Ozone Reasonable Further Progress Plan for the Sacramento Federal Ozone Nonattainment Area (2008)*. This Plan proposes to use updated emissions inventories, existing control strategies, and approved control measure commitments to achieve emission reductions necessary for compliance with the Clean Air Act. This Plan is currently under review and is anticipated to be adopted in late 2008 (SMAQMD 2008).

On September 6, 2007, the SMAQMD provided guidance letter regarding the inclusion of a climate change analysis in CEQA documents. This letter, *Addressing Climate Change in CEQA Documents,* recommend that CEQA environmental documents include a discussion of GHG emissions during both the construction and operational phases of projects. The letter also provides a number of mitigation measures that will help to reduce the GHG emissions a project may produce. However it must be noted, at this time, the SMAQMD does not have any standards of significance, thresholds, or regulations regarding the production of GHG emissions.

The SMAQMD has also adopted various rules and regulations pertaining to the control of emissions from area and stationary sources. Some of the more pertinent regulatory requirements applicable to the proposed Project are identified as follows:

Rule 201. General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from SMAQMD prior to equipment operation. Portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment, etc.) with an internal combustion engine over 50 horsepower are required to have a SMAQMD permit or ARB portable equipment registration.

Rule 402. Nuisance. The purpose of this rule is to limit emissions which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.

Rule 403. Fugitive Dust. The purpose of this rule is to require that reasonable precautions be taken so as not to cause or allow the emissions of fugitive dust from non-combustion sources from being airborne beyond the property line from which the emission originates.

Rule 411: Boiler NOx. Sets NOx and CO emissions from industrial, institutional, and commercial boilers, steam generators, and process heaters.

Rule 417: Wood-Burning Appliances. Limits emissions of particulate matter to the atmosphere from the operation of wood burning appliances.

Rule 442: Architectural Coatings. The developer or contractor is required to use coatings that comply with the volatile organic compound (VOC) content limits specified in the rule.

Rule 460: Adhesives and Sealants. Limits VOC from the application of products used for bonding two surfaces. Also regulates the storage and disposal of solvents associated with such applications.

<u>City of Sacramento</u>

Resolution 2001-805 (2001) - Smart Growth Principles

In part to address deteriorating air quality issues, the City Council adopted Smart Growth Principles into the General Plan in 2001. Smart Growth changes development patterns by supporting projects that incorporate land uses, transportation management, and infrastructure that discourage urban sprawl and promote infill development, reduce vehicle emissions, and improve air quality.

The following principles are, or will be, implemented through a variety of City and regional plans, policies and procedures, including the City's 2025 General Plan Update, the 2005 Downtown Redevelopment Strategy, the Joint City/County Planning Principles for Natomas, the Parks Master Plan, the Air Quality/Transportation Collaborative, the Metropolitan

Transportation Plan, the Pedestrian Master Plan, the Transit Village Initiative, Cool Communities, and the Comprehensive Infill Strategy:

- Mix land uses and support vibrant city centers;
- Take advantage of existing community assets emphasizing joint use of facilities;
- Create a range of housing opportunities and choices;
- Foster walkable, close-knit neighborhoods;
- Promote distinctive, attractive communities with a strong sense of place, including the rehabilitation and use of historic buildings;
- Preserve open space, farmland, natural beauty, and critical environmental areas;
- Concentrate new development and target infrastructure investments within the urban core of the region;
- Provide a variety of transportation choices;
- Make development decisions predictable, fair, and cost-effective;
- Encourage citizen & stakeholder participation in development decisions;
- Promote resource conservation and energy efficiency;
- Create a Smart Growth Regional Vision and Plan;
- Support high quality education and quality schools;
- Support land use, transportation management, infrastructure and environmental planning programs that reduce vehicle emissions and improve air quality; and
- Policies adopted by regional decision-making bodies should discourage urban sprawl, promote infill development and the concentration of development in the urban core of the region, and promote the equitable distribution of affordable housing and social services.

<u>City of Sacramento Comprehensive Infill Strategy</u>

The City's Infill Program adopts numerical and qualitative infill development goals, targets specific types of infill development, and offers focused procedural and financial incentives to help achieve infill development goals.

<u>Sustainability Master Plan (2007)</u>

As part of the Sustainability Master Plan, the City will integrate environmentally sustainable practices into City policies, procedures, and operations that will provide tools for measuring the City's progress towards sustainability. The foundation for the Sustainability Master Plan is the United Nations Environmental Accords, a set of 21 actions that the United Nations asked city governments to adopt and implement over a seven-year period. The City will incorporate the pertinent goals and targets identified in the Plan into the new update of the City's General Plan. The goals and targets will serve as a policy framework for the City to ensure that sustainability concerns are incorporated into the City's decision-making processes.

Sacramento 2030 General Plan

The following select policies from the recently adopted Sacramento 2030 General Plan relate to air quality and climate change. It should be noted that community design and growth policies located throughout the Sacramento 2030 General Plan (and addressed in other chapters of this Draft EIR) also serve to reduce emissions by facilitating a more compact development form that encourages alternative forms of transportation.

Environmental Resources Element

Air Quality

Goal ER 6.1 — Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that contribute to climate change.

Policy ER 6.1.1 — Maintain Standards. The City shall work with the California Air Resources Board and the Sacramento Metropolitan Air Quality Management District to meet State and Federal ambient air quality standards.

Policy ER 6.1.2 — Emissions Reduction. The City shall require development projects that exceed the SMAQMD ROG and NO_X operational thresholds to incorporate design or operational features that reduce emissions equal to 15 percent from the level that would be produced by an unmitigated project.

IMPACTS AND MITIGATION MEASURES

Methods of Analysis

The following section discusses the methods utilized to determine the project's impacts.

Short-term Impacts

The SMAQMD recommends that construction-generated emissions of ROG and NO_X be quantified and presented as part of the analysis of project-generated emissions. However, because construction equipment emit relatively low levels of ROG and because ROG emissions from other construction processes (e.g., asphalt paving, architectural coatings) are typically regulated by the SMAQMD, the SMAQMD has not adopted a construction emissions threshold for ROG. The SMAQMD has, however, adopted a construction emissions threshold of 85 lbs/day for NO_X. In addition, if daily emissions of NO_X from heavy-duty mobile equipment do not exceed the 85 lbs/day threshold, then SMAQMD considers exhaust emissions of other pollutants to also be less than significant (SMAQMD 2004).

Short-term construction emissions of ROG and NO_X were estimated using the URBEMIS2007 (Version 9.2.4) computer program, as recommended by the SMAQMD. The URBEMIS2007 program is designed to model construction emissions for land use development projects and allows for the input of project-specific information. For development sites greater than 10 acres, URBEMIS modeling default parameters assume that one-quarter of the project area could be actively disturbed on any given day. Construction schedules used in the modeling were based on proposed project phasing start dates provided by the project engineer and model default construction duration schedules. Based on information provided by the project applicant, Quad B would be constructed in two separate phases over an approximate 24 month period beginning in 2013. Quad C would be developed in four separate phases, with each of these four phases being constructed over an approximate 12-month period. Phases I and III of Quad C would begin construction in 2011, followed by Phase II in 2012 and Phase IV in 2013. Quad D would be constructed over an approximate 36-month period with construction beginning in 2013. For modeling of Quad C phases, the URBEMIS default construction phase durations were used, which assume an approximate overall 12-month construction period. However, the URBEMIS2007 computer model does not account for longer construction periods in excess of 12 months. Although current modeling guidance allows for modification of construction schedules to reflect proposed project construction schedules, detailed construction information (including schedules) is not yet available for the proposed construction phases. As a result, the modeling of construction-generated emissions associated with Quads B and D, were based on construction schedules derived from the San Joaquin Valley Air Pollution Control District's *URBEMIS Development Timeline Calculator,* approved for use by the SMAQMD. The calculator provides estimated construction schedules for projects that are anticipated to be developed over multiple years, but for which detailed schedules are not yet available. At the recommendation of the SMAQMD, the construction schedules were adjusted to reflect an average 5-day workweek. All other modeling parameters, including equipment usage requirements, were based on URBEMIS model defaults. Development is not anticipated to require the export or import of soil (Alleghany Properties 2008). As a result, modeling does not include offsite transport of excavated material. Proposed project phases and construction start dates are summarized in **Table 5**.

Table 5
Project Construction Schedules

Project Phase	Start Year	Overall Duration of Construction
Quad B	2013	24 Months
Quad C, Phase I	2011	12 Months
Quad C, Phase II	2012	12 Months
Quad C, Phase III	2011	12 Months
Quad C, Phase IV	2013	12 Months
Quad D	2013	36 Months

Construction start dates and overall construction duration schedules are based on information provided by the project applicant.

Emissions of airborne particulate matter (PM) were evaluated using the SMAQMD's recommended screening criteria. The SMAQMD's screening criteria is based on the estimated daily area of disturbance associated with proposed project (refer to **Table 6**). For example, assuming a daily disturbance of between 12.1 and 15 acres, implementation of recommended "Level Three Mitigation" would typically be considered sufficient to reduce fugitive dust-related impacts to a less-than-significant level. If the maximum daily area of disturbance would exceed the screening criteria or if the project cannot undertake the mitigation measures that would be required, a more detailed analysis, involving dispersion modeling, may be required (SMAQMD 2004).

Table 6
SMAQMD Particulate Matter Screening Levels for Construction Projects

Maximum Daily Area of Disturbance	Recommended Mitigation
5 Acres and Below	• No Mitigation Required
5.1 – 8 Acres	• Level One Mitigation Required: • Water exposed soil twice daily. • Maintain two feet of freeboard space on haul trucks.
8.1 – 12 Acres	• Level Two Mitigation Required: • Water exposed soil three times daily. • Water soil piles three times daily. • Maintain two feet of freeboard space on haul trucks.
12.1 – 15 Acres	• Level Three Mitigation Required: • Keep soil moist at all times. • Maintain two feet of freeboard space on haul trucks. • Use emulsified diesel or diesel catalysts on applicable heavy-duty diesel construction equipment.
Source: SMAQMD 2004	

Long-term Impacts

Regional area- and mobile-source emissions associated with the proposed project were estimated using the URBEMIS2007 (Version 9.2.4) computer program. Emissions were calculated for both summer and winter conditions based on the default parameters contained in the model. Default trip generation rates contained in the model were revised to correspond with predicted trip generation rates identified in the traffic analysis prepared for this project, taking into account reductions due to internal and pass-by vehicle trips. For comparison purposes, modeling was conducted for both the proposed project and existing zoning conditions. Helicopter emissions associated with the use of the helipad at the proposed medical center were also calculated and included in the estimated project-generated emissions. A helicopter land site feasibility study has not yet been prepared for he proposed project. Helicopter flights were, therefore, assumed to be similar to those estimated for the recently proposed Sutter Sacramento Medical Center, which assumes an average of approximatley 150 flights per day (i.e., 0.4 flights/day). For the estimation of daily emissions, one helicopter flight/day was assumed, consisting of one approach and one departure flight. For modeling purposes, a combined average approach and departure flight length of 100 miles was assumed based on information obtained from similar facilities (UCSF LRDP 2005). A fifty mile radius would encompass the Sacramento metropolitan area and outlying communities located within the county and, therefore, would represent a reasonable estimation of maximum flight distance. Average flight distances for the transport of patients within the metropolitan area would be considerably less.

The SMAQMD has developed screening procedures, which can be used for the evaluation of the project's contribution to localized concentrations of mobile-source carbon monoxide (CO) concentrations. The SMAQMD's screening procedures are used to determine whether detailed intersection-level modeling is required for a proposed development project. The screening procedures conservatively estimate related impacts associated with buildout of proposed projects, based on an estimation of total peak-hour vehicle trips attributable to the proposed project. The screening procedures can be used for projects that generate up to approximately 3,000 peak-hour vehicle trips. However, based on the traffic analysis prepared for this project, the proposed project would generate up to approximately 5,074 peak-hour trips. As a result, a more detailed intersection-level screening procedure developed by the Bay Area Air Quality Management District (BAAQMD) was utilized for the evaluation of local mobile-source CO concentrations, approved for use by the SMAQMD. The BAAQMD screening procedure is based on the CALINE4 computer model, which was developed by the California Department of Transportation. For modeling purposes, the highest measured 1-hour and 8-hour CO concentrations obtained from the nearest monitoring stations for the last three years of available data were used (i.e., 6.3 and 5.6 ppm, respectively). Emission factors were derived from the Emfac2007 computer model for Sacramento County, year 2010 operational conditions for the month of January. Modeling of localized CO concentrations was conducted for a.m., p.m., and Saturday peak-hour conditions.

Exposure to localized concentrations of stationary-source TACs were qualitatively assessed. Emissions of DPM associated with diesel-fueled trucks traveling along I-5 were evaluated using the SMAQMD's *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways, Version 2.1* (January 2009). Exposure to odorous emissions were qualitatively assessed.

Estimated greenhouse gas emissions attributable to the proposed project were calculated using the URBEMIS2007 computer program and emission factors obtained from the CEC and CARB. Emissions were calculated for short-term construction and long-term operational activities, including emissions generated by mobile sources, energy consumption, and decomposition of project-generated waste. Emissions were converted to CO_2 equivalent units of measure, expressed in metric tons, based on the global warming potential of the individual pollutants.

Standards of Significance

For the purpose of this analysis, the following thresholds of significance, as identified by the SMAQMD or the State CEQA Guidelines (Appendix G), have been used to determine whether implementation of the proposed project would result in significant air quality impacts. Implementation of the proposed project would result in significant air quality impacts if:

- Short-term Emissions of NOx. Construction-generated criteria air pollutant or precursor emissions exceed the SMAQMD-recommended threshold of 85 pounds per day (lbs/day) for

NO_X, or substantially contribute to emissions concentrations (e.g., PM_{10}) that exceed the NAAQS or CAAQS. When emissions of NOx can be reduced to below 85 lbs/day, with implementation of all feasible mitigation measures and offsets, other construction-generated mobile-source pollutants can be considered to be less than significant (SMAQMD 2004).

- Short-term Emissions of Fugitive Dust (PM_{10}). The threshold of significance for PM_{10} is a concentration based threshold equivalent to the CAAQS. For PM_{10}, the construction-related impact of a project would be significant if it would emit pollutants at a level equal to or greater than the CAAQS (50 micrograms/cubic meter over a 24-hour period), utilizing the SMAQMD's screening criteria (**Table 6**).
- Long-term Emissions of Criteria Air Pollutants. Long-term regional criteria air pollutant or precursor emissions exceed the SMAQMD-recommended threshold of 65 lbs/day for ROG and NO_X, or substantially contribute to emissions concentrations (e.g., PM_{10}) that exceed the NAAQS or CAAQS.
- Local Carbon Monoxide Concentrations. Local mobile-source emissions exceed or substantially contribute to CO concentrations that violate the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9 ppm.
- Toxic Air Contaminants. Incremental increase in exposure of sensitive receptors to stationary-source TACs exceeds 10 in one million for the Maximally Exposed Individual (MEI) to contract cancer and/or a Hazard Index of one for the MEI; or, if localized concentrations of TACs from nearby existing transportation-sources would conflict with the compatibility of proposed sensitive land uses.
- Greenhouse Gas Emissions. Given the challenges associated with determining a project-specific significance criterion for GHG emissions when the issue must be viewed on a global scale, quantitative significance criteria are not proposed for the project. Accordingly, while potential CO2 emissions are quantified for informational purposes, a quantitative threshold of significance is not applied to the GHG emissions of the proposed project. For this analysis, the incremental contribution of the proposed project to global climate change would be considered significant if it would:
    - Conflict with or obstruct implementation of the goals or strategies of Executive Order S-3-05, the California Global Warming Solutions Act of 2006, or the Attorney General's suggested global warming mitigation measures.

Project-Specific Impacts and Mitigation Measures

> ***IMPACT 1: Short-term Increases of Ozone-Precursor Pollutants****. Predicted daily emissions of NO_X associated with development of the proposed project would exceed the SMAQMD's significance threshold of 85 lbs/day. As a result, short-term construction-generated emissions of ozone-precursor pollutants would be considered* ***significant****. With mitigation, this impact would be considered* ***less than significant****.*

Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction and development of the proposed land uses would result in the temporary generation of emissions resulting from site grading and excavation, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

<u>Proposed Project</u>

Development of the proposed project would occur in six separate phases. Quad C would be developed in four phases, beginning in the year 2011, with each phase being constructed over an approximate one-year period. Quad D would be developed over an approximate 3-year period, beginning in 2013. Though not proposed for development at this time, Quad B is estimated to begin construction in 2013 and would be constructed over an approximate 2-year period (refer to **Table 5**).

Estimated daily construction-generated emissions associated with the development of the proposed project phases (i.e., Quad B, C1-4, and D) are summarized in **Table 7**. In addition to emissions of NOx, for which the SMAQMD has adopted a recommended significance threshold, estimated construction-generated emissions of ROG, PM_{10}, and $PM_{2.5}$ associated with the development of the various project phases are also depicted, for informational purposes. As depicted in **Table 7**, construction-generated emissions of NOx attributable to the individual project phases would range from approximately 35 to 82 lbs/day, depending on the specific activities being conducted. However, as noted earlier in this report, development of some project phases could occur simultaneously (refer to **Table 5**). Maximum daily construction-generated emissions of NOx, assuming multiple project phases being constructed simultaneously, are summarized in **Table 8** in comparison to the SMAQMD's significance threshold of 85 lbs/day. As depicted, predicted maximum daily emissions of NO_X , assuming multiple project phases under simultaneous construction, could reach levels of approximately 125 lbs/day. Estimated maximum daily emissions of NOx would exceed the SMAQMD's significance threshold of 85 lbs/day. As a result, short-term construction-generated emissions of NOx would be considered **significant**.

Table 7
Short-term Construction-Generated Emissions – Proposed Project
Ozone-Precursor Pollutants by Construction Phase (Unmitigated)

Building Phase/Site Alternative	Maximum Daily Emissions (lbs/day) [1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Quad C - Phase I				
Fine Grading	3.94	31.66	125.29	27.37
Asphalt Paving	4.31	18.45	1.44	1.31
Building Construction	3.93	17.83	1.32	1.16
Architectural Coatings	248.47	0.12	0.02	0.01
Maximum Daily Emissions:	252.40	50.11	126.74	28.67
Quad C - Phase II				
Fine Grading	2.72	21.98	70.08	15.40
Asphalt Paving	3.76	18.36	1.52	1.38
Building Construction	3.48	16.15	1.16	1.03
Architectural Coatings	172.80	0.08	0.01	0.01
Maximum Daily Emissions:	176.28	40.34	71.60	16.78
Quad C - Phase III				
Grading	2.86	23.48	84.58	18.50
Asphalt Paving	2.85	15.94	1.37	1.25
Building Construction	3.62	16.60	1.22	1.10
Architectural Coatings	107.14	0.05	0.01	0.00
Maximum Daily Emissions:	110.76	39.42	85.95	19.75
Quad C - Phase IV				
Grading	2.57	20.60	84.39	18.33
Asphalt Paving	2.55	4.22	1.19	1.08
Building Construction	3.07	14.64	1.00	0.90
Architectural Coatings	107.14	0.04	0.01	0.00
Maximum Daily Emissions:	110.20	34.82	85.58	19.41
Quad B				
Grading	4.69	35.79	325.18	69.31
Asphalt Paving	4.64	18.61	1.47	1.33
Building Construction	5.24	27.71	2.08	1.67
Architectural Coatings	486.88	0.18	0.04	0.02
Maximum Daily Emissions[2]:	491.67	82.10	328.72	72.31

Table 7 Short-term Construction-Generated Emissions – Proposed Project Ozone-Precursor Pollutants by Construction Phase (Unmitigated)				
Building Phase/Site Alternative	**Maximum Daily Emissions (lbs/day)** [1]			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Quad D				
Grading	3.54	27.81	178.42	38.27
Asphalt Paving	2.89	14.20	1.17	1.06
Building Construction	5.18	22.77	1.82	1.39
Architectural Coatings	367.30	0.12	0.03	0.02
Maximum Daily Emissions:	367.30	27.81	178.42	38.27

1. *Based on URBEMIS2007computer modeling. Quad C, Phases I-4 are based on default URBEMIS2007 construction schedule assumptions, which assumes an approximate one-year overall construction period for each phase. Construction schedules for Quads B and D were calculated using the SJVAPCD's construction time-line calculate, approved for use by the SMAQMD. Construction schedules for Quad B and Quad D assume an overall construction period 24-months and 36-months, respectively. Construction schedules for Quads B and D were adjusted to reflect an average 5-day workweek, in accordance with SMAQMD recommendations.*
2. *Maximum daily emissions were calcuated by the URBEMIS2007 computer program and assume multiple construction phases could occur simultaneously, based on the default construction periods and schedules contained within the URBEMIS2007 model. As a result, maximum daily emissions may not reflect the sum total or maximum emissions associated with thef individual construction phase emissions noted in this table.*

Refer to ***Appendix A*** *for modeling assumptions and emissions calculations.*

Existing Zoning Alternative

Detailed construction information is not available for this alternative. However, as discussed above for the proposed project, emissions of NOx generated during construction would be anticipated to be greatest during the initial grading phases due to the increased amount of off-highway equipment required. Modeling of emissions conducted for the grading phases, as depicted in **Table 7**, are based on the assumption that roughly 25 percent of the project area would be actively disturbed on any given day. Assuming that development, in accordance with the existing zoning, were to proceed in a manner similar to that of the proposed project, resultant maximum daily emissions of NOx would be similar to those depicted in **Table 7**. It is important to note, however, that maximum daily emissions of NOx would be dependant on the amount of construction occurring on any given day.

Table 8
Short-term Construction-Generated NO_X Emissions – Proposed Project by Construction Year (Unmitigated)

Year	Period	Project Phases	Emissions (lbs/day)	Exceeds Threshold (85 lbs/day)?
2011	1/3-1/28	Quad C-Phase I & Quad C-Phase III	55.14	*No*
	1/31-2/11	Quad C-Phase I & Quad C-Phase III	89.53	*Yes*
	2/14-9/9	Quad C-Phase I & Quad C-Phase III	34.43	*No*
	9/12-9/23	Quad C-Phase I & Quad C-Phase III	34.62	*No*
	9/26-10/7	Quad C-Phase I & Quad C-Phase III	0.14	*No*
2012	1/2-1/27	Quad C-Phase II	21.98	*No*
	1/30-2/10	Quad C-Phase II	40.34	*No*
	2/13-9/7	Quad C-Phase II	16.15	*No*
	9/10-9/21	Quad C-Phase II	16.23	*No*
	9/24-10/5	Quad C-Phase II	0.08	*No*
2013	1/1-1/2	Quad B, Quad D & Quad C-Phase IV	63.6	*No*
	1/3-1/30	Quad B, Quad D & Quad C-Phase IV	84.2	*No*
	1/31-2/13	Quad B, Quad D & Quad C-Phase IV	98.42	*Yes*
	2/14-3/14	Quad B, Quad D & Quad C-Phase IV	78.24	*No*
	3/15	Quad B, Quad D & Quad C-Phase IV	124.55	*Yes*
	3/18-4/15	Quad B, Quad D & Quad C-Phase IV	88.76	*Yes*
	4/16-4/19	Quad B, Quad D & Quad C-Phase IV	70.16	*No*
	4/20-4/30	Quad B, Quad D & Quad C-Phase IV	42.35	*No*
	5/1-6/7	Quad B, Quad D & Quad C-Phase IV	79.32	*No*
	6/8-6/9	Quad B, Quad D & Quad C-Phase IV	42.35	*No*
	6/10-9/11	Quad B, Quad D & Quad C-Phase IV	65.12	*No*
	9/12-9/26	Quad B, Quad D & Quad C-Phase IV	65.17	*No*
	9/27-9/31	Quad B, Quad D & Quad C-Phase IV	50.48	*No*
2014	1/1-10/3	Quad B & Quad D	46.18	*No*
	10/4-10/5	Quad B & Quad D	20.84	*No*
	10/6-12/4	Quad B & Quad D	46.36	*No*
	12/5-12/31	Quad B & Quad D	20.84	*No*
2015	1/1-9/18	Quad D	19.05	*No*
	9/21-11/20	Quad D	19.17	*No*
	11/23-12/25	Quad D	0.12	*No*

Based on URBEMIS2007 modeling results and assumptions identified in Table 7.

Mitigation Measure 1: Short-term Increases of Criteria Air Pollutants.

To reduce maximum daily NO_X emissions from heavy-duty diesel-fueled construction equipment, the following measures shall be implemented:

a. The development of proposed project phases shall coincide with the schedules identified in **Table 5** of this report. The project applicant shall also implement the following SMAQMD-recommended mitigation measures for the control of NO_X emissions from heavy-duty diesel-fueled construction equipment:

    (1) The project applicant shall provide a plan for approval by the City, in consultation with SMAQMD, demonstrating that the heavy-duty (>50 horsepower), off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet-average 20-percent NO_X reduction and 45-percent particulate reduction compared to the most recent CARB fleet average at the time of construction. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, particulate matter traps, engine retrofit technology, after-treatment products, and/or such other options as become available.

    (2) The project applicant shall submit to the City and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that will be used an aggregate of 40 or more hours during any portion of the project. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction operations occur. At least 48 hours before subject heavy-duty off-road equipment is used, the project representative shall provide the SMAQMD with the anticipated construction timeline including start date, and the name and phone number of the project manager and onsite foreman.

    (3) The project applicant shall ensure that emissions from off-road, diesel-powered equipment used on the project site do not exceed 40-percent opacity for more than 3 minutes in any 1 hour, as determined by an on-site inspector trained in visual emissions assessment. Any equipment found to exceed 40-percent opacity (or Ringlemann 2.0) shall be repaired immediately, and the SMAQMD shall be notified of non-compliant equipment within 48 hours of identification. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of visual survey results shall be submitted throughout the duration of the construction project, except that the monthly summary shall not be required for any 30-day period in which no construction operations occur. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance.

(4) The project applicant shall pay a mitigation fee to the SMAQMD to offset any remaining construction-generated daily NO_X emissions in excess of the SMAQMD's significance threshold of 85 lbs/day. SMAQMD mitigation fees shall be calculated and paid in coordination with SMAQMD prior to issuance of building or grading permits. Based on the currently proposed construction schedule, the simultaneous development of Quad B, Quad C-Phase IV, and Quad D would generate 25.7 lbs/day of NO_X in excess of SMAQMD's significance threshold. Based on this estimate and the SMAQMD's current mitigation fee ($16,000/ton), the proposed project proponent shall pay of fee of $123 to mitigate excess NOx emissions. In the event that the project phasing schedule would differ from the schedule used for this analysis (refer to **Table 5**), the project proponent shall notify SMAQMD and the project proponent shall recalculate construction-related emissions in accordance with the most current SMAQMD-recommended methodologies.

Timing/Implementation:	Prior to issuance of grading permits
Monitoring/Enforcement:	City of Sacramento Development Services Dept./SMAQMD

Significance After Mitigation

Mitigated construction-generated emissions of NO_X and associated mitigation fees are summarized in **Table 9**. Implementation of SMAQMD's standard construction mitigation measures would reduce NO_X emissions by approximately 20 percent. As depicted, implementation of SMAQMD's standard mitigation measures would be sufficient to reduce maximum daily emissions to below SMAQMD's NO_X significance threshold of 85 lbs/day, with the exception of a single day during which construction activities associated with Quad B, Quad D, and Quad C-Phase IV are projected to overlap (i.e., March 15, 2014). On this day, mitigation emissions of NO_X would total approximately 99.64 lbs; 14.64 lbs over the SMAQMD's significance threshold of 85 lbs/day. Based on the current mitigation fee (i.e., $16,000/ton) a fee of $123 shall be paid to SMAQMD to offset mitigated NO_X emissions in excess of the threshold. The proposed project shall adhere to the phasing schedule provided for this project, which is the basis for the emissions calculations and mitigation fee. In the event that changes to the construction schedules occur, emission of NO_X and associated mitigation fees shall be recalculated, based on the mitigation fee in place, at the time fees are to be paid. With mitigation, this impact would be considered **less than significant**.

Table 9
Mitigated Construction-Generated NOx Emissions

Year	Period	Project Phases	NOx (lbs/day) Unmitigated	NOx (lbs/day) Mitigated[1]	NOx Over Threshold	Duration (Days)	Total Significant NOx (lbs)
2013	1/31-2/13	Quad B, Quad D & Quad C-Phase IV	98.42	78.74	0	10	0
2013	3/15	Quad B, Quad D & Quad C-Phase IV	124.55	99.64	14.64	1	14.64
2013	3/18-4/15	Quad B, Quad D & Quad C-Phase IV	88.76	71.01	0	21	0
				Total Project NO_X Over Threshold (lbs):	14.64		
				Total Project NO_X Over Threshold (tons):	0.01		
MITIGATION FEE ($16,000/TON)[2]			$117				
SMAQMD ADMINISTRATIVE FEE:			$6				
TOTAL FEE:			$123				

*Based on SMAQMD Construction Mitigation Fee Calculator and URBEMIS modeling results for the proposed project (**Table 8**).*
Fee is to be paid to the SMAQMD prior to any ground disturbance.
1. Assumes a construction mitigation plan which achieves a 20% reduction in NOX from onsite, off-road equipment.
2. Or the $/ton of NOX cost-effectiveness value in effect at the time the fee is collected.

IMPACT 2*: Short-term Increases of Fugitive Dust**. *Short-term construction activities could result in localized concentrations of PM in excess of applicable standards. As a result, this impact is considered* ***significant*. With mitigation, this impact would be considered* ***less than significant****.*

Construction projects that require grading or other earth-moving activities generate large amounts of particulate matter. While construction related emissions produce only temporary impacts, these short-term impacts contribute to the emission inventory. Under certain conditions, the increased pollution load can exceed State and National Ambient Air Quality Standards.

Emissions modeling was conducted for the proposed project using the URBEMIS2007 computer program, based on default parameters contained in the model and construction information provided by the project applicant. Calculated emissions of PM attributable to the proposed project are summarized in **Table 7** (refer to **Impact 1**) and discussed below. For comparison purposes, anticipated construction-generated emissions associated with the existing community plan alternative are also discussed.

Proposed Project

As depicted in **Table 7**, development of each of the proposed phases would generate maximum unmitigated daily emissions of up to approximately 328 lbs/day of PM_{10} and 72 lbs/day of $PM_{2.5}$. A majority of total particulate emissions would be fugitive dust generated during initial site preparation. Assuming that multiple phases would be constructed simultaneously, the proposed project would generate a combined total of approximately 593 lbs/day of PM_{10} and 131 lbs/day of $PM_{2.5}$.

To assist in the evaluation of fugitive dust-related impacts, SMAQMD staff has developed screening criteria for construction projects (refer to **Table 5** of this report). As previously discussed, these screening levels are based on the maximum actively disturbed area of the project site. Based on construction data provided by the project engineer, initial grading associated with each of the proposed development phases would range from approximately 4 to 9 acres/day of active ground disturbance. However, as noted earlier in this report, multiple phases could be under construction simultaneously on any given day. The highest potential for ground disturbance would occur in the year 2013 associated with the simultaneous development of Quad B, Quad C-Phase IV, and Quad D. Assuming that one-quarter of the project areas were to be actively disturbed on any given day, the simultaneous development of Quad B, Quad C-Phase IV, and Quad D would result in a combined area of daily disturbance of approximately 29 acres. However, it is important to note that Quads B and D are separated by a distance of approximately 2,400 feet. As a result, the combined contribution to localized concentrations of PM at nearby individual receptor locations due to the simultaneous development of these areas would be somewhat diminished. Nonetheless, given that the proposed project does not include measures for reducing fugitive dust emissions, as recommended by the SMAQMD, this impact would be considered **significant**.

Existing Zoning Alternative

Detailed construction information is not available for this alternative. However, as discussed above and depicted in **Table 7**, emissions of PM generated during construction would be anticipated to be greatest during the initial grading phases. Modeling of emissions conducted for the grading phases is based on the assumption that roughly 25 percent of the project area would be actively disturbed on any given day. Assuming that development, in accordance with existing zoning, were to proceed in a manner similar to that of the proposed project, resultant maximum daily emissions of PM would be similar to those depicted in **Table 7**. It is important to note, however, that maximum daily emissions of PM would be largely dependant on the amount of grading occurring on any given day.

Mitigation Measure 2: Short-term Increases of Airborne Particulate Matter.

a. Prior to approval of any grading permit, the project proponent shall submit a dust-control plan to the City of Sacramento Development Services Department. The dust-control plan shall stipulate grading schedules associated with the proposed project phases (i.e., Quads B, C1-4, and D); as well as, the dust-control measures to be implemented. Grading of proposed project phases shall be scheduled so that the total combined area of disturbance from all active construction phases would not to exceed a total of 15 acres per day. The dust control plan shall be incorporated into all construction contracts issued as part of the proposed project development. The dust-control plan shall, at a minimum, incorporate the following measures:

   - Apply water, chemical stabilizer/suppressant, or vegetative cover to disturbed areas, including storage piles that are not being actively used for construction purposes, as well as any portions of the construction site that remain inactive for longer than 3 months;
   - Water exposed surfaces sufficient to control fugitive dust emissions during demolition, clearing, grading, earth-moving, or excavation operations. Actively disturbed areas should be kept moist at all times;
   - Cover all vehicles hauling dirt, sand, soil or other loose material or maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114;
   - Limit or expeditiously remove the accumulation of project-generated mud or dirt from adjacent public streets at least once every 24 hours when construction operations are occurring;
   - Limit onsite vehicle speeds on unpaved surfaces to 15 mph, or less.

   Timing/Implementation: Prior to issuance of grading permits
   Monitoring/Enforcement: City of Sacramento Development Services Dept.

Significance After Mitigation

Construction-generated emissions, with implementation of the above mitigation measures, were calculated using the URBEMIS2007 computer program. The URBEMIS2007 computer program takes into account the effectiveness of the above mitigation measures in reducing emissions generated by the various onsite activities, such as grading, vehicle travel on unpaved surfaces, wind-generated dust, and material handling. Depending on the individual activities and processes being conducted and the measures applied, the effectiveness of the above mitigation measures in reducing fugitive dust emissions can vary from approximately 44 to 84 percent. Based on the URBEMIS modeling conducted and assuming that multiple project phases could be constructed simultaneously, implementation of the above mitigation measures would reduce maximum daily emissions to approximately 56 lbs/day of PM_{10} and 17 lbs/day of $PM_{2.5}$. For projects resulting in less than 15 acres of distance/day, the SMAQMD considers implementation of recommended mitigation measures for the control of fugitive dust to be sufficient to reduce project generated emissions of fugitive dust to a less-than-significant level. With mitigation, short-term increases of construction-generated PM would be considered ***less than significant***.

IMPACT 3*: Long-term Increases of Criteria Air Pollutants**. *Predicted emissions of ROG and NOx would exceed SMAQMD's recommended significance threshold of 65 lbs/pollutant/day. As a result, this impact would be considered* ***significant*. Implementation of recommended mitigation measures would reduce this impact, but not to a less-than-significant level. As a result, this impact is considered* ***significant and unavoidable****.*

Long-term increases in area- and mobile-source emissions associated with the proposed land uses were estimated using the URBEMIS2007 computer program, which is designed to model emissions for land use development projects. The default settings for Sacramento County contained in the model were used for this analysis. In accordance with SMAQMD recommendations, predicted operational emissions were calculated for both summer and winter conditions. For comparison purposes, emissions were calculated for both existing community plan and proposed project conditions. Long-term operational emissions are summarized in **Table 10**.

Proposed Project

During the summer ozone season, development of the proposed project would generate maximum daily emissions of approximately 367 lbs/day of ROG, 376 lbs/day of NO_X, 826 lbs/day of PM_{10}, and 159 lbs/day of $PM_{2.5}$. During the winter months, the proposed project would generate maximum daily emissions of approximately 367 lbs/day of ROG, 552 lbs/day of NO_X, 850 lbs/day of PM_{10}, and 182 lbs/day of $PM_{2.5}$. In comparison to existing zoning, the proposed project would result in net increases of up to approximately 213 lbs/day of ROG, 316 lbs/day of NO_X, 501 lbs/day of PM_{10}, and 116 lbs/day of $PM_{2.5}$. Predicted maximum daily emissions of ROG and NO_X attributable to the proposed project would exceed SMAQMD's recommended significance threshold of 65 lbs/pollutant/day. As a result, this impact would be considered **significant**.

Table 10 Long-term Operational Emissions of Criteria Air Pollutants (Unmitigated)								
Source	**Estimated Emissions (lbs/day)**							
	Summer Conditions				**Winter Conditions**			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Zoning								
Mobile Sources	155.34	148.61	348.62	66.69	140.31	221.66	348.62	66.69
Natural Gas Usage	1.08	14.85	0.03	0.03	1.08	14.85	0.03	0.03
Landscape Maintenance	0.25	0.04	0.01	0.01	No Winter Emissions			
Architectural Coatings	12.74	--	--	--	12.74	--	--	--
Total:	169.41	163.50	348.66	66.73	154.13	236.51	348.65	66.72
SMAQMD thresholds (lbs/pollutant/day)	*65*	*65*	--	--	*65*	*65*	--	--
Total Emissions Exceeds Thresholds?	*Yes*	*Yes*	--	--	*Yes*	*Yes*	--	--
Proposed Project								
Mobile Sources	339.60	353.58	824.27	157.61	332.30	526.76	824.27	157.61
Natural Gas Usage	1.58	21.59	0.04	0.04	1.58	21.59	0.04	0.04
Landscape Maintenance	0.98	0.17	0.04	0.04	No Winter Emissions			
Architectural Coatings	16.48	--	--	--	16.48	--	--	--
Hearth	No Summer Emissions				16.35	3.55	24.22	23.32
Helicopter Emissions	0.5	0.4	1.20	1.20	0.5	0.4	1.20	1.20
Total:	367.27	375.74	825.55	158.89	367.18	552.30	849.73	182.17
Net Increases In Comparison to Existing CP:	197.36	211.84	475.69	90.96	213.05	315.79	501.08	115.45
SMAQMD thresholds (lbs/pollutant/day)	*65*	*65*	--	--	*65*	*65*	--	--
Total Emissions Exceeds Thresholds?	*Yes*	*Yes*	--	--	*Yes*	*Yes*	--	--

*Emissions were calculated using the URBEMIS2007 (v9.2.4) computer program for buildout conditions.Refer to **Appendix A** for emissions calculations.*

Existing Zoning Alternative

During the summer ozone season, development in accordance with the existing zoning would generate maximum daily emissions of approximately 169 lbs/day of ROG, 164 lbs/day of NO_X, 349 lbs/day of PM_{10}, and 67 lbs/day of $PM_{2.5}$. During the winter months, the proposed project would generate maximum daily emissions of approximately 154 lbs/day of ROG, 237 lbs/day of NO_X, 349 lbs/day of PM_{10}, and 67 lbs/day of $PM_{2.5}$. Unmitigated maximum daily emissions during both summer and winter operational conditions would exceed SMAQMD-recommended significance thresholds of 65 lbs/pollutant/day.

Mitigation Measure 3: Long-term Increases of Criteria Air Pollutants.

Prior to project approval, the project applicant will obtain written endorsement from the SMAQMD for an Air Quality Mitigation Plan (AQMP). In accordance with SMAQMD recommendations, the AQMP shall achieve a minimum overall reduction of 15 percent in the project's anticipated operational NOx and ROG emissions. Measures anticipated to be applicable to the proposed project and currently recommended by the SMAQMD include, but are not limited to, the following:

- Provide onsite short-term and long-term bicycle parking.
- Provide "end-of-trip" bicycle facilities including showers, lockers, and changing space.
- Provide bicycle network that includes linkage to existing Class I or Class II bike lanes.
- Provide pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site.
- Incorporate onsite transit facility improvements (e.g., pedestrian shelters, route information, benches, lighting) to coincide with existing or planned transit service.
- Provide pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements that reduce motor vehicle speeds and encourage pedestrian and bicycle trips.
- Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.
- Orient project toward existing or planned transit, bicycle, or pedestrian corridors. Minimize setback distances of buildings.
- Provide a mix of onsite land uses, proximate to existing or planned transit facilities.
- Install Energy-Star rated roofing materials.
- Provide shade (within 5 years) and/or use light-colored/high-albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's non-roof impervious surfaces, including parking lots, walkways, plazas, etc.; or, place

a minimum of 50% of parking spaces underground or covered by structured parking; or, use an open-grid pavement system (less than 50% impervious) for a minimum of 50% of the parking lot area.

- Provide preferential parking (e.g., near building entrance, sheltered area, etc.) for carpool and vanpool vehicles.
- Incorporate landscaping and sun screens to reduce energy use. Deciduous trees should be utilized for building shading to increase solar heating during the winter months. Install sun-shading devices (e.g., screens) or recessed windows on newly proposed buildings.

Timing/Implementation: Prior to issuance of grading permits
Enforcement/Monitoring: City of Sacramento and SMAQMD

Significance After Mitigation

In accordance with SMAQMD recommendations, Implementation of the above mitigation measures would reduce long-term operational emissions attributable to the proposed project by a minimum of approximately 15 percent. Specific levels of reduction would be dependent on the mitigation measures ultimately selected and degree to which they are incorporated into the project design and operation. Assuming an overall minimum emissions reduction of 15 percent, maximum daily operational emissions at buildout would total approximately 312 lbs/day of ROG and 466 lbs/day of NO_X. With implementation of recommended emission-reduction measures, predicted operational emissions of ROG and NO_X would continue to exceed SMAQMD's corresponding significance thresholds of 65 lbs/pollutant/day. As a result, this impact would be considered **significant and unavoidable**.

IMPACT 4: ***Contribution to Local Mobile-Source Concentrations of Carbon Monoxide***. Predicted CO concentrations would not exceed applicable 1-hour or 8-hour CAAQS. As a result, this impact would be considered ***less than significant***.

Carbon monoxide (CO) is the criteria air pollutant of primary concern associated with the proposed project. Under specific meteorological and operational conditions, such as near areas of heavily congested vehicle traffic, CO concentrations may reach unhealthy levels. Predicted CO concentrations were evaluated for roadway intersections projected to operate at unacceptable levels of service (i.e., LOS E or F). Modeling was conducted for weekday a.m. and p.m. peak-hour and Saturday peak-hour conditions, based on traffic volumes obtained from the traffic analysis prepared for this project. For comparison purposes, modeling was conducted for the proposed project and existing zoning conditions. Predicted concentrations of CO for near-term and future cumulative conditions are summarized in **Table 11** and **Table 12**, respectively.

Proposed Project

Based on the modeling conducted, implementation of the proposed project would contribute to unacceptable LOS at two nearby roadway intersections, including the intersection of E.

Commerce Way and Del Paso Road, and the intersection of E. Commerce Way and Arena Boulevard. The predicted highest localized CO concentrations would occur during the p.m. peak hour. Under near-term baseline-plus-project conditions, predicted maximum weekday 1-hour and 8-hour CO concentrations would be 9.7 ppm and 7.2 ppm, respectively. Under near-term baseline conditions, predicted CO concentrations would not be anticipated to exceed the 1-hour or 8-hour CAAQS (i.e., 20 ppm and 9.0 ppm, respectively). Under future cumulative traffic conditions, implementation of the proposed project would contribute to unacceptable LOS at nine nearby roadway intersections. Predicted maximum 1-hour and 8-hour CO concentrations would be 10.7 ppm and 7.7 ppm, respectively. Localized CO concentrations would not exceed applicable CAAQS. As a result, this impact would be considered ***less than significant***.

Existing Zoning Alternative

Under near-term baseline conditions, the existing zoning alternative would result in unacceptable levels of service at the intersection of E. Commerce Way and Del Paso Road. Predicted maximum 1-hour and 8-hour CO concentrations would be 9.8 ppm and 7.2 ppm, respectively. Under future cumulative traffic conditions, the existing zoning alternative would contribute to unacceptable LOS at eight nearby roadway intersections. Predicted maximum 1-hour and 8-hour CO concentrations would be 10.7 ppm and 7.7 ppm, respectively. Localized CO concentrations would not exceed applicable CAAQS. As a result, this impact would be considered ***less than significant***.

Table 11
Local Mobile-Source Carbon Monoxide Concentrations
Baseline Conditions

Intersection	CO Concentration (ppm)					
	Weekday AM		Weekday PM		Saturday	
	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr
Baseline Plus Existing Zoning						
E. Commerce Way and Del Paso Road	9.2	7.0	9.8	7.2	8.8	6.8
Baseline Plus Project						
E. Commerce Way and Del Paso Road	9.1	6.9	9.7	7.2	8.8	6.8
E. Commerce Way and Arena Boulevard	8.3	6.6	9.0	6.9	8.6	6.7
California Ambient Air Quality Standard (CAAQS):	*20.0*	*9.0*	*20.0*	*9.0*	*20.0*	*9.0*
Predicted CO Concentrations Exceed CAAQS?	*No*					

Predicted CO concentrations are the sums of a background component, which includes the cumulative effects of all CO sources in the project area vicinity, and the proposed project's contribution.
Refer to ***Appendix A*** *for CO screening analysis modeling.*

Table 12
Local Mobile-Source Carbon Monoxide Concentrations
Future Cumulative Conditions

Intersection	CO Concentration (ppm)					
	Weekday AM		Weekday PM		Saturday	
	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr
Cumulative Plus Existing Zoning						
E. Commerce Way and Del Paso Road	10.3	7.5	10.7	7.7	10.2	7.4
E. Commerce Way and Arco Arena Main Entrance	8.7	6.7	9.1	6.9	8.0	6.4
E. Commerce Way and Arena Boulevard	9.5	7.1	9.8	7.3	--	--
E. Commerce Way and Natomas Crossing	8.3	6.5	8.4	6.6	--	--
E. Commerce Way and San Juan Road	8.0	6.4	7.9	6.4	--	--
Duckhorn Drive and Natomas Crossing	8.1	6.3	8.2	6.4	--	--
Truxel Road and Arena Boulevard	9.6	7.2	10.1	7.5	8.8	6.8
I-5 Northbound Ramps and Arena Boulevard	--	--	--	--	9.5	7.1
California Ambient Air Quality Standard (CAAQS):	*20.0*	*9.0*	*20.0*	*9.0*	*20.0*	*9.0*
Predicted CO Concentrations Exceed CAAQS?	*No*					
Cumulative Plus Project						
E. Commerce Way and Del Paso Road	10.3	7.5	10.7	7.7	10.4	7.5
E. Commerce Way and Arena Boulevard	9.4	7.0	9.9	7.3	9.7	7.2
E. Commerce Way and Arco Arena Main Entrance	8.7	6.7	9.2	6.9	8.4	6.6
E. Commerce Way and Natomas Crossing	8.4	6.6	8.6	6.7	--	--
E. Commerce Way and Road D2	8.0	6.4	8.2	6.5	--	--
E. Commerce Way and San Juan Road	8.4	6.6	8.5	6.6	--	--
Duckhorn Drive and Natomas Crossing	7.5	6.2	7.7	6.2	--	--
Truxel Road and Arena Boulevard	9.8	7.2	10.3	7.5	9.0	6.9
I-5 Northbound Ramps and Arena Boulevard	--	--	--	--	9.6	7.2
California Ambient Air Quality Standard (CAAQS):	*20.0*	*9.0*	*20.0*	*9.0*	*20.0*	*9.0*
Predicted CO Concentrations Exceed CAAQS?	*No*					

Predicted CO concentrations are the sums of a background component, which includes the cumulative effects of all CO sources in the project area vicinity, and the proposed project's contribution.
Refer to ***Appendix A*** *for CO screening analysis modeling.*

***IMPACT 5**: **Increased Exposure of Sensitive Receptors to Localized Concentrations of Toxic Air Contaminants**. Implementation of the proposed project would include development of sensitive land uses in proximity to Interstate 5 (I-5). Mobile-source TACs associated with vehicle traffic on I-5 could adversely affect proposed onsite sensitive land uses. For this reason, this impact would be considered **significant**.*

Implementation of the proposed project could result in the exposure of sensitive receptors to toxic air contaminants (TACs). Emissions of TAC can occur during both the construction and operational phases of the project. Health-related impacts associated with short-term construction and long-term stationary and mobile source operational emissions are discussed separately, as follows:

Short-Term Construction

Construction of the proposed land uses would result in temporary emissions of diesel-exhaust particulates (diesel PM or DPM) associated with the operation of offroad construction equipment. DPM was identified as a TAC by the CARB in 1998.

Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. For residential land uses, the calculation of cancer risk associated with exposure of to TACs are typically calculated based on a 70-year period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Assuming an overall construction period of approximately 5-years, construction activities would constitute approximately seven percent of the total exposure period typically applied for the calculation of risk. For these reasons, diesel-exhaust PM generated by project construction, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in 1 million for nearby receptors. Short-term exposure to construction-generated TACs would be considered **less than significant**.

Long-Term Operation – Stationary Sources

As discussed earlier in this report, no major stationary sources of TACs have been identified within the vicinity of the project site. However, the proposed project would result in the development of commercial land uses, such as gasoline dispensing facilities and dry cleaning establishments, which could generate emissions of TACs. Such sources of TACs would be subject to SMAQMD rules and regulations, including SMAQMD Rule 201 (General Permit Requirements), Rule 202 (New Source Review), Rule 904 (Air Toxics Control Measures), and Rule 207 (Title V-Federal Operating Permit Program). All stationary sources that have the potential to emit TACs are required to obtain permits from the SMAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations. As part of the SMAQMD's permitting requirements, sources having the potential to emit TACs would be required to implement measures designed to ensure that potential health risks to nearby receptors would not exceed established standards. Given that compliance with applicable regulatory standards is required as part of the permitting process for the development and operation of facilities that may emit TACs, emissions of TACs associated with the development of any stationary sources attributable to the proposed project would be considered **less than significant**.

Long-Term Operation – Mobile Sources

In addition to the development of new stationary-sources of emissions, implementation of the proposed project would result in the development of new sensitive land uses in the vicinity of Interstate 5 (I-5). Diesel-fueled trucks traveling on I-5 would be considered a major source of diesel-exhaust PM that could adversely affect nearby sensitive land uses. As part of the proposed project, development of Quad "D" would include the construction of a proposed medical center. Detailed information regarding the proposed medical center is not yet available. However, based on the Quad "D" conceptual site plan, the nearest building façade of the proposed medical center would be located approximately 200 feet from the nearest travel lane of I-5. Future development of Quad "B" would also include sensitive land uses, including 180 residential townhouse/condominium units. However, Quad "B" is not proposed for development at this time and the location of these land uses has not yet been identified.

As noted earlier in this report, the ARB released an informational guide entitled: *Air Quality and Land Use Handbook: A Community Health Perspective* (*Handbook*). The purpose of CARB's *Handbook* is to provide information to aid local jurisdictions in addressing issues and concerns related to the siting of sensitive land uses near major sources of air pollution, such as Interstate 80 that is adjacent to the site. The *Handbook* recommends that sensitive land uses should typically not be located closer than 500 feet from a major roadway, which is based on an approximate 70 percent drop in DPM concentrations. However, the recommendations of the ARB's *Handbook* are advisory and do not take into account local policies or site-specific conditions (CARB 2005). In response to the recommendations identified in the ARB's *Handbook* and to assist local jurisdictions in assessing the potential cancer risk of siting sensitive land uses adjacent to major roadways located within the Sacramento metropolitan region, the SMAQMD released a protocol document entitled: *Recommended Protocol For Evaluating The Location Of Sensitive Land Uses Adjacent To Major Roadways* (*Protocol*), which was most recently updated in March 2009. As with the ARB's *Handbook*, the SMAQMD's *Protocol* also provides recommended distances for the siting of sensitive land uses near major roadways, taking into account traffic volumes and orrientation to the roadway. The SMAQMD's *Protocol* establishes a screening criteria of 296 in one million for mobile sources (SMAQMD 2009).

Based on the traffic analysis prepared for this project, traffic volumes on I-5, adjacent to Quad D, total 11,006 vehicles during the a.m. peak-hour and 11,928 vehicles during the p.m. peak-hour. Based on these traffic volumes and taking into account the orientation of the project site to I-5 (i.e., east and downwind) sensitive land uses should not be located nearer than approximately 200 feet of I-5. Based on SMAQMD's *Protocol* the predicted cancer risk could potentially exceed the SMAQMD's screening criterion of 296 in a million at locations within approximately 200 feet of I-5. Accordingly, a more detailed health-risk assessment would be required for sensitive land uses developed as part of the proposed project that are located nearer than approximately 200 feet of I-5.

As noted above, the nearest exterior façade of the proposed medical center would be located approximately 200 feet east of I-5. Based on this distance and orientation to I-5, the SMAQMD's screening methodology estimates that the predicted cancer risk at the proposed medical center would be 223 in one million. Predicted cancer risks would not exceed the SMAQMD's screening criteria of 296 in one million and, therefore, a more detailed health risk assessment would not be required for the proposed medical center. However, given that the site plan for the proposed medical center is conceptual, it is reasonable to assume that the site plan could change. In the event that the proposed medical center buildings were to be moved closer to I-5 (less than 200 feet), predicted cancer risks could exceed SMAQMD's screening criteria of 296 in one million. In addition, given that the location of residential development proposed as part of Quad "B" is currently unknown, it is also conceivable that predicted cancer risks at proposed residential land uses could also be located within 200 feet of I-5 and, thus, would exceed SMAQMD's screening criteria of 296 in one million. For these reasons, exposure of proposed onsite sensitive land uses to TACs from vehicles traveling along I-5 would be considered a ***potentially significant impact***.

<u>Mitigation Measure 5: Long-term Exposure to Mobile-Source Toxic Air Contaminants.</u>

- Sensitive land (i.e., the proposed medical center and residential dwelling units) uses shall not be located in an area which exceeds the SMAQMD screening criteria for cancer risk associated with toxic air contaminants. Based on SMAQMD's current screening methodology, if proposed sensitive receptors are located within 200 feet of Interstate 5, a more detailed assessment of potential health risks would be required. If sensitive land uses are proposed within 200 feet of the near-travel-lane of Interstate 5 the project applicant shall coordinate with the SMAQMD and the City of Sacramento Development Services Department to conduct a health-risk analysis. The health-risk analysis shall be prepared in accordance with SMAQMD's *Recommended Protocol For Evaluating The Location Of Sensitive Land Uses Adjacent To Major Roadways* prior to the approval of a site plan.

- The project applicant shall plant vegetation (e.g., trees) between proposed onsite land uses and the I-5 corridor, the type and location to be determined in consultation with SMAQMD.

  Timing/Implementation: Prior to Issuance of Grading/Occupancy Permit
  Enforcement/Monitoring: City of Sacramento and SMAQMD

<u>Significance After Mitigation</u>

Implementation of the above-mentioned mitigation measures would reduce this impact to a less-than-significant level.

IMPACT 6*: Contribution to Global Warming**. The proposed project includes features that would reduce the project's contribution to global climate change. The City has determined that the proposed project would not conflict with or obstruct implementation of the goals or strategies of Executive Order S-3-05, the California Global Warming Solutions Act of 2006, or the Attorney General's suggested global warming mitigation measures. This impact is considered ***less than significant.

Implementation of the proposed project would contribute to increases of greenhouse gas (GHG) emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) from mobile sources and electricity production required to serve the proposed development. Emissions of CO_2 typically constitute a majority of total mobile-source GHGs commonly associated with community development projects. To a lesser extent, other GHG pollutants, such as Methane (CH_4), largely generated by natural-gas combustion, would typically have a minor contribution to overall GHG emissions, or are not commonly associated with typical community development projects.

Estimated emissions of CO_2 were calculated using the URBEMIS2007 computer program, based on default parameters (i.e., emission factors, vehicle fleet, and trip distribution data) contained in the model and vehicle data obtained from the traffic analysis prepared for this project. Emissions of CH_4 an N_2O were also calculated using emission factors derived from the ARB and the California Energy Commission (CEC). Emissions were converted to CO_2 equivalents (i.e., CO_2e), expressed in metric tons, based on the global warming potential of each pollutant. Emissions were calculated for short-term construction and long-term operational conditions.

As shown in Tables 4.4-10 and 4.4-11, potential greenhouse gas emissions for both construction and operation of the proposed project have been calculated. However, lacking the necessary facts and analysis to support a conclusion as to the "significance" of global warming, the effectiveness of potential mitigation measures cannot be determined. In addition, to accurately account for GHGs attributable to the proposed project, it would be necessary to differentiate between new sources that otherwise would not exist but for the project, and existing sources that have simply relocated to the project area (presumably from anyplace in the world). Quantitative emissions estimates are intended to provide an inventory of project-related emissions without a quantitative analysis of impact.

Short-term Construction

During construction of the project, GHGs would be emitted from the operation of construction equipment and from worker and building supply vendor vehicles. Emissions during construction were estimated using the URBEMIS2007 model. The project construction emissions of CO2 are shown in **Table 13**, below. Emissions of nitrous oxide and methane are negligible in comparison and were not estimated.

Table 13 Short-term Construction-Generated Greenhouse Gas Emissions Proposed Project			
Construction Year	**Maximum CO_2 Equivalent (Tons/Year)**		
	Equipment Exhaust	**Construction Waste**	**Total**
2011	599	577	1,176
2012	291	382	674
2013	2,850	1,679	4,529
2014	3,007	1,878	4,885
2015	1,432	778	2,210

Equipment Exhaust: Emissions were calculated using the URBEMIS2007 (version 9.2.4) computer program.
Construction Waste: Emissions were calculated based on data obtained from the U.S. EPA for construction-generated debris and waste (U.S. EPA 1998).
Emissions may not sum due to rounding.
Refer to Appendix A for detailed emissions calculations and assumptions.

Long-term Operation

The largest source of GHGs associated with the proposed project would be on- and off-site motor vehicle use. CO_2 emissions, the primary GHG from mobile sources, are directly related to the quantity of fuel consumed. CO_2 emissions during operation of the project at full buildout were estimated using URBEMIS2007, as shown in **Table 14**, below. As shown, total CO_2 emissions generated by the project would be approximately 116,412 tons per year.

Although motor vehicle energy consumption would increase with buildout of the proposed project, the traffic improvements proposed for the project and the transportation management plan are designed to improve energy efficiency of the transportation system by increasing use of more fuel-efficient public transit, carpools, and vanpools, and improving circulation system levels of service. Any reductions in traffic congestion realized through implementation of enhanced transit operations would also allow for more energy-efficient vehicular travel. In addition, the proposed project would use electricity for the commercial uses associated with the project, which would contribute to the production of GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO_2 and, to a much smaller extent, CH_4 and N_2O. Furthermore, the commercial uses associated with the project would include the generation of solid waste, which would also contribute to GHG emissions. Treatment and disposal of municipal and other solid waste produces methane (CH_4) and CO_2.

Table 14 Long-term Operational Greenhouse Gas Emissions Proposed Project		
Emissions Source	**CO_2 Equivalent (Tons/Year)**	**Percent of Total Project Emissions**
Motor Vehicles	83,957	72
Electricity	20,049	17
Natural Gas	4,328	4
Solid Waste	8,078	7
Total:	116,412	

Motor Vehicles: CO2 emissions derived from URBEMIS2007 (version 9.2.4) computer program. N2O and CH4 emissions based on vehicle fleet data obtained from the URBEMIS2007 (version 9.2.4) computer program and emission factors obtained from California Climate Action Registry General Reporting Protocol, version 2.2, March 2007.
Electricity: Based on commercial usage rates derived from California Energy Commission's California Commercial End-Use Survey, Table 12-1 (March 2006).
Natural Gas: CO2 emissions derived from URBEMIS2007 (version 9.2.4) computer program. N2O and CH4 emissions were calculated based on commercial usage rates derived from California Energy Commission's California Commercial End-Use Survey, Table 12-1 (March 2006).
Solid Waste: Based on a ratio of project-generated waste and estimated 2005 waste generation rates for City of Sacramento. Emission factors derived from U.S. EPA State Workbook: Methodologies for Estimating Greenhouse Gas Emissions. Waste generation rates derived from California Integrated Waste Management Board, 2007 and U.S. EPA, 1998.
Refer to Appendix A for emissions calculations and assumptions.

Strategies to Reduce GHG Emissions

The following qualitative approach for assessing the project's compliance with AB 32 and other climate change reduction strategies was developed in accordance with several approaches outlined in white papers and technical advisories provided by the Governors Office of Planning and Research, the California Air Pollution Control Officers Association (CAPCOA, 2008), the consulting firm of Jones and Stokes (2007), and the Association of Environmental Professionals (AEP, 2007).

The proposed project would result in high-density mixed-use development within an urbanized area of the City. The project site is within a relatively short distance to downtown Sacramento, which is a regional employment and retail center. Residential development in proximity to the downtown Sacramento area has been shown to reduce average commuting lengths, according to the Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan, 2035. Given the high density and mixed-use nature of the proposed development coupled with the proximity to existing employment centers and retail attractions in the City, the proposed project could reduce daily vehicle travel. This would aide in California's goal to reduce GHG under AB 32. Furthermore, the Sacramento 2030 General Plan includes goals and policies that would reduce GHG emissions from future projects. These goals and policies are included in the Environmental Resources, Air Quality, Mobility, Land Use and Urban Design, Economic Development, Public Health and Safety, Utilities, Education, Recreation, and Culture Elements.

Project Compliance with Assembly Bill 32

In March 2008, the California Attorney General issued a paper for use by local agencies in carrying out their duties under CEQA as they relate to global climate change. Included were examples of various measures that may reduce the emissions of individual projects that result in global warming. As noted in the paper, each of the measures should not be considered in isolation, but as part of a larger set of measures, that together, would help reduce greenhouse gas emissions and the effects of global warming.

As discussed above, statewide emission reduction strategies and measures would result in a substantial decrease in statewide emissions to levels far below current background levels. Of the approximately 228 strategies and measures currently under consideration that would ensure a statewide reduction in GHG emissions, 24 would apply to the proposed project. **Table 15** lists the measures from the California Attorney General's office that are applicable to the proposed Natomas Crossing project and indicates whether, and how, the project would conform to the measures. The other policies are not applicable to the proposed project because they are directed at State entities (e.g., CARB), are planning-level measures (e.g., for general plans), or apply to particular industries (e.g., auto repair). As shown in **Table 15**, the proposed project would be in compliance with each of the 24 applicable State climate change strategies.

There is not any current consensus on identification of a quantitative threshold of significance for greenhouse gas emissions for private development projects. Active discussions at the CARB may lead to such a standard, or a scientific consensus may emerge from the ongoing debate. Based on the information available at this time, the City does not believe that basing impact significance on an arbitrary emission level would contribute to a meaningful analysis on GHG emissions or climate change in the context of CEQA.

Recognizing the importance of the issue, the City is currently working with the CARB, the SMAQMD, and the State Attorney General to develop a comprehensive approach for identifying, assessing, and reducing impacts associated with GHG emissions. State legislation requires action by the Office of Planning and Research within the next year establishing regulations for the evaluation of GHGs, and the City reasonably expects that agreement on methodology and procedures will occur with that time period.

In the absence of a specific quantitative threshold, expressed in terms of metric tons per year for example, the City evaluates projects on a project-by-project basis to reach a conclusion regarding the significance of the GHG emissions that would result from a project. One measure is the extent to which the project complies with directly applicable emission reduction measures that would support the State's efforts to significantly reduce its contribution to global climate change and the associated impacts. These would include each of the project-applicable strategies currently identified by the CARB or the CAT to comply with Executive Order S-3-05 or AB 32. Based on this information, a qualitative threshold of significance has been formulated, as follows:

- Conflict with or obstruct implementation of the goals or strategies of Executive Order S-3-05, the California Global Warming Solutions Act of 2006, or the Attorney General's suggested global warming mitigation measures.

As indicated, the proposed project would include a substantial number of features and measures that would reduce the project's contribution to global climate change. Based on the information provided in **Table 15**, the City has determined that the proposed project would not conflict with or obstruct implementation of the goals or strategies of Executive Order S-3-05, the California Global Warming Solutions Act of 2006, or the Attorney General's suggested global warming mitigation measures. Therefore, the proposed project would have a ***less than significant*** impact associated with the generation of greenhouse gases.

CUMULATIVE SETTING

The geographic extent of the cumulative setting consists of the project area, the City of Sacramento, as well as consideration of regional activities and attributes (e.g., regional traffic volumes and patterns). Traffic volumes and patterns, used in the analysis of cumulative impacts include consideration of existing, planned and future land use development. The area cumulatively affected by the individual project impacts varies depending upon the issue being evaluated. For example, nuisance impacts, such as those associated with odors and construction-generated dust would be limited to areas directly surrounding the project site; while project-generated emissions of ozone-precursor pollutants would contribute cumulatively to the entire air basin. The analysis of localized carbon monoxide concentrations, as presented in **Impact 4**, includes the addition of vehicle traffic generated by the proposed project on the cumulative traffic condition, taking into account background levels of carbon monoxide associated with existing, planned, and cumulative development.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

IMPACT 7:	***Contribution to Local Air Quality Conditions (Carbon Monoxide)***. *Implementation of the proposed project would not contribute to localized CO concentrations in excess of applicable standards. As a result, this impact is considered* ***less than significant****.*

The primary criteria air pollutant of local concern is CO. The project's contribution to localized CO concentrations was analyzed in **Impact 4**. Predicted mobile-souce CO concentrations for future cumulative conditions are presented in **Table 12**. The modeling of localized CO concentrations takes into account background emissions associated with existing, planned, and cumulative development. Based on the modeling conducted, implementation of the proposed project would not be anticipated to contribute to cumulative localized concentrations of CO that would exceed applicable ambient air quality standards. As a result, the proposed project's cumulative contribution to to localized CO concentrations would be considered **less than significant**.

Table 15
Greenhouse Gas Reduction Measures

Office of the California Attorney General Methods to Offset or Reduce Global Warming Impacts	Natomas Crossing Compliance
Energy Efficiency	
Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.	Mitigation Measure 4.4-3 (f) through (k)
Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.	Mitigation Measure 4.4-3 (g)
Install light colored "cool" roofs, cool pavements, and strategically placed shade trees.	Mitigation Measure 4.4-3 (i)
Provide information on energy management services for large energy users.	The applicant will provide information on energy management services to future tenants
Install energy efficient heating and cooling systems, appliances and equipment, and control systems.	Mitigation Measure 4.4-3 (h)
Install light emitting diodes (LEDs) for traffic, street, and other outdoor lighting.	Mitigation Measure 4.4-3 (g) PUD Guidelines 5.1, 5.2, and 5.3
Limit the hours of operation of outdoor lighting.	PUD Guidelines 3.6
Renewable Energy	
Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives.	The project applicant is working in partnership with SMUD to ensure that certain renewable energy sources are utilized.
Water Conservation and Efficiency	
Create water-efficient landscapes.	PUD Guidelines 3.4
Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.	PUD Guidelines 3.4
Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.	PUD Guidelines 3.4
Restrict the use of water for cleaning outdoor surfaces and vehicles.	PUD Guidelines 3.4
Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment.	This standard shall be incorporated into the PUD Guidelines.
Solid Waste Measures	
Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).	This standard shall be incorporated into the PUD Guidelines.
Provide interior and exterior storage areas for recyclables and green	This standard shall be incorporated into the PUD Guidelines.

Table 15
Greenhouse Gas Reduction Measures

Office of the California Attorney General Methods to Offset or Reduce Global Warming Impacts	Natomas Crossing Compliance
waste and adequate recycling containers located in public areas.	
Land Use Measures	
Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of services and goods.	See Project Description and Transportation and Circulation Mitigation Measure 4.2-6(a)
Incorporate public transit into project design.	Mitigation Measure 4.4-3 (d) and (e)
Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.	PUD Guidelines 4.1 and 4.2
Include pedestrian and bicycle-only streets and plazas within developments. Create travel routs that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.	Mitigation Measure 4.4-3 (e) PUD Guidelines 3.5 and 3.6
Transportation and Motor Vehicles	
Limit idling time for commercial vehicles, including delivery and construction vehicles.	Mitigation Measures 4.4-1
Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).	Mitigation Measure 4.4-3 (c)
Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.	PUD Guidelines 2.3
Incorporate bicycle-friendly intersections into street design.	PUD Guidelines 2.3
For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.	Mitigation Measure 4.4-3(b)

***IMPACT 8*: Contribution to Local Air Quality Conditions (Toxic Air Contaminants)**. *Implementation of the proposed project would not result in a significant contribution to localized TAC concentrations. This impact is considered **less than significant**.*

Emissions of toxic air contaminants (TACs) are mostly localized. Except in cases where there is information indicating the possible comingling of pollutants from the proposed project and nearby development, implementation of the project-alone mitigation is typically considered to be sufficient for a finding of "not significant" for cumulative impacts (SMAQMD 2004). As previously discussed, major sources of TACs have not been identified in the project area. Implementation of the proposed project would not be anticipated to result in the installation or operation of any major onsite sources of TACs. However, as discussed in Impact 4.4-5, the proposed project could result in the development of commercial land uses, such as gasoline stations and dry cleaning establishments, which could generate emissions of TACs. Such sources of TACs would be subject to SMAQMD rules and regulations and would be required to implement measures designed to ensure that potential health risks to nearby receptors would not exceed established standards. Therefore, the proposed project's incremental contribution to localized TAC concentrations would not be considered cumulatively considerable, resulting in a **less than significant** impact.

***IMPACT 9*: Contribution to Regional Air Quality Conditions**. *Project-generated increases in VMT could conflict with emissions inventories contained in regional air quality attainment plans and contribute, on a cumulative basis, to the region's non-attainment status. As a result, the project's cumulative contribution to regional air quality conditions would be considered **significant**. Implementation of recommended mitigation measures would reduce this impact, but not to a less-than-significant level. As a result, this impact is considered **significant and unavoidable**.*

Due to the region's non-attainment status for ozone and PM_{10}, if project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NOx) or PM_{10} would exceed the long-term thresholds, then the project's cumulative impacts would be considered significant. In addition, project's that would result in a change in land use and corresponding increases in vehicle miles traveled (VMT) may result in an increase in VMT that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Proposed Project

As discussed in **Impacts 1, 2,** and **3**, predicted short-term construction and long-term operational emissions would exceed SMAQMD significance thresholds. In addition, implementation of the proposed project would result in a change in land use and an anticipated increase in vehicle miles traveled (VMT). In comparison to existing zoning, the proposed project would result in an estimated net increase of 38,083 trips/day (DKS 2008). Project-generated increases in VMT could conflict with emissions inventories contained in regional air quality attainment plans and contribute, on a cumulative basis, to the region's non-attainment status. As a result, the project's cumulative contribution to regional air quality conditions would be considered **significant**.

Existing Zoning Alternative

As noted in **Impact 3**, unmitigated maximum daily emissions during both summer and winter operational conditions would exceed SMAQMD-recommended significance thresholds of 65 lbs/pollutant/day. As a result, the existing zoning alternative's cumulative contribution to regional air quality conditions would be considered **significant**.

Mitigation Measure 3: Cumulative Contribution to Regional Air Quality Conditions.

- Implement **Mitigation Measures 1, 2** and **3**.
- The City of Sacramento shall coordinate with the SMAQMD and SACOG to ensure that increases in vehicle miles traveled (VMT) attributable to the proposed project are accounted for in the VMT calculations used for the development of regional emissions inventories.

  Timing/Implementation: Prior to issuance of grading permits
  Enforcement/Monitoring: City of Sacramento and SMAQMD

Significance After Mitigation

Implementation of the above mitigation measures would reduce short-term and long-term increases in emissions attributable to the proposed project. However, as noted in **Impact 3**, long-term operational increases in emissions would still be anticipated to exceed SMAQMD's significance thresholds. As a result, this impact would be considered **significant and unavoidable**.

IMPACT 10*: Contribution to Global Warming**. *Increased emissions of GHGs attributable to the proposed project and contribution to global climate change not be considered cumulatively considerable. This impact would be considered* ***less than significant.

The Sacramento 2030 General Plan Master EIR discusses GHG emissions and climate change. The Master EIR concludes that the GHGs that would be generated by development that is consistent with the 2030 General Plan would result in a significant and unavoidable cumulative impact (See Final MEIR, Errata No. 2). The Sacramento 2030 General Plan implements an overall vision for development in the community that focuses on utilization of infill sites where urban infrastructure and services exist, and which will result in a reduction in vehicle miles traveled, one of the primary sources of GHGs.

The proposed project would be consistent with the land use principles found in the Sacramento 2030 General Plan, which would facilitate the City's efforts to reduce GHG emissions through land use design. As discussed above, **Table 15** demonstrates various components that have been identified by the Attorney General to reduce GHG emissions and identifies the extent to which the proposed project is consistent with such measures. Because the proposed project would not impede the City's efforts with respect to the reduction of GHG emissions, and would be consistent with the land use principles embodied in the Sacramento 2030 General Plan, the City has determined that the proposed project's contribution to greenhouse gases would not be cumulatively considerable, and the impact would be **less than significant**.

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APPENDIX A
EMISSIONS MODELING

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadB Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad B Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.37	6.59	8.59	0.00	0.02	0.02	7,864.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	80.23	79.79	944.06	0.97	154.97	29.75	97,483.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	86.60	86.38	952.65	0.97	154.99	29.77	105,347.53

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.48	6.55	5.50	0.00	0.01	0.01	7,858.38
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	5.64						
TOTALS (lbs/day, unmitigated)	6.37	6.59	8.59	0.00	0.02	0.02	7,864.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	16.24	18.55	214.17	0.22	35.70	6.85	22,384.62
General office building	63.99	61.24	729.89	0.75	119.27	22.90	75,098.91
TOTALS (lbs/day, unmitigated)	80.23	79.79	944.06	0.97	154.97	29.75	97,483.53

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 95 Season: Summer

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Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		44.25	1000 sq ft	63.60	2,814.30	20,741.39
General office building		9.03	1000 sq ft	900.00	8,127.00	69,282.67
					10,941.30	90,024.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadB Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad B Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.12	6.55	5.50	0.00	0.01	0.01	7,858.38

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	72.97	119.10	802.96	0.78	154.97	29.75	78,430.17

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	79.09	125.65	808.46	0.78	154.98	29.76	86,288.55

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.48	6.55	5.50	0.00	0.01	0.01	7,858.38
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	5.64						
TOTALS (lbs/day, unmitigated)	6.12	6.55	5.50	0.00	0.01	0.01	7,858.38

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	16.85	27.64	185.17	0.18	35.70	6.85	17,994.76
General office building	56.12	91.46	617.79	0.60	119.27	22.90	60,435.41
TOTALS (lbs/day, unmitigated)	72.97	119.10	802.96	0.78	154.97	29.75	78,430.17

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 50 Season: Winter

1/25/2009 12:37:52 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
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					10,941.30	90,024.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadB Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad B Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.14	1.20	1.28	0.00	0.00	0.00	1,434.66

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	14.20	16.95	163.71	0.17	28.28	5.43	16,631.66

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	15.34	18.15	164.99	0.17	28.28	5.43	18,066.32

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.09	1.20	1.00	0.00	0.00	0.00	1,434.15
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	1.03						
TOTALS (tons/year, unmitigated)	1.14	1.20	1.28	0.00	0.00	0.00	1,434.66

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	3.00	3.94	37.32	0.04	6.51	1.25	3,818.14
General office building	11.20	13.01	126.39	0.13	21.77	4.18	12,813.52
TOTALS (tons/year, unmitigated)	14.20	16.95	163.71	0.17	28.28	5.43	16,631.66

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

1/25/2009 12:38:38 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		44.25	1000 sq ft	63.60	2,814.30	20,741.39
General office building		9.03	1000 sq ft	900.00	8,127.00	69,282.67
					10,941.30	90,024.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	54.3	45.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/25/2009 12:38:38 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/25/2009 12:46:44 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadC Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	4.49	4.74	7.03	0.00	0.02	0.02	5,639.75

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	64.58	68.24	786.95	0.77	121.65	23.41	76,351.46

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	69.07	72.98	793.98	0.77	121.67	23.43	81,991.21

1/25/2009 12:46:44 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.34	4.70	3.94	0.00	0.01	0.01	5,634.13
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	3.90						
TOTALS (lbs/day, unmitigated)	4.49	4.74	7.03	0.00	0.02	0.02	5,639.75

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	24.84	29.36	332.56	0.33	52.00	10.00	32,557.08
General office building	39.74	38.88	454.39	0.44	69.65	13.41	43,794.38
TOTALS (lbs/day, unmitigated)	64.58	68.24	786.95	0.77	121.65	23.41	76,351.46

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 95 Season: Summer

1/25/2009 12:46:44 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		41.63	1000 sq ft	98.40	4,096.39	30,190.41
General office building		8.34	1000 sq ft	568.70	4,742.96	40,433.72
					8,839.35	70,624.13

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	60.0	40.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/25/2009 12:46:44 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/25/2009 12:47:51 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadC Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	4.24	4.70	3.94	0.00	0.01	0.01	5,634.13

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	60.22	101.67	672.33	0.61	121.65	23.41	61,472.17

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	64.46	106.37	676.27	0.61	121.66	23.42	67,106.30

1/25/2009 12:47:51 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.34	4.70	3.94	0.00	0.01	0.01	5,634.13
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	3.90						
TOTALS (lbs/day, unmitigated)	4.24	4.70	3.94	0.00	0.01	0.01	5,634.13

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	25.77	43.69	287.66	0.26	52.00	10.00	26,196.48
General office building	34.45	57.98	384.67	0.35	69.65	13.41	35,275.69
TOTALS (lbs/day, unmitigated)	60.22	101.67	672.33	0.61	121.65	23.41	61,472.17

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 50 Season: Winter

1/25/2009 12:47:51 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		41.63	1000 sq ft	98.40	4,096.39	30,190.41
General office building		8.34	1000 sq ft	568.70	4,742.96	40,433.72
					8,839.35	70,624.13

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	60.0	40.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/25/2009 12:47:52 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/25/2009 12:49:13 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadC Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.79	0.86	1.00	0.00	0.00	0.00	1,028.74

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	11.52	14.49	136.65	0.13	22.20	4.28	13,028.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	12.31	15.35	137.65	0.13	22.20	4.28	14,057.72

1/25/2009 12:49:13 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.06	0.86	0.72	0.00	0.00	0.00	1,028.23
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.71						
TOTALS (tons/year, unmitigated)	0.79	0.86	1.00	0.00	0.00	0.00	1,028.74

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	4.59	6.23	57.96	0.06	9.49	1.83	5,554.73
General office building	6.93	8.26	78.69	0.07	12.71	2.45	7,474.25
TOTALS (tons/year, unmitigated)	11.52	14.49	136.65	0.13	22.20	4.28	13,028.98

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

1/25/2009 12:49:13 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		41.63	1000 sq ft	98.40	4,096.39	30,190.41
General office building		8.34	1000 sq ft	568.70	4,742.96	40,433.72
					8,839.35	70,624.13

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	60.0	40.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/25/2009 12:49:13 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/25/2009 12:58:36 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadD Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad D Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	3.58	3.62	4.58	0.00	0.02	0.02	4,327.13

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	33.40	30.72	375.20	0.46	72.28	13.83	45,588.09

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	36.98	34.34	379.78	0.46	72.30	13.85	49,915.22

1/25/2009 12:58:36 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.26	3.60	3.03	0.00	0.01	0.01	4,324.32
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	3.20						
TOTALS (lbs/day, unmitigated)	3.58	3.62	4.58	0.00	0.02	0.02	4,327.13

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General office building	33.40	30.72	375.20	0.46	72.28	13.83	45,588.09
TOTALS (lbs/day, unmitigated)	33.40	30.72	375.20	0.46	72.28	13.83	45,588.09

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 95 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

1/25/2009 12:58:36 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General office building		9.03	1000 sq ft	546.00	4,930.38	42,031.49
					4,930.38	42,031.49

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3

1/25/2009 12:58:36 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General office building				35.0	17.5	47.5

1/25/2009 12:59:11 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadD Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad D Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	3.46	3.60	3.03	0.00	0.01	0.01	4,324.32

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	29.07	45.84	317.41	0.36	72.28	13.83	36,607.47

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	32.53	49.44	320.44	0.36	72.29	13.84	40,931.79

1/25/2009 12:59:11 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.26	3.60	3.03	0.00	0.01	0.01	4,324.32
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	3.20						
TOTALS (lbs/day, unmitigated)	3.46	3.60	3.03	0.00	0.01	0.01	4,324.32

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General office building	29.07	45.84	317.41	0.36	72.28	13.83	36,607.47
TOTALS (lbs/day, unmitigated)	29.07	45.84	317.41	0.36	72.28	13.83	36,607.47

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 50 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

1/25/2009 12:59:11 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General office building		9.03	1000 sq ft	546.00	4,930.38	42,031.49
					4,930.38	42,031.49

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General office building				35.0	17.5	47.5

1/25/2009 12:59:57 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZQuadD Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad D Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.64	0.66	0.69	0.00	0.00	0.00	789.44

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.83	6.53	64.96	0.08	13.19	2.52	7,773.51

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.47	7.19	65.65	0.08	13.19	2.52	8,562.95

1/25/2009 12:59:57 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.66	0.55	0.00	0.00	0.00	789.19
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.00						
Architectural Coatings	0.58						
TOTALS (tons/year, unmitigated)	0.64	0.66	0.69	0.00	0.00	0.00	789.44

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General office building	5.83	6.53	64.96	0.08	13.19	2.52	7,773.51
TOTALS (tons/year, unmitigated)	5.83	6.53	64.96	0.08	13.19	2.52	7,773.51

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

1/25/2009 12:59:57 PM

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General office building		9.03	1000 sq ft	546.00	4,930.38	42,031.49
					4,930.38	42,031.49

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3

1/25/2009 12:59:57 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General office building				35.0	17.5	47.5

1/25/2009 1:15:43 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZ Buildout Oper 011609.urb924

Project Name: Sac Natomas Crossing, Buildout-All Phases Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	14.07	14.89	15.56	0.00	0.04	0.04	17,822.45

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	155.34	148.61	1,800.45	2.20	348.62	66.69	219,640.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	169.41	163.50	1,816.01	2.20	348.66	66.73	237,463.43

1/25/2009 1:15:43 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	1.08	14.85	12.47	0.00	0.03	0.03	17,816.83
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	12.74						
TOTALS (lbs/day, unmitigated)	14.07	14.89	15.56	0.00	0.04	0.04	17,822.45

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	34.13	37.65	445.13	0.55	87.51	16.73	54,963.72
General office building	121.21	110.96	1,355.32	1.65	261.11	49.96	164,677.26
TOTALS (lbs/day, unmitigated)	155.34	148.61	1,800.45	2.20	348.62	66.69	219,640.98

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 95 Season: Summer

1/25/2009 1:15:43 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		42.63	1000 sq ft	162.00	6,906.06	50,897.66
General office building		8.84	1000 sq ft	2,014.70	17,809.95	151,829.81
					24,716.01	202,727.47

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

1/25/2009 1:15:43 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/25/2009 1:17:05 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZ Buildout Oper 011609.urb924

Project Name: Sac Natomas Crossing, Buildout-All Phases Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	13.82	14.85	12.47	0.00	0.03	0.03	17,816.83

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	140.31	221.66	1,531.19	1.75	348.62	66.69	176,325.44

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	154.13	236.51	1,543.66	1.75	348.65	66.72	194,142.27

1/25/2009 1:17:05 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	1.08	14.85	12.47	0.00	0.03	0.03	17,816.83
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	12.74						
TOTALS (lbs/day, unmitigated)	13.82	14.85	12.47	0.00	0.03	0.03	17,816.83

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	35.27	56.07	384.60	0.44	87.51	16.73	44,088.73
General office building	105.04	165.59	1,146.59	1.31	261.11	49.96	132,236.71
TOTALS (lbs/day, unmitigated)	140.31	221.66	1,531.19	1.75	348.62	66.69	176,325.44

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 50 Season: Winter

1/25/2009 1:17:05 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		42.63	1000 sq ft	162.00	6,906.06	50,897.66
General office building		8.84	1000 sq ft	2,014.70	17,809.95	151,829.81
					24,716.01	202,727.47

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

1/25/2009 1:17:05 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/25/2009 1:18:54 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing EZ Buildout Oper 011609.urb924

Project Name: Sac Natomas Crossing, Buildout-All Phases Operational for Existing Zoning

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.55	2.71	2.56	0.00	0.00	0.00	3,252.08

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	27.44	31.56	312.20	0.37	63.62	12.17	37,449.45

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	29.99	34.27	314.76	0.37	63.62	12.17	40,701.53

1/25/2009 1:18:54 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.20	2.71	2.28	0.00	0.00	0.00	3,251.57
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	2.33						
TOTALS (tons/year, unmitigated)	2.55	2.71	2.56	0.00	0.00	0.00	3,252.08

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	6.30	7.99	77.55	0.09	15.97	3.05	9,369.32
General office building	21.14	23.57	234.65	0.28	47.65	9.12	28,080.13
TOTALS (tons/year, unmitigated)	27.44	31.56	312.20	0.37	63.62	12.17	37,449.45

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

1/25/2009 1:18:54 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		42.63	1000 sq ft	162.00	6,906.06	50,897.66
General office building		8.84	1000 sq ft	2,014.70	17,809.95	151,829.81
					24,716.01	202,727.47

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

1/25/2009 1:18:54 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 3:51:44 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadB Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad B Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	15.32	9.84	13.66	0.00	0.04	0.04	11,850.52

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	118.58	122.94	1,431.96	1.49	237.20	45.52	148,922.40

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	133.90	132.78	1,445.62	1.49	237.24	45.56	160,772.92

1/19/2009 3:51:44 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.72	9.76	7.48	0.00	0.02	0.02	11,839.28
Hearth - No Summer Emissions							
Landscape	0.49	0.08	6.18	0.00	0.02	0.02	11.24
Consumer Products	8.13						
Architectural Coatings	5.98						
TOTALS (lbs/day, unmitigated)	15.32	9.84	13.66	0.00	0.04	0.04	11,850.52

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	9.20	7.78	94.63	0.10	15.08	2.90	9,539.78
Hotel	16.61	14.72	170.55	0.18	28.37	5.44	17,796.26
Strip mall	73.64	81.61	942.40	0.98	157.08	30.14	98,499.48
General office building	19.13	18.83	224.38	0.23	36.67	7.04	23,086.88
TOTALS (lbs/day, unmitigated)	118.58	122.94	1,431.96	1.49	237.20	45.52	148,922.40

Operational Settings:

Does not include correction for passby trips

1/19/2009 3:51:44 PM

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 95 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	11.25	5.69	dwelling units	180.00	1,024.20	8,756.60
Hotel		7.35	rooms	300.00	2,205.00	16,482.38
Strip mall		29.07	1000 sq ft	426.00	12,383.82	91,268.75
General office building		10.41	1000 sq ft	240.00	2,498.40	21,298.86
					18,111.42	137,806.59

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	54.3	45.7	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadB Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad B Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	31.18	13.31	155.93	0.49	24.24	23.34	16,774.46

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	112.39	183.30	1,232.09	1.19	237.20	45.52	119,756.01

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	143.57	196.61	1,388.02	1.68	261.44	68.86	136,530.47

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.72	9.76	7.48	0.00	0.02	0.02	11,839.28
Hearth	16.35	3.55	148.45	0.49	24.22	23.32	4,935.18
Landscaping - No Winter Emissions							
Consumer Products	8.13						
Architectural Coatings	5.98						
TOTALS (lbs/day, unmitigated)	31.18	13.31	155.93	0.49	24.24	23.34	16,774.46

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	7.29	11.61	80.24	0.08	15.08	2.90	7,686.47
Hotel	13.59	21.94	147.13	0.14	28.37	5.44	14,307.81
Strip mall	74.29	121.63	814.80	0.79	157.08	30.14	79,182.69
General office building	17.22	28.12	189.92	0.18	36.67	7.04	18,579.04
TOTALS (lbs/day, unmitigated)	112.39	183.30	1,232.09	1.19	237.20	45.52	119,756.01

Operational Settings:

Does not include correction for passby trips

1/19/2009 3:52:22 PM

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 50 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	11.25	5.69	dwelling units	180.00	1,024.20	8,756.60
Hotel		7.35	rooms	300.00	2,205.00	16,482.38
Strip mall		29.07	1000 sq ft	426.00	12,383.82	91,268.75
General office building		10.41	1000 sq ft	240.00	2,498.40	21,298.86
					18,111.42	137,806.59

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	54.3	45.7	0.0

1/19/2009 3:52:22 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 3:52:40 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadB Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad B Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	3.41	1.91	8.01	0.02	0.99	0.95	2,330.57

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	21.26	26.11	249.17	0.26	43.29	8.30	25,404.05

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	24.67	28.02	257.18	0.28	44.28	9.25	27,734.62

1/19/2009 3:52:40 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.13	1.78	1.37	0.00	0.00	0.00	2,160.67
Hearth	0.67	0.12	6.08	0.02	0.99	0.95	168.89
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.01
Consumer Products	1.48						
Architectural Coatings	1.09						
TOTALS (tons/year, unmitigated)	3.41	1.91	8.01	0.02	0.99	0.95	2,330.57

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	1.56	1.65	16.39	0.02	2.75	0.53	1,628.27
Hotel	2.85	3.13	29.70	0.03	5.18	0.99	3,035.60
Strip mall	13.48	17.33	164.23	0.17	28.67	5.50	16,801.05
General office building	3.37	4.00	38.85	0.04	6.69	1.28	3,939.13
TOTALS (tons/year, unmitigated)	21.26	26.11	249.17	0.26	43.29	8.30	25,404.05

Operational Settings:

Does not include correction for passby trips

1/19/2009 3:52:40 PM

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	11.25	5.69	dwelling units	180.00	1,024.20	8,756.60
Hotel		7.35	rooms	300.00	2,205.00	16,482.38
Strip mall		29.07	1000 sq ft	426.00	12,383.82	91,268.75
General office building		10.41	1000 sq ft	240.00	2,498.40	21,298.86
					18,111.42	137,806.59

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	54.3	45.7	0.0

1/19/2009 3:52:40 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 12:55:39 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	4.09	5.12	7.36	0.00	0.02	0.02	6,105.13

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	82.04	91.73	1,042.91	1.02	162.68	31.29	101,907.16

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	86.13	96.85	1,050.27	1.02	162.70	31.31	108,012.29

1/19/2009 12:55:39 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.37	5.08	4.27	0.00	0.01	0.01	6,099.51
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	3.47						
TOTALS (lbs/day, unmitigated)	4.09	5.12	7.36	0.00	0.02	0.02	6,105.13

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	70.27	80.83	915.49	0.90	143.15	27.53	89,626.53
General office building	11.77	10.90	127.42	0.12	19.53	3.76	12,280.63
TOTALS (lbs/day, unmitigated)	82.04	91.73	1,042.91	1.02	162.68	31.29	101,907.16

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 95 Season: Summer

1/19/2009 12:55:39 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		28.68	1000 sq ft	393.20	11,276.98	83,111.32
General office building		6.65	1000 sq ft	200.00	1,330.00	11,338.25
					12,606.98	94,449.57

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	60.0	40.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/19/2009 12:55:39 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 12:56:19 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	3.84	5.08	4.27	0.00	0.01	0.01	6,099.51

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	80.74	136.54	899.78	0.82	162.68	31.29	82,008.26

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	84.58	141.62	904.05	0.82	162.69	31.30	88,107.77

1/19/2009 12:56:19 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.37	5.08	4.27	0.00	0.01	0.01	6,099.51
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	3.47						
TOTALS (lbs/day, unmitigated)	3.84	5.08	4.27	0.00	0.01	0.01	6,099.51

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	71.05	120.28	791.91	0.72	143.15	27.53	72,116.40
General office building	9.69	16.26	107.87	0.10	19.53	3.76	9,891.86
TOTALS (lbs/day, unmitigated)	80.74	136.54	899.78	0.82	162.68	31.29	82,008.26

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 50 Season: Winter

1/19/2009 12:56:19 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		28.68	1000 sq ft	393.20	11,276.98	83,111.32
General office building		6.65	1000 sq ft	200.00	1,330.00	11,338.25
					12,606.98	94,449.57

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	60.0	40.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/19/2009 12:56:19 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 12:56:34 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.72	0.93	1.06	0.00	0.00	0.00	1,113.67

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	14.89	19.47	181.62	0.17	29.68	5.72	17,387.54

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	15.61	20.40	182.68	0.17	29.68	5.72	18,501.21

1/19/2009 12:56:34 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.07	0.93	0.78	0.00	0.00	0.00	1,113.16
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.63						
TOTALS (tons/year, unmitigated)	0.72	0.93	1.06	0.00	0.00	0.00	1,113.67

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Strip mall	12.87	17.15	159.56	0.15	26.12	5.03	15,291.64
General office building	2.02	2.32	22.06	0.02	3.56	0.69	2,095.90
TOTALS (tons/year, unmitigated)	14.89	19.47	181.62	0.17	29.68	5.72	17,387.54

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

1/19/2009 12:56:34 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		28.68	1000 sq ft	393.20	11,276.98	83,111.32
General office building		6.65	1000 sq ft	200.00	1,330.00	11,338.25
					12,606.98	94,449.57

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	60.0	40.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

1/19/2009 12:56:34 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 4:00:03 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadD Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad D Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.84	7.96	9.74	0.00	0.02	0.02	9,509.62

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	170.70	182.13	2,175.77	2.67	424.96	81.25	267,261.46

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	178.54	190.09	2,185.51	2.67	424.98	81.27	276,771.08

1/19/2009 4:00:03 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.57	7.92	6.65	0.00	0.01	0.01	9,504.00
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	7.02						
TOTALS (lbs/day, unmitigated)	7.84	7.96	9.74	0.00	0.02	0.02	9,509.62

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Medical office building	121.22	133.32	1,584.90	1.95	310.50	59.36	195,154.42
Hospital	49.48	48.81	590.87	0.72	114.46	21.89	72,107.04
TOTALS (lbs/day, unmitigated)	170.70	182.13	2,175.77	2.67	424.96	81.25	267,261.46

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 95 Season: Summer

1/19/2009 4:00:03 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Medical office building		39.89	1000 sq ft	600.00	23,934.00	180,582.03
Hospital		13.57	1000 sq ft	600.00	8,142.00	66,560.85
					32,076.00	247,142.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

1/19/2009 4:00:03 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Medical office building				7.0	3.5	89.5
Hospital				25.0	12.5	62.5

1/19/2009 4:00:41 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadD Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad D Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.59	7.92	6.65	0.00	0.01	0.01	9,504.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	170.82	271.37	1,867.15	2.12	424.96	81.25	214,455.94

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	178.41	279.29	1,873.80	2.12	424.97	81.26	223,959.94

1/19/2009 4:00:41 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.57	7.92	6.65	0.00	0.01	0.01	9,504.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	7.02						
TOTALS (lbs/day, unmitigated)	7.59	7.92	6.65	0.00	0.01	0.01	9,504.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Medical office building	124.84	198.58	1,364.41	1.55	310.50	59.36	156,570.55
Hospital	45.98	72.79	502.74	0.57	114.46	21.89	57,885.39
TOTALS (lbs/day, unmitigated)	170.82	271.37	1,867.15	2.12	424.96	81.25	214,455.94

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 50 Season: Winter

1/19/2009 4:00:41 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Medical office building		39.89	1000 sq ft	600.00	23,934.00	180,582.03
Hospital		13.57	1000 sq ft	600.00	8,142.00	66,560.85
					32,076.00	247,142.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

1/19/2009 4:00:41 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Medical office building				7.0	3.5	89.5
Hospital				25.0	12.5	62.5

1/19/2009 4:00:57 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadD Oper 011609.urb924

Project Name: Sac Natomas Crossing, Quad D Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.40	1.45	1.49	0.00	0.00	0.00	1,734.99

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	31.16	38.67	378.30	0.45	77.56	14.83	45,562.88

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	32.56	40.12	379.79	0.45	77.56	14.83	47,297.87

1/19/2009 4:00:57 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.10	1.45	1.21	0.00	0.00	0.00	1,734.48
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	1.28						
TOTALS (tons/year, unmitigated)	1.40	1.45	1.49	0.00	0.00	0.00	1,734.99

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Medical office building	22.34	28.30	275.83	0.33	56.67	10.83	33,268.50
Hospital	8.82	10.37	102.47	0.12	20.89	4.00	12,294.38
TOTALS (tons/year, unmitigated)	31.16	38.67	378.30	0.45	77.56	14.83	45,562.88

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

1/19/2009 4:00:57 PM

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Medical office building		39.89	1000 sq ft	600.00	23,934.00	180,582.03
Hospital		13.57	1000 sq ft	600.00	8,142.00	66,560.85
					32,076.00	247,142.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

1/19/2009 4:00:57 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Medical office building				7.0	3.5	89.5
Hospital				25.0	12.5	62.5

1/19/2009 4:09:31 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing Buildout Oper 011609.urb924

Project Name: Sac Natomas Crossing, Buildout-All Phases Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	27.17	21.76	29.78	0.00	0.08	0.08	26,063.89

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	339.60	353.58	4,216.59	5.18	824.27	157.61	518,292.35

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	366.77	375.34	4,246.37	5.18	824.35	157.69	544,356.24

1/19/2009 4:09:31 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	1.58	21.59	17.42	0.00	0.04	0.04	26,041.42
Hearth - No Summer Emissions							
Landscape	0.98	0.17	12.36	0.00	0.04	0.04	22.47
Consumer Products	8.13						
Architectural Coatings	16.48						
TOTALS (lbs/day, unmitigated)	27.17	21.76	29.78	0.00	0.08	0.08	26,063.89

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	7.95	6.43	80.20	0.10	15.06	2.89	9,545.47
Hotel	14.35	12.18	144.46	0.18	28.34	5.42	17,807.19
Strip mall	63.02	67.52	798.21	0.98	156.93	30.00	98,559.93
General office building	16.43	15.57	190.13	0.23	36.63	7.01	23,101.11
Medical office building	121.22	133.32	1,584.90	1.95	310.50	59.36	195,154.42
Hospital	49.48	48.81	590.87	0.72	114.46	21.89	72,107.04
General Office Building	9.71	8.29	101.21	0.12	19.50	3.73	12,297.66
Retail Shopping Center	57.44	61.46	726.61	0.90	142.85	27.31	89,719.53
TOTALS (lbs/day, unmitigated)	339.60	353.58	4,216.59	5.18	824.27	157.61	518,292.35

1/19/2009 4:09:31 PM

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 95 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	11.25	5.69	dwelling units	180.00	1,024.20	8,756.60
Hotel		7.35	rooms	300.00	2,205.00	16,482.38
Strip mall		29.07	1000 sq ft	426.00	12,383.82	91,268.75
General office building		10.41	1000 sq ft	240.00	2,498.40	21,298.86
Medical office building		39.89	1000 sq ft	600.00	23,934.00	180,582.03
Hospital		13.57	1000 sq ft	600.00	8,142.00	66,560.85
General Office Building		6.65	1000 sq ft	200.00	1,330.00	11,338.25
Retail Shopping Center		28.67	1000 sq ft	393.20	11,273.04	83,082.34
					62,790.46	479,370.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0

1/19/2009 4:09:31 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

1/19/2009 4:09:31 PM

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Medical office building				7.0	3.5	89.5
Hospital				25.0	12.5	62.5
General Office Building				35.0	17.5	47.5
Retail Shopping Center				2.0	1.0	97.0

1/19/2009 4:10:13 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing Buildout Oper 011609.urb924

Project Name: Sac Natomas Crossing, Buildout-All Phases Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	42.54	25.14	165.87	0.49	24.26	23.36	30,976.60

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	332.30	526.76	3,623.61	4.11	824.27	157.61	415,868.27

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	374.84	551.90	3,789.48	4.60	848.53	180.97	446,844.87

1/19/2009 4:10:13 PM

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	1.58	21.59	17.42	0.00	0.04	0.04	26,041.42
Hearth	16.35	3.55	148.45	0.49	24.22	23.32	4,935.18
Landscaping - No Winter Emissions							
Consumer Products	8.13						
Architectural Coatings	16.48						
TOTALS (lbs/day, unmitigated)	42.54	25.14	165.87	0.49	24.26	23.36	30,976.60

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	6.23	9.59	67.99	0.08	15.06	2.89	7,674.50
Hotel	11.62	18.14	124.54	0.14	28.34	5.42	14,285.50
Strip mall	63.36	100.54	689.66	0.78	156.93	30.00	79,059.09
General office building	14.70	23.23	160.85	0.18	36.63	7.01	18,550.32
Medical office building	124.84	198.58	1,364.41	1.55	310.50	59.36	156,570.55
Hospital	45.98	72.79	502.74	0.57	114.46	21.89	57,885.39
General Office Building	7.89	12.37	85.62	0.10	19.50	3.73	9,875.09
Retail Shopping Center	57.68	91.52	627.80	0.71	142.85	27.31	71,967.83
TOTALS (lbs/day, unmitigated)	332.30	526.76	3,623.61	4.11	824.27	157.61	415,868.27

1/19/2009 4:10:13 PM

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 50 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	11.25	5.69	dwelling units	180.00	1,024.20	8,756.60
Hotel		7.35	rooms	300.00	2,205.00	16,482.38
Strip mall		29.07	1000 sq ft	426.00	12,383.82	91,268.75
General office building		10.41	1000 sq ft	240.00	2,498.40	21,298.86
Medical office building		39.89	1000 sq ft	600.00	23,934.00	180,582.03
Hospital		13.57	1000 sq ft	600.00	8,142.00	66,560.85
General Office Building		6.65	1000 sq ft	200.00	1,330.00	11,338.25
Retail Shopping Center		28.67	1000 sq ft	393.20	11,273.04	83,082.34
					62,790.46	479,370.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Medical office building				7.0	3.5	89.5
Hospital				25.0	12.5	62.5
General Office Building				35.0	17.5	47.5
Retail Shopping Center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing Buildout Oper 011609.urb924

Project Name: Sac Natomas Crossing, Buildout-All Phases Operational

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.54	4.07	10.37	0.02	1.00	0.96	4,923.47

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	61.53	75.08	733.45	0.88	150.43	28.76	88,357.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	67.07	79.15	743.82	0.90	151.43	29.72	93,281.03

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.29	3.94	3.18	0.00	0.01	0.01	4,752.56
Hearth	0.67	0.12	6.08	0.02	0.99	0.95	168.89
Landscape	0.09	0.01	1.11	0.00	0.00	0.00	2.02
Consumer Products	1.48						
Architectural Coatings	3.01						
TOTALS (tons/year, unmitigated)	5.54	4.07	10.37	0.02	1.00	0.96	4,923.47

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	1.35	1.37	13.89	0.02	2.75	0.53	1,628.23
Hotel	2.45	2.59	25.15	0.03	5.17	0.99	3,035.58
Strip mall	11.52	14.33	139.07	0.17	28.64	5.47	16,800.89
General office building	2.89	3.31	32.92	0.04	6.68	1.28	3,939.11
Medical office building	22.34	28.30	275.83	0.33	56.67	10.83	33,268.50
Hospital	8.82	10.37	102.47	0.12	20.89	4.00	12,294.38
General Office Building	1.66	1.76	17.52	0.02	3.56	0.68	2,096.95
Retail Shopping Center	10.50	13.05	126.60	0.15	26.07	4.98	15,293.92
TOTALS (tons/year, unmitigated)	61.53	75.08	733.45	0.88	150.43	28.76	88,357.56

1/19/2009 4:10:31 PM

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	11.25	5.69	dwelling units	180.00	1,024.20	8,756.60
Hotel		7.35	rooms	300.00	2,205.00	16,482.38
Strip mall		29.07	1000 sq ft	426.00	12,383.82	91,268.75
General office building		10.41	1000 sq ft	240.00	2,498.40	21,298.86
Medical office building		39.89	1000 sq ft	600.00	23,934.00	180,582.03
Hospital		13.57	1000 sq ft	600.00	8,142.00	66,560.85
General Office Building		6.65	1000 sq ft	200.00	1,330.00	11,338.25
Retail Shopping Center		28.67	1000 sq ft	393.20	11,273.04	83,082.34
					62,790.46	479,370.06

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.5	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	1.0	94.0	5.0
Light Truck 3751-5750 lbs	22.7	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	51.4	48.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Medical office building				7.0	3.5	89.5
Hospital				25.0	12.5	62.5
General Office Building				35.0	17.5	47.5
Retail Shopping Center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadB Const 030909.urb924

Project Name: Sac Natomas Crossing, Quad B Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	14.57	82.10	109.75	0.10	323.64	5.08	328.72	67.65	4.65	72.31	18,019.51
2013 TOTALS (lbs/day mitigated)	14.57	82.10	109.75	0.10	43.87	5.08	48.95	9.23	4.65	13.88	18,019.51
2014 TOTALS (lbs/day unmitigated)	491.67	25.52	74.15	0.10	0.43	1.50	1.93	0.15	1.36	1.52	12,215.98
2014 TOTALS (lbs/day mitigated)	491.67	25.52	74.15	0.10	0.43	1.50	1.93	0.15	1.36	1.52	12,215.98

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 1/1/2013-3/14/2013 Active Days: 53	4.69	35.79	23.19	0.00	323.21	1.97	325.18	67.50	1.81	69.31	4,159.61
Fine Grading 01/01/2013-03/15/2013	4.69	35.79	23.19	0.00	323.21	1.97	325.18	67.50	1.81	69.31	4,159.61
Fine Grading Dust	0.00	0.00	0.00	0.00	323.20	0.00	323.20	67.50	0.00	67.50	0.00
Fine Grading Off Road Diesel	4.65	35.73	21.73	0.00	0.00	1.96	1.96	0.00	1.81	1.81	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.06	1.46	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.72
Time Slice 3/15/2013-3/15/2013 Active Days: 1	14.57	**82.10**	**109.75**	0.10	**323.64**	**5.08**	**328.72**	**67.65**	**4.65**	**72.31**	**18,019.51**
Asphalt 03/15/2013-04/15/2013	4.64	18.61	11.55	0.01	0.04	1.43	1.47	0.01	1.32	1.33	2,282.93
Paving Off-Gas	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.29	3.87	1.42	0.01	0.03	0.15	0.18	0.01	0.14	0.15	870.72
Paving Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Building 03/15/2013-12/04/2014	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.60	6.40	7.30	0.02	0.07	0.26	0.34	0.02	0.24	0.26	2,027.45
Building Worker Trips	1.46	2.27	54.38	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,290.23
Fine Grading 01/01/2013-03/15/2013	4.69	35.79	23.19	0.00	323.21	1.97	325.18	67.50	1.81	69.31	4,159.61
Fine Grading Dust	0.00	0.00	0.00	0.00	323.20	0.00	323.20	67.50	0.00	67.50	0.00
Fine Grading Off Road Diesel	4.65	35.73	21.73	0.00	0.00	1.96	1.96	0.00	1.81	1.81	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.06	1.46	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.72

3/9/2009 1:38:27 PM

Time Slice 3/18/2013-4/15/2013 Active Days: 21	9.88	46.31	86.57	0.10	0.44	3.11	3.55	0.15	2.84	3.00	13,859.89
Asphalt 03/15/2013-04/15/2013	4.64	18.61	11.55	0.01	0.04	1.43	1.47	0.01	1.32	1.33	2,282.93
Paving Off-Gas	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.29	3.87	1.42	0.01	0.03	0.15	0.18	0.01	0.14	0.15	870.72
Paving Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Building 03/15/2013-12/04/2014	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.60	6.40	7.30	0.02	0.07	0.26	0.34	0.02	0.24	0.26	2,027.45
Building Worker Trips	1.46	2.27	54.38	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,290.23
Time Slice 4/16/2013-12/31/2013 Active Days: 186	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building 03/15/2013-12/04/2014	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.60	6.40	7.30	0.02	0.07	0.26	0.34	0.02	0.24	0.26	2,027.45
Building Worker Trips	1.46	2.27	54.38	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,290.23
Time Slice 1/1/2014-10/3/2014 Active Days: 198	4.79	25.34	69.80	0.09	0.40	1.49	1.89	0.14	1.35	1.49	11,580.37
Building 03/15/2013-12/04/2014	4.79	25.34	69.80	0.09	0.40	1.49	1.89	0.14	1.35	1.49	11,580.37
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	0.55	5.63	6.77	0.02	0.07	0.23	0.31	0.02	0.21	0.24	2,027.85
Building Worker Trips	1.32	2.06	49.96	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,293.24

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Time Slice 10/6/2014-12/4/2014 Active Days: 44	**491.67**	25.52	74.15	0.10	0.43	1.50	1.93	0.15	1.36	1.52	12,215.98
Building 03/15/2013-12/04/2014	4.79	25.34	69.80	0.09	0.40	1.49	1.89	0.14	1.35	1.49	11,580.37
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	0.55	5.63	6.77	0.02	0.07	0.23	0.31	0.02	0.21	0.24	2,027.85
Building Worker Trips	1.32	2.06	49.96	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,293.24
Coating 10/04/2014-12/04/2014	486.88	0.18	4.35	0.01	0.03	0.01	0.04	0.01	0.01	0.02	635.61
Architectural Coating	486.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.11	0.18	4.35	0.01	0.03	0.01	0.04	0.01	0.01	0.02	635.61

Phase Assumptions

Phase: Fine Grading 1/1/2013 - 3/15/2013 - Default Fine Site Grading Duration

Total Acres Disturbed: 64.66

Maximum Daily Acreage Disturbed: 16.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/15/2013 - 4/15/2013 - Default Paving Duration

Acres to be Paved: 16.16

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 3/15/2013 - 12/4/2014 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/4/2014 - 12/4/2014 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 1/1/2013-3/14/2013 Active Days: 53	4.69	35.79	23.19	0.00	43.43	1.97	45.40	9.07	1.81	10.88	4,159.61
Fine Grading 01/01/2013-03/15/2013	4.69	35.79	23.19	0.00	43.43	1.97	45.40	9.07	1.81	10.88	4,159.61
Fine Grading Dust	0.00	0.00	0.00	0.00	43.42	0.00	43.42	9.07	0.00	9.07	0.00
Fine Grading Off Road Diesel	4.65	35.73	21.73	0.00	0.00	1.96	1.96	0.00	1.81	1.81	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.06	1.46	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.72
Time Slice 3/15/2013-3/15/2013 Active Days: 1	14.57	**82.10**	**109.75**	0.10	43.87	**5.08**	48.95	9.23	**4.65**	13.88	**18,019.51**
Asphalt 03/15/2013-04/15/2013	4.64	18.61	11.55	0.01	0.04	1.43	1.47	0.01	1.32	1.33	2,282.93
Paving Off-Gas	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.29	3.87	1.42	0.01	0.03	0.15	0.18	0.01	0.14	0.15	870.72
Paving Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Building 03/15/2013-12/04/2014	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.60	6.40	7.30	0.02	0.07	0.26	0.34	0.02	0.24	0.26	2,027.45
Building Worker Trips	1.46	2.27	54.38	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,290.23
Fine Grading 01/01/2013-03/15/2013	4.69	35.79	23.19	0.00	43.43	1.97	45.40	9.07	1.81	10.88	4,159.61
Fine Grading Dust	0.00	0.00	0.00	0.00	43.42	0.00	43.42	9.07	0.00	9.07	0.00
Fine Grading Off Road Diesel	4.65	35.73	21.73	0.00	0.00	1.96	1.96	0.00	1.81	1.81	3,963.89
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.06	1.46	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.72

3/9/2009 1:38:27 PM

Time Slice 3/18/2013-4/15/2013 Active Days: 21	9.88	46.31	86.57	0.10	0.44	3.11	3.55	0.15	2.84	3.00	13,859.89
Asphalt 03/15/2013-04/15/2013	4.64	18.61	11.55	0.01	0.04	1.43	1.47	0.01	1.32	1.33	2,282.93
Paving Off-Gas	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.70	9.09	0.00	0.00	1.28	1.28	0.00	1.18	1.18	1,272.41
Paving On Road Diesel	0.29	3.87	1.42	0.01	0.03	0.15	0.18	0.01	0.14	0.15	870.72
Paving Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Building 03/15/2013-12/04/2014	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.60	6.40	7.30	0.02	0.07	0.26	0.34	0.02	0.24	0.26	2,027.45
Building Worker Trips	1.46	2.27	54.38	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,290.23
Time Slice 4/16/2013-12/31/2013 Active Days: 186	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building 03/15/2013-12/04/2014	5.24	27.71	75.01	0.09	0.40	1.68	2.08	0.14	1.53	1.67	11,576.96
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.60	6.40	7.30	0.02	0.07	0.26	0.34	0.02	0.24	0.26	2,027.45
Building Worker Trips	1.46	2.27	54.38	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,290.23
Time Slice 1/1/2014-10/3/2014 Active Days: 198	4.79	25.34	69.80	0.09	0.40	1.49	1.89	0.14	1.35	1.49	11,580.37
Building 03/15/2013-12/04/2014	4.79	25.34	69.80	0.09	0.40	1.49	1.89	0.14	1.35	1.49	11,580.37
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	0.55	5.63	6.77	0.02	0.07	0.23	0.31	0.02	0.21	0.24	2,027.85
Building Worker Trips	1.32	2.06	49.96	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,293.24

3/9/2009 1:38:27 PM

Time Slice 10/6/2014-12/4/2014 Active Days: 44	**491.67**	25.52	74.15	0.10	0.43	1.50	1.93	0.15	1.36	1.52	12,215.98
Building 03/15/2013-12/04/2014	4.79	25.34	69.80	0.09	0.40	1.49	1.89	0.14	1.35	1.49	11,580.37
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	0.55	5.63	6.77	0.02	0.07	0.23	0.31	0.02	0.21	0.24	2,027.85
Building Worker Trips	1.32	2.06	49.96	0.07	0.33	0.15	0.48	0.12	0.12	0.24	7,293.24
Coating 10/04/2014-12/04/2014	486.88	0.18	4.35	0.01	0.03	0.01	0.04	0.01	0.01	0.02	635.61
Architectural Coating	486.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.11	0.18	4.35	0.01	0.03	0.01	0.04	0.01	0.01	0.02	635.61

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2013 - 3/15/2013 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

3/9/2009 1:40:31 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadB Const 030909.urb924

Project Name: Sac Natomas Crossing, Quad B Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.72	4.05	8.55	0.01	8.77	0.24	9.01	1.84	0.22	2.06	1,341.43
2013 TOTALS (tons/year mitigated)	0.72	4.05	8.55	0.01	1.21	0.24	1.46	0.26	0.22	0.48	1,341.43
Percent Reduction	0.00	0.00	0.00	0.00	86.15	0.00	83.82	85.86	0.00	76.60	0.00
2014 TOTALS (tons/year unmitigated)	11.29	3.07	8.54	0.01	0.05	0.18	0.23	0.02	0.16	0.18	1,415.21
2014 TOTALS (tons/year mitigated)	11.29	3.07	8.54	0.01	0.05	0.18	0.23	0.02	0.16	0.18	1,415.21
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

3/9/2009 1:40:31 PM

2013	0.72	4.05	8.55	0.01	8.77	0.24	9.01	1.84	0.22	2.06	1,341.43
Fine Grading 01/01/2013-03/15/2013	0.13	0.97	0.63	0.00	8.73	0.05	8.78	1.82	0.05	1.87	112.31
Fine Grading Dust	0.00	0.00	0.00	0.00	8.73	0.00	8.73	1.82	0.00	1.82	0.00
Fine Grading Off Road Diesel	0.13	0.96	0.59	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.03
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.28
Asphalt 03/15/2013-04/15/2013	0.05	0.20	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	25.11
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.00
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.58
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54
Building 03/15/2013-12/04/2014	0.55	2.88	7.80	0.01	0.04	0.17	0.22	0.01	0.16	0.17	1,204.00
Building Off Road Diesel	0.33	1.98	1.39	0.00	0.00	0.13	0.13	0.00	0.12	0.12	234.97
Building Vendor Trips	0.06	0.67	0.76	0.00	0.01	0.03	0.03	0.00	0.02	0.03	210.86
Building Worker Trips	0.15	0.24	5.66	0.01	0.03	0.02	0.05	0.01	0.01	0.02	758.18
2014	11.29	3.07	8.54	0.01	0.05	0.18	0.23	0.02	0.16	0.18	1,415.21
Building 03/15/2013-12/04/2014	0.58	3.07	8.45	0.01	0.05	0.18	0.23	0.02	0.16	0.18	1,401.23
Building Off Road Diesel	0.35	2.14	1.58	0.00	0.00	0.13	0.13	0.00	0.12	0.12	273.37
Building Vendor Trips	0.07	0.68	0.82	0.00	0.01	0.03	0.04	0.00	0.03	0.03	245.37
Building Worker Trips	0.16	0.25	6.05	0.01	0.04	0.02	0.06	0.01	0.01	0.03	882.48
Coating 10/04/2014-12/04/2014	10.71	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.98
Architectural Coating	10.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.98

Phase Assumptions

Phase: Fine Grading 1/1/2013 - 3/15/2013 - Default Fine Site Grading Duration

Total Acres Disturbed: 64.66

Maximum Daily Acreage Disturbed: 16.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/15/2013 - 4/15/2013 - Default Paving Duration

Acres to be Paved: 16.16

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 3/15/2013 - 12/4/2014 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/4/2014 - 12/4/2014 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

3/9/2009 1:40:31 PM

2013	0.72	4.05	8.55	0.01	1.21	0.24	1.46	0.26	0.22	0.48	1,341.43
Fine Grading 01/01/2013-03/15/2013	0.13	0.97	0.63	0.00	1.17	0.05	1.23	0.24	0.05	0.29	112.31
Fine Grading Dust	0.00	0.00	0.00	0.00	1.17	0.00	1.17	0.24	0.00	0.24	0.00
Fine Grading Off Road Diesel	0.13	0.96	0.59	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.03
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.28
Asphalt 03/15/2013-04/15/2013	0.05	0.20	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	25.11
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.00
Paving On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.58
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54
Building 03/15/2013-12/04/2014	0.55	2.88	7.80	0.01	0.04	0.17	0.22	0.01	0.16	0.17	1,204.00
Building Off Road Diesel	0.33	1.98	1.39	0.00	0.00	0.13	0.13	0.00	0.12	0.12	234.97
Building Vendor Trips	0.06	0.67	0.76	0.00	0.01	0.03	0.03	0.00	0.02	0.03	210.86
Building Worker Trips	0.15	0.24	5.66	0.01	0.03	0.02	0.05	0.01	0.01	0.02	758.18
2014	11.29	3.07	8.54	0.01	0.05	0.18	0.23	0.02	0.16	0.18	1,415.21
Building 03/15/2013-12/04/2014	0.58	3.07	8.45	0.01	0.05	0.18	0.23	0.02	0.16	0.18	1,401.23
Building Off Road Diesel	0.35	2.14	1.58	0.00	0.00	0.13	0.13	0.00	0.12	0.12	273.37
Building Vendor Trips	0.07	0.68	0.82	0.00	0.01	0.03	0.04	0.00	0.03	0.03	245.37
Building Worker Trips	0.16	0.25	6.05	0.01	0.04	0.02	0.06	0.01	0.01	0.03	882.48
Coating 10/04/2014-12/04/2014	10.71	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.98
Architectural Coating	10.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.98

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Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2013 - 3/15/2013 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/19/2009 11:42:46 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph1 Const 011609.urb924

Project Name: Sac Natomas Crossing, Quad C-Phase 1 Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	252.40	50.11	30.00	0.02	123.64	3.09	126.74	25.83	2.85	28.67	5,235.07
2011 TOTALS (lbs/day mitigated)	252.40	50.11	30.00	0.02	16.65	3.09	19.74	3.48	2.85	6.33	5,235.07

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 1/3/2011-1/28/2011 Active Days: 20	3.94	31.66	18.06	0.00	123.61	1.69	125.29	25.81	1.55	27.37	3,147.13
Fine Grading 01/03/2011-02/11/2011	3.94	31.66	18.06	0.00	123.61	1.69	125.29	25.81	1.55	27.37	3,147.13
Fine Grading Dust	0.00	0.00	0.00	0.00	123.60	0.00	123.60	25.81	0.00	25.81	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Time Slice 1/31/2011-2/11/2011 Active Days: 10	8.25	**50.11**	29.69	0.01	**123.64**	**3.09**	**126.74**	**25.83**	**2.85**	**28.67**	**5,235.07**
Asphalt 01/31/2011-02/11/2011	4.31	18.45	11.63	0.01	0.04	1.41	1.44	0.01	1.29	1.31	2,087.94
Paving Off-Gas	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.29	4.20	1.48	0.01	0.03	0.17	0.19	0.01	0.15	0.16	732.57
Paving Worker Trips	0.06	0.09	1.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.45
Fine Grading 01/03/2011-02/11/2011	3.94	31.66	18.06	0.00	123.61	1.69	125.29	25.81	1.55	27.37	3,147.13
Fine Grading Dust	0.00	0.00	0.00	0.00	123.60	0.00	123.60	25.81	0.00	25.81	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Time Slice 2/14/2011-9/9/2011 Active Days: 150	3.93	17.83	27.14	0.02	0.09	1.23	1.32	0.03	1.13	1.16	3,662.20
Building 02/14/2011-09/23/2011	3.93	17.83	27.14	0.02	0.09	1.23	1.32	0.03	1.13	1.16	3,662.20
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.13	1.53	1.62	0.00	0.01	0.06	0.08	0.00	0.06	0.06	382.75
Building Worker Trips	0.41	0.63	14.67	0.02	0.07	0.03	0.11	0.03	0.03	0.05	1,658.26

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Time Slice 9/12/2011-9/23/2011 Active Days: 10	**252.40**	17.96	**30.00**	**0.02**	0.10	1.24	1.34	0.04	1.14	1.17	3,986.08
Building 02/14/2011-09/23/2011	3.93	17.83	27.14	0.02	0.09	1.23	1.32	0.03	1.13	1.16	3,662.20
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.13	1.53	1.62	0.00	0.01	0.06	0.08	0.00	0.06	0.06	382.75
Building Worker Trips	0.41	0.63	14.67	0.02	0.07	0.03	0.11	0.03	0.03	0.05	1,658.26
Coating 09/12/2011-10/07/2011	248.47	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Architectural Coating	248.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Time Slice 9/26/2011-10/7/2011 Active Days: 10	248.47	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Coating 09/12/2011-10/07/2011	248.47	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Architectural Coating	248.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88

Phase Assumptions

Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

Total Acres Disturbed: 24.71

Maximum Daily Acreage Disturbed: 6.18

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/31/2011 - 2/11/2011 - Default Paving Duration

Acres to be Paved: 6.18

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 2/14/2011 - 9/23/2011 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/12/2011 - 10/7/2011 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 1/3/2011-1/28/2011 Active Days: 20	3.94	31.66	18.06	0.00	16.61	1.69	18.30	3.47	1.55	5.02	3,147.13
Fine Grading 01/03/2011-02/11/2011	3.94	31.66	18.06	0.00	16.61	1.69	18.30	3.47	1.55	5.02	3,147.13
Fine Grading Dust	0.00	0.00	0.00	0.00	16.61	0.00	16.61	3.47	0.00	3.47	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Time Slice 1/31/2011-2/11/2011 Active Days: 10	8.25	**50.11**	29.69	0.01	16.65	**3.09**	19.74	3.48	**2.85**	6.33	**5,235.07**
Asphalt 01/31/2011-02/11/2011	4.31	18.45	11.63	0.01	0.04	1.41	1.44	0.01	1.29	1.31	2,087.94
Paving Off-Gas	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.29	4.20	1.48	0.01	0.03	0.17	0.19	0.01	0.15	0.16	732.57
Paving Worker Trips	0.06	0.09	1.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.45
Fine Grading 01/03/2011-02/11/2011	3.94	31.66	18.06	0.00	16.61	1.69	18.30	3.47	1.55	5.02	3,147.13
Fine Grading Dust	0.00	0.00	0.00	0.00	16.61	0.00	16.61	3.47	0.00	3.47	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Time Slice 2/14/2011-9/9/2011 Active Days: 150	3.93	17.83	27.14	0.02	0.09	1.23	1.32	0.03	1.13	1.16	3,662.20
Building 02/14/2011-09/23/2011	3.93	17.83	27.14	0.02	0.09	1.23	1.32	0.03	1.13	1.16	3,662.20
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.13	1.53	1.62	0.00	0.01	0.06	0.08	0.00	0.06	0.06	382.75
Building Worker Trips	0.41	0.63	14.67	0.02	0.07	0.03	0.11	0.03	0.03	0.05	1,658.26

1/19/2009 11:42:46 AM

Time Slice 9/12/2011-9/23/2011 Active Days: 10	**252.40**	17.96	**30.00**	**0.02**	0.10	1.24	1.34	0.04	1.14	1.17	3,986.08
Building 02/14/2011-09/23/2011	3.93	17.83	27.14	0.02	0.09	1.23	1.32	0.03	1.13	1.16	3,662.20
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.13	1.53	1.62	0.00	0.01	0.06	0.08	0.00	0.06	0.06	382.75
Building Worker Trips	0.41	0.63	14.67	0.02	0.07	0.03	0.11	0.03	0.03	0.05	1,658.26
Coating 09/12/2011-10/07/2011	248.47	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Architectural Coating	248.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Time Slice 9/26/2011-10/7/2011 Active Days: 10	248.47	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Coating 09/12/2011-10/07/2011	248.47	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88
Architectural Coating	248.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	2.87	0.00	0.01	0.01	0.02	0.01	0.01	0.01	323.88

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/19/2009 11:43:39 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph1 Const 011609.urb924

Project Name: Sac Natomas Crossing, Quad C-Phase 1 Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	2.88	2.00	2.53	0.00	1.86	0.13	1.99	0.39	0.12	0.51	353.86
2011 TOTALS (tons/year mitigated)	2.88	2.00	2.53	0.00	0.26	0.13	0.39	0.05	0.12	0.17	353.86
Percent Reduction	0.00	0.00	0.00	0.00	86.22	0.00	80.55	85.97	0.00	65.71	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:43:39 AM

2011	2.88	2.00	2.53	0.00	1.86	0.13	1.99	0.39	0.12	0.51	353.86
Fine Grading 01/03/2011-02/11/2011	0.06	0.47	0.27	0.00	1.85	0.03	1.88	0.39	0.02	0.41	47.21
Fine Grading Dust	0.00	0.00	0.00	0.00	1.85	0.00	1.85	0.39	0.00	0.39	0.00
Fine Grading Off Road Diesel	0.06	0.47	0.25	0.00	0.00	0.03	0.03	0.00	0.02	0.02	45.11
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.09
Asphalt 01/31/2011-02/11/2011	0.02	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.44
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.66
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 02/14/2011-09/23/2011	0.31	1.43	2.17	0.00	0.01	0.10	0.11	0.00	0.09	0.09	292.98
Building Off Road Diesel	0.27	1.25	0.87	0.00	0.00	0.09	0.09	0.00	0.08	0.08	129.70
Building Vendor Trips	0.01	0.12	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	30.62
Building Worker Trips	0.03	0.05	1.17	0.00	0.01	0.00	0.01	0.00	0.00	0.00	132.66
Coating 09/12/2011-10/07/2011	2.48	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24
Architectural Coating	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24

Phase Assumptions

Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

Total Acres Disturbed: 24.71

Maximum Daily Acreage Disturbed: 6.18

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/31/2011 - 2/11/2011 - Default Paving Duration

Acres to be Paved: 6.18

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 2/14/2011 - 9/23/2011 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/12/2011 - 10/7/2011 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

1/19/2009 11:43:39 AM

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011	2.88	2.00	2.53	0.00	0.26	0.13	0.39	0.05	0.12	0.17	353.86
Fine Grading 01/03/2011-02/11/2011	0.06	0.47	0.27	0.00	0.25	0.03	0.27	0.05	0.02	0.08	47.21
Fine Grading Dust	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.06	0.47	0.25	0.00	0.00	0.03	0.03	0.00	0.02	0.02	45.11
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.09
Asphalt 01/31/2011-02/11/2011	0.02	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.44
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	5.66
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 02/14/2011-09/23/2011	0.31	1.43	2.17	0.00	0.01	0.10	0.11	0.00	0.09	0.09	292.98
Building Off Road Diesel	0.27	1.25	0.87	0.00	0.00	0.09	0.09	0.00	0.08	0.08	129.70
Building Vendor Trips	0.01	0.12	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	30.62
Building Worker Trips	0.03	0.05	1.17	0.00	0.01	0.00	0.01	0.00	0.00	0.00	132.66
Coating 09/12/2011-10/07/2011	2.48	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24
Architectural Coating	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24

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Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/19/2009 11:44:43 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph2 Const 011609.urb924

Project Name: Sac Natomas Crossing, Quad C-Phase 2 Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	176.28	40.34	25.27	0.02	69.03	2.57	71.60	14.42	2.36	16.78	4,438.03
2012 TOTALS (lbs/day mitigated)	176.28	40.34	25.27	0.02	9.30	2.57	11.87	1.95	2.36	4.31	4,438.03

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:44:43 AM

Time Slice 1/2/2012-1/27/2012 Active Days: 20	2.72	21.98	12.42	0.00	69.00	1.07	70.08	14.41	0.99	15.40	2,359.11
Fine Grading 01/02/2012-02/10/2012	2.72	21.98	12.42	0.00	69.00	1.07	70.08	14.41	0.99	15.40	2,359.11
Fine Grading Dust	0.00	0.00	0.00	0.00	69.00	0.00	69.00	14.41	0.00	14.41	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.91	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.79
Time Slice 1/30/2012-2/10/2012 Active Days: 10	6.47	**40.34**	**25.27**	0.01	**69.03**	**2.57**	**71.60**	**14.42**	**2.36**	**16.78**	**4,438.03**
Asphalt 01/30/2012-02/10/2012	3.76	18.36	12.85	0.01	0.03	1.49	1.52	0.01	1.37	1.38	2,078.92
Paving Off-Gas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.15	2.07	0.74	0.00	0.01	0.08	0.10	0.00	0.07	0.08	408.96
Paving Worker Trips	0.06	0.09	2.04	0.00	0.01	0.01	0.02	0.00	0.00	0.01	251.52
Fine Grading 01/02/2012-02/10/2012	2.72	21.98	12.42	0.00	69.00	1.07	70.08	14.41	0.99	15.40	2,359.11
Fine Grading Dust	0.00	0.00	0.00	0.00	69.00	0.00	69.00	14.41	0.00	14.41	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.91	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.79
Time Slice 2/13/2012-9/7/2012 Active Days: 150	3.48	16.15	20.94	0.01	0.06	1.10	1.16	0.02	1.01	1.03	3,041.37
Building 02/13/2012-09/21/2012	3.48	16.15	20.94	0.01	0.06	1.10	1.16	0.02	1.01	1.03	3,041.37
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.09	0.94	1.05	0.00	0.01	0.04	0.05	0.00	0.04	0.04	266.24
Building Worker Trips	0.26	0.40	9.37	0.01	0.05	0.02	0.08	0.02	0.02	0.04	1,153.94

Time Slice 9/10/2012-9/21/2012 Active Days: 10	**176.28**	16.23	22.77	**0.02**	0.07	1.10	1.18	0.03	1.01	1.04	3,266.75
Building 02/13/2012-09/21/2012	3.48	16.15	20.94	0.01	0.06	1.10	1.16	0.02	1.01	1.03	3,041.37
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.09	0.94	1.05	0.00	0.01	0.04	0.05	0.00	0.04	0.04	266.24
Building Worker Trips	0.26	0.40	9.37	0.01	0.05	0.02	0.08	0.02	0.02	0.04	1,153.94
Coating 09/10/2012-10/05/2012	172.80	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Architectural Coating	172.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.05	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Time Slice 9/24/2012-10/5/2012 Active Days: 10	172.80	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Coating 09/10/2012-10/05/2012	172.80	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Architectural Coating	172.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.05	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38

Phase Assumptions

Phase: Fine Grading 1/2/2012 - 2/10/2012 - Default Fine Site Grading Duration

Total Acres Disturbed: 13.81

Maximum Daily Acreage Disturbed: 3.45

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

1/19/2009 11:44:43 AM

Phase: Paving 1/30/2012 - 2/10/2012 - Default Paving Duration

Acres to be Paved: 3.45

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 2/13/2012 - 9/21/2012 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/10/2012 - 10/5/2012 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:44:43 AM

Time Slice 1/2/2012-1/27/2012 Active Days: 20	2.72	21.98	12.42	0.00	9.28	1.07	10.35	1.94	0.99	2.93	2,359.11
Fine Grading 01/02/2012-02/10/2012	2.72	21.98	12.42	0.00	9.28	1.07	10.35	1.94	0.99	2.93	2,359.11
Fine Grading Dust	0.00	0.00	0.00	0.00	9.27	0.00	9.27	1.94	0.00	1.94	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.91	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.79
Time Slice 1/30/2012-2/10/2012 Active Days: 10	6.47	<u>**40.34**</u>	<u>**25.27**</u>	0.01	<u>9.30</u>	<u>**2.57**</u>	<u>11.87</u>	<u>1.95</u>	<u>**2.36**</u>	<u>4.31</u>	<u>**4,438.03**</u>
Asphalt 01/30/2012-02/10/2012	3.76	18.36	12.85	0.01	0.03	1.49	1.52	0.01	1.37	1.38	2,078.92
Paving Off-Gas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.15	2.07	0.74	0.00	0.01	0.08	0.10	0.00	0.07	0.08	408.96
Paving Worker Trips	0.06	0.09	2.04	0.00	0.01	0.01	0.02	0.00	0.00	0.01	251.52
Fine Grading 01/02/2012-02/10/2012	2.72	21.98	12.42	0.00	9.28	1.07	10.35	1.94	0.99	2.93	2,359.11
Fine Grading Dust	0.00	0.00	0.00	0.00	9.27	0.00	9.27	1.94	0.00	1.94	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.91	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.79
Time Slice 2/13/2012-9/7/2012 Active Days: 150	3.48	16.15	20.94	0.01	0.06	1.10	1.16	0.02	1.01	1.03	3,041.37
Building 02/13/2012-09/21/2012	3.48	16.15	20.94	0.01	0.06	1.10	1.16	0.02	1.01	1.03	3,041.37
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.09	0.94	1.05	0.00	0.01	0.04	0.05	0.00	0.04	0.04	266.24
Building Worker Trips	0.26	0.40	9.37	0.01	0.05	0.02	0.08	0.02	0.02	0.04	1,153.94

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Time Slice 9/10/2012-9/21/2012 Active Days: 10	**176.28**	16.23	22.77	**0.02**	0.07	1.10	1.18	0.03	1.01	1.04	3,266.75
Building 02/13/2012-09/21/2012	3.48	16.15	20.94	0.01	0.06	1.10	1.16	0.02	1.01	1.03	3,041.37
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.09	0.94	1.05	0.00	0.01	0.04	0.05	0.00	0.04	0.04	266.24
Building Worker Trips	0.26	0.40	9.37	0.01	0.05	0.02	0.08	0.02	0.02	0.04	1,153.94
Coating 09/10/2012-10/05/2012	172.80	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Architectural Coating	172.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.05	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Time Slice 9/24/2012-10/5/2012 Active Days: 10	172.80	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Coating 09/10/2012-10/05/2012	172.80	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38
Architectural Coating	172.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.05	0.08	1.83	0.00	0.01	0.00	0.01	0.00	0.00	0.01	225.38

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/2/2012 - 2/10/2012 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/19/2009 11:45:47 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph2 Const 011609.urb924

Project Name: Sac Natomas Crossing, Quad C-Phase 2 Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	2.07	1.71	1.94	0.00	1.04	0.11	1.15	0.22	0.10	0.32	291.34
2012 TOTALS (tons/year mitigated)	2.07	1.71	1.94	0.00	0.14	0.11	0.26	0.03	0.10	0.13	291.34
Percent Reduction	0.00	0.00	0.00	0.00	86.13	0.00	77.79	85.83	0.00	58.40	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:45:47 AM

2012	2.07	1.71	1.94	0.00	1.04	0.11	1.15	0.22	0.10	0.32	291.34
Fine Grading 01/02/2012-02/10/2012	0.04	0.33	0.19	0.00	1.04	0.02	1.05	0.22	0.01	0.23	35.39
Fine Grading Dust	0.00	0.00	0.00	0.00	1.04	0.00	1.04	0.22	0.00	0.22	0.00
Fine Grading Off Road Diesel	0.04	0.33	0.17	0.00	0.00	0.02	0.02	0.00	0.01	0.01	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Asphalt 01/30/2012-02/10/2012	0.02	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.39
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	7.09
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26
Building 02/13/2012-09/21/2012	0.28	1.29	1.67	0.00	0.00	0.09	0.09	0.00	0.08	0.08	243.31
Building Off Road Diesel	0.25	1.19	0.84	0.00	0.00	0.08	0.08	0.00	0.08	0.08	129.70
Building Vendor Trips	0.01	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.30
Building Worker Trips	0.02	0.03	0.75	0.00	0.00	0.00	0.01	0.00	0.00	0.00	92.31
Coating 09/10/2012-10/05/2012	1.73	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
Architectural Coating	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25

Phase Assumptions

Phase: Fine Grading 1/2/2012 - 2/10/2012 - Default Fine Site Grading Duration

Total Acres Disturbed: 13.81

Maximum Daily Acreage Disturbed: 3.45

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/30/2012 - 2/10/2012 - Default Paving Duration

Acres to be Paved: 3.45

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 2/13/2012 - 9/21/2012 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/10/2012 - 10/5/2012 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

1/19/2009 11:45:47 AM

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012	2.07	1.71	1.94	0.00	0.14	0.11	0.26	0.03	0.10	0.13	291.34
Fine Grading 01/02/2012-02/10/2012	0.04	0.33	0.19	0.00	0.14	0.02	0.16	0.03	0.01	0.04	35.39
Fine Grading Dust	0.00	0.00	0.00	0.00	0.14	0.00	0.14	0.03	0.00	0.03	0.00
Fine Grading Off Road Diesel	0.04	0.33	0.17	0.00	0.00	0.02	0.02	0.00	0.01	0.01	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Asphalt 01/30/2012-02/10/2012	0.02	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	10.39
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	7.09
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26
Building 02/13/2012-09/21/2012	0.28	1.29	1.67	0.00	0.00	0.09	0.09	0.00	0.08	0.08	243.31
Building Off Road Diesel	0.25	1.19	0.84	0.00	0.00	0.08	0.08	0.00	0.08	0.08	129.70
Building Vendor Trips	0.01	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.30
Building Worker Trips	0.02	0.03	0.75	0.00	0.00	0.00	0.01	0.00	0.00	0.00	92.31
Coating 09/10/2012-10/05/2012	1.73	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
Architectural Coating	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/2/2012 - 2/10/2012 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/19/2009 11:40:47 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph3 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Phase 3

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	110.76	39.42	24.25	0.01	83.42	2.53	85.95	17.42	2.33	19.75	3,977.81
2011 TOTALS (lbs/day mitigated)	110.76	39.42	24.25	0.01	11.22	2.53	13.76	2.35	2.33	4.68	3,977.81

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:40:47 AM

Time Slice 1/3/2011-1/28/2011 Active Days: 20	2.86	23.48	12.95	0.00	83.40	1.17	84.58	17.42	1.08	18.50	2,359.04
Fine Grading 01/03/2011-02/11/2011	2.86	23.48	12.95	0.00	83.40	1.17	84.58	17.42	1.08	18.50	2,359.04
Fine Grading Dust	0.00	0.00	0.00	0.00	83.40	0.00	83.40	17.42	0.00	17.42	0.00
Fine Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.73
Time Slice 1/31/2011-2/11/2011 Active Days: 10	5.71	**39.42**	**24.25**	0.00	**83.42**	**2.53**	**85.95**	**17.42**	**2.33**	**19.75**	**3,977.81**
Asphalt 01/31/2011-02/11/2011	2.85	15.94	11.30	0.00	0.01	1.36	1.37	0.01	1.25	1.25	1,618.77
Paving Off-Gas	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	15.15	9.07	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,272.04
Paving On Road Diesel	0.05	0.71	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03	123.28
Paving Worker Trips	0.06	0.09	1.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.45
Fine Grading 01/03/2011-02/11/2011	2.86	23.48	12.95	0.00	83.40	1.17	84.58	17.42	1.08	18.50	2,359.04
Fine Grading Dust	0.00	0.00	0.00	0.00	83.40	0.00	83.40	17.42	0.00	17.42	0.00
Fine Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.73
Time Slice 2/14/2011-9/9/2011 Active Days: 150	3.62	16.60	17.87	0.01	0.04	1.18	1.22	0.01	1.08	1.10	2,501.28
Building 02/14/2011-09/23/2011	3.62	16.60	17.87	0.01	0.04	1.18	1.22	0.01	1.08	1.10	2,501.28
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.06	0.66	0.70	0.00	0.01	0.03	0.03	0.00	0.02	0.03	165.04
Building Worker Trips	0.18	0.27	6.33	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.04

1/19/2009 11:40:47 AM

Time Slice 9/12/2011-9/23/2011 Active Days: 10	**110.76**	16.66	19.11	**0.01**	0.04	1.18	1.23	0.02	1.08	1.10	2,640.94
Building 02/14/2011-09/23/2011	3.62	16.60	17.87	0.01	0.04	1.18	1.22	0.01	1.08	1.10	2,501.28
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.06	0.66	0.70	0.00	0.01	0.03	0.03	0.00	0.02	0.03	165.04
Building Worker Trips	0.18	0.27	6.33	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.04
Coating 09/12/2011-10/07/2011	107.14	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Time Slice 9/26/2011-10/7/2011 Active Days: 10	107.14	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Coating 09/12/2011-10/07/2011	107.14	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66

Phase Assumptions

Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

Total Acres Disturbed: 4.17

Maximum Daily Acreage Disturbed: 4.17

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

1/19/2009 11:40:47 AM

Phase: Paving 1/31/2011 - 2/11/2011 - Default Paving Duration

Acres to be Paved: 1.04

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 2/14/2011 - 9/23/2011 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/12/2011 - 10/7/2011 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:40:47 AM

Time Slice 1/3/2011-1/28/2011 Active Days: 20	2.86	23.48	12.95	0.00	11.21	1.17	12.38	2.34	1.08	3.42	2,359.04
Fine Grading 01/03/2011-02/11/2011	2.86	23.48	12.95	0.00	11.21	1.17	12.38	2.34	1.08	3.42	2,359.04
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.73
Time Slice 1/31/2011-2/11/2011 Active Days: 10	5.71	**39.42**	**24.25**	0.00	11.22	**2.53**	13.76	2.35	**2.33**	4.68	**3,977.81**
Asphalt 01/31/2011-02/11/2011	2.85	15.94	11.30	0.00	0.01	1.36	1.37	0.01	1.25	1.25	1,618.77
Paving Off-Gas	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	15.15	9.07	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,272.04
Paving On Road Diesel	0.05	0.71	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03	123.28
Paving Worker Trips	0.06	0.09	1.98	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.45
Fine Grading 01/03/2011-02/11/2011	2.86	23.48	12.95	0.00	11.21	1.17	12.38	2.34	1.08	3.42	2,359.04
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.73
Time Slice 2/14/2011-9/9/2011 Active Days: 150	3.62	16.60	17.87	0.01	0.04	1.18	1.22	0.01	1.08	1.10	2,501.28
Building 02/14/2011-09/23/2011	3.62	16.60	17.87	0.01	0.04	1.18	1.22	0.01	1.08	1.10	2,501.28
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.06	0.66	0.70	0.00	0.01	0.03	0.03	0.00	0.02	0.03	165.04
Building Worker Trips	0.18	0.27	6.33	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.04

1/19/2009 11:40:47 AM

Time Slice 9/12/2011-9/23/2011 Active Days: 10	**110.76**	16.66	19.11	**0.01**	0.04	1.18	1.23	0.02	1.08	1.10	2,640.94
Building 02/14/2011-09/23/2011	3.62	16.60	17.87	0.01	0.04	1.18	1.22	0.01	1.08	1.10	2,501.28
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.06	0.66	0.70	0.00	0.01	0.03	0.03	0.00	0.02	0.03	165.04
Building Worker Trips	0.18	0.27	6.33	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.04
Coating 09/12/2011-10/07/2011	107.14	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Time Slice 9/26/2011-10/7/2011 Active Days: 10	107.14	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Coating 09/12/2011-10/07/2011	107.14	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.66

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/19/2009 11:41:40 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph3 011609.urb924

Project Name: Sac Natomas Crossing, Quad C Phase 3

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	1.42	1.76	1.69	0.00	1.25	0.12	1.37	0.26	0.11	0.37	244.98
2011 TOTALS (tons/year mitigated)	1.42	1.76	1.69	0.00	0.17	0.12	0.29	0.04	0.11	0.15	244.98
Percent Reduction	0.00	0.00	0.00	0.00	86.34	0.00	78.88	86.18	0.00	60.88	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/19/2009 11:41:40 AM

2011	1.42	1.76	1.69	0.00	1.25	0.12	1.37	0.26	0.11	0.37	244.98
Fine Grading 01/03/2011-02/11/2011	0.04	0.35	0.19	0.00	1.25	0.02	1.27	0.26	0.02	0.28	35.39
Fine Grading Dust	0.00	0.00	0.00	0.00	1.25	0.00	1.25	0.26	0.00	0.26	0.00
Fine Grading Off Road Diesel	0.04	0.35	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Asphalt 01/31/2011-02/11/2011	0.01	0.08	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.09
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	6.36
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 02/14/2011-09/23/2011	0.29	1.33	1.43	0.00	0.00	0.09	0.10	0.00	0.09	0.09	200.10
Building Off Road Diesel	0.27	1.25	0.87	0.00	0.00	0.09	0.09	0.00	0.08	0.08	129.70
Building Vendor Trips	0.00	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.20
Building Worker Trips	0.01	0.02	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.20
Coating 09/12/2011-10/07/2011	1.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Architectural Coating	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40

Phase Assumptions

Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

Total Acres Disturbed: 4.17

Maximum Daily Acreage Disturbed: 4.17

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/31/2011 - 2/11/2011 - Default Paving Duration

Acres to be Paved: 1.04

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 2/14/2011 - 9/23/2011 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/12/2011 - 10/7/2011 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

1/19/2009 11:41:40 AM

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011	1.42	1.76	1.69	0.00	0.17	0.12	0.29	0.04	0.11	0.15	244.98
Fine Grading 01/03/2011-02/11/2011	0.04	0.35	0.19	0.00	0.17	0.02	0.19	0.04	0.02	0.05	35.39
Fine Grading Dust	0.00	0.00	0.00	0.00	0.17	0.00	0.17	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	0.04	0.35	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Asphalt 01/31/2011-02/11/2011	0.01	0.08	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.09
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	6.36
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 02/14/2011-09/23/2011	0.29	1.33	1.43	0.00	0.00	0.09	0.10	0.00	0.09	0.09	200.10
Building Off Road Diesel	0.27	1.25	0.87	0.00	0.00	0.09	0.09	0.00	0.08	0.08	129.70
Building Vendor Trips	0.00	0.05	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.20
Building Worker Trips	0.01	0.02	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.20
Coating 09/12/2011-10/07/2011	1.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Architectural Coating	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40

1/19/2009 11:41:40 AM

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/3/2011 - 2/11/2011 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/26/2009 2:27:15 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph4 Const 011609.urb924

Project Name: Sac Natomas Crossing, Quad C-Phase 4 Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	110.20	34.82	22.72	0.01	83.42	2.16	85.58	17.42	1.99	19.41	3,978.16
2013 TOTALS (lbs/day mitigated)	110.20	34.82	22.72	0.01	11.22	2.16	13.38	2.35	1.99	4.33	3,978.16

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/26/2009 2:27:16 PM

Time Slice 1/3/2013-1/30/2013 Active Days: 20	2.57	20.60	11.93	0.00	83.40	0.99	84.39	17.42	0.91	18.33	2,359.16
Fine Grading 01/03/2013-02/13/2013	2.57	20.60	11.93	0.00	83.40	0.99	84.39	17.42	0.91	18.33	2,359.16
Fine Grading Dust	0.00	0.00	0.00	0.00	83.40	0.00	83.40	17.42	0.00	17.42	0.00
Fine Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.84
Time Slice 1/31/2013-2/13/2013 Active Days: 10	5.12	34.82	22.72	0.00	83.42	2.16	85.58	17.42	1.99	19.41	3,978.16
Asphalt 01/31/2013-02/13/2013	2.55	14.22	10.78	0.00	0.01	1.17	1.19	0.01	1.08	1.08	1,619.00
Paving Off-Gas	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.04	0.55	0.20	0.00	0.00	0.02	0.03	0.00	0.02	0.02	123.28
Paving Worker Trips	0.04	0.07	1.67	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.68
Fine Grading 01/03/2013-02/13/2013	2.57	20.60	11.93	0.00	83.40	0.99	84.39	17.42	0.91	18.33	2,359.16
Fine Grading Dust	0.00	0.00	0.00	0.00	83.40	0.00	83.40	17.42	0.00	17.42	0.00
Fine Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.84
Time Slice 2/14/2013-9/11/2013 Active Days: 150	3.07	14.64	16.15	0.01	0.04	0.97	1.00	0.01	0.89	0.90	2,502.08
Building 02/14/2013-09/26/2013	3.07	14.64	16.15	0.01	0.04	0.97	1.00	0.01	0.89	0.90	2,502.08
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.05	0.52	0.60	0.00	0.01	0.02	0.03	0.00	0.02	0.02	165.10
Building Worker Trips	0.14	0.22	5.34	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.78

1/26/2009 2:27:16 PM

Time Slice 9/12/2013-9/26/2013 Active Days: 11	110.20	14.69	17.19	0.01	0.04	0.97	1.01	0.02	0.89	0.91	2,641.88
Building 02/14/2013-09/26/2013	3.07	14.64	16.15	0.01	0.04	0.97	1.00	0.01	0.89	0.90	2,502.08
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.05	0.52	0.60	0.00	0.01	0.02	0.03	0.00	0.02	0.02	165.10
Building Worker Trips	0.14	0.22	5.34	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.78
Coating 09/12/2013-10/09/2013	107.14	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Time Slice 9/27/2013-10/9/2013 Active Days: 9	107.14	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Coating 09/12/2013-10/09/2013	107.14	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80

Phase Assumptions

Phase: Fine Grading 1/3/2013 - 2/13/2013 - Default Fine Site Grading Duration

Total Acres Disturbed: 4.17

Maximum Daily Acreage Disturbed: 4.17

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

1/26/2009 2:27:16 PM

Phase: Paving 1/31/2013 - 2/13/2013 - Default Paving Duration

Acres to be Paved: 1.04

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 2/14/2013 - 9/26/2013 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/12/2013 - 10/9/2013 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/26/2009 2:27:16 PM

Time Slice 1/3/2013-1/30/2013 Active Days: 20	2.57	20.60	11.93	0.00	11.21	0.99	12.20	2.34	0.91	3.25	2,359.16
Fine Grading 01/03/2013-02/13/2013	2.57	20.60	11.93	0.00	11.21	0.99	12.20	2.34	0.91	3.25	2,359.16
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.84
Time Slice 1/31/2013-2/13/2013 Active Days: 10	5.12	34.82	22.72	0.00	11.22	2.16	13.38	2.35	1.99	4.33	3,978.16
Asphalt 01/31/2013-02/13/2013	2.55	14.22	10.78	0.00	0.01	1.17	1.19	0.01	1.08	1.08	1,619.00
Paving Off-Gas	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.04	0.55	0.20	0.00	0.00	0.02	0.03	0.00	0.02	0.02	123.28
Paving Worker Trips	0.04	0.07	1.67	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.68
Fine Grading 01/03/2013-02/13/2013	2.57	20.60	11.93	0.00	11.21	0.99	12.20	2.34	0.91	3.25	2,359.16
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.83	0.00	0.00	0.00	0.01	0.00	0.00	0.00	111.84
Time Slice 2/14/2013-9/11/2013 Active Days: 150	3.07	14.64	16.15	0.01	0.04	0.97	1.00	0.01	0.89	0.90	2,502.08
Building 02/14/2013-09/26/2013	3.07	14.64	16.15	0.01	0.04	0.97	1.00	0.01	0.89	0.90	2,502.08
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.05	0.52	0.60	0.00	0.01	0.02	0.03	0.00	0.02	0.02	165.10
Building Worker Trips	0.14	0.22	5.34	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.78

Time Slice 9/12/2013-9/26/2013 Active Days: 11	110.20	14.69	17.19	0.01	0.04	0.97	1.01	0.02	0.89	0.91	2,641.88
Building 02/14/2013-09/26/2013	3.07	14.64	16.15	0.01	0.04	0.97	1.00	0.01	0.89	0.90	2,502.08
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.05	0.52	0.60	0.00	0.01	0.02	0.03	0.00	0.02	0.02	165.10
Building Worker Trips	0.14	0.22	5.34	0.01	0.03	0.01	0.05	0.01	0.01	0.02	715.78
Coating 09/12/2013-10/09/2013	107.14	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Time Slice 9/27/2013-10/9/2013 Active Days: 9	107.14	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Coating 09/12/2013-10/09/2013	107.14	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Architectural Coating	107.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/3/2013 - 2/13/2013 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

1/26/2009 2:27:59 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadC Ph4 Const 011609.urb924

Project Name: Sac Natomas Crossing, Quad C-Phase 4 Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	1.37	1.56	1.54	0.00	1.25	0.10	1.35	0.26	0.09	0.35	246.30
2013 TOTALS (tons/year mitigated)	1.37	1.56	1.54	0.00	0.17	0.10	0.27	0.04	0.09	0.13	246.30
Percent Reduction	0.00	0.00	0.00	0.00	86.34	0.00	80.05	86.18	0.00	64.08	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

1/26/2009 2:27:59 PM

2013	1.37	1.56	1.54	0.00	1.25	0.10	1.35	0.26	0.09	0.35	246.30
Fine Grading 01/03/2013-02/13/2013	0.04	0.31	0.18	0.00	1.25	0.01	1.27	0.26	0.01	0.27	35.39
Fine Grading Dust	0.00	0.00	0.00	0.00	1.25	0.00	1.25	0.26	0.00	0.26	0.00
Fine Grading Off Road Diesel	0.04	0.31	0.17	0.00	0.00	0.01	0.01	0.00	0.01	0.01	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Asphalt 01/31/2013-02/13/2013	0.01	0.07	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.09
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	6.36
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 02/14/2013-09/26/2013	0.25	1.18	1.30	0.00	0.00	0.08	0.08	0.00	0.07	0.07	201.42
Building Off Road Diesel	0.23	1.12	0.82	0.00	0.00	0.07	0.07	0.00	0.07	0.07	130.51
Building Vendor Trips	0.00	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.29
Building Worker Trips	0.01	0.02	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.62
Coating 09/12/2013-10/09/2013	1.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Architectural Coating	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40

Phase Assumptions

Phase: Fine Grading 1/3/2013 - 2/13/2013 - Default Fine Site Grading Duration

Total Acres Disturbed: 4.17

Maximum Daily Acreage Disturbed: 4.17

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

1/26/2009 2:27:59 PM

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/31/2013 - 2/13/2013 - Default Paving Duration

Acres to be Paved: 1.04

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 2/14/2013 - 9/26/2013 - Default Building Construction Duration

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/12/2013 - 10/9/2013 - Default Architectural Coating Duration

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

1/26/2009 2:27:59 PM

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013	1.37	1.56	1.54	0.00	0.17	0.10	0.27	0.04	0.09	0.13	246.30
Fine Grading 01/03/2013-02/13/2013	0.04	0.31	0.18	0.00	0.17	0.01	0.18	0.04	0.01	0.05	35.39
Fine Grading Dust	0.00	0.00	0.00	0.00	0.17	0.00	0.17	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	0.04	0.31	0.17	0.00	0.00	0.01	0.01	0.00	0.01	0.01	33.71
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Asphalt 01/31/2013-02/13/2013	0.01	0.07	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	8.09
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.01	0.01	0.00	0.01	0.01	6.36
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Building 02/14/2013-09/26/2013	0.25	1.18	1.30	0.00	0.00	0.08	0.08	0.00	0.07	0.07	201.42
Building Off Road Diesel	0.23	1.12	0.82	0.00	0.00	0.07	0.07	0.00	0.07	0.07	130.51
Building Vendor Trips	0.00	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.29
Building Worker Trips	0.01	0.02	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.62
Coating 09/12/2013-10/09/2013	1.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Architectural Coating	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40

1/26/2009 2:27:59 PM

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/3/2013 - 2/13/2013 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

3/9/2009 1:46:55 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadD Const 030909.urb924

Project Name: Sac Natomas Crossing, Quad D Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	8.06	36.97	91.68	0.11	177.01	2.51	178.42	36.97	2.29	38.27	13,838.79
2013 TOTALS (lbs/day mitigated)	8.06	36.97	91.68	0.11	23.79	2.51	25.20	4.97	2.29	6.27	13,838.79
2014 TOTALS (lbs/day unmitigated)	4.72	20.84	75.48	0.10	0.45	1.23	1.68	0.16	1.11	1.27	12,195.74
2014 TOTALS (lbs/day mitigated)	4.72	20.84	75.48	0.10	0.45	1.23	1.68	0.16	1.11	1.27	12,195.74
2015 TOTALS (lbs/day unmitigated)	371.59	19.17	73.04	0.11	0.48	1.15	1.63	0.17	1.04	1.21	12,678.01
2015 TOTALS (lbs/day mitigated)	371.59	19.17	73.04	0.11	0.48	1.15	1.63	0.17	1.04	1.21	12,678.01

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

3/9/2009 1:46:55 PM

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2013-4/19/2013 Active Days: 79	3.54	27.81	16.73	0.00	177.01	1.41	178.42	36.97	1.30	38.27	3,147.28
Fine Grading 01/01/2013-04/21/2013	3.54	27.81	16.73	0.00	177.01	1.41	178.42	36.97	1.30	38.27	3,147.28
Fine Grading Dust	0.00	0.00	0.00	0.00	177.00	0.00	177.00	36.96	0.00	36.96	0.00
Fine Grading Off Road Diesel	3.51	27.76	15.68	0.00	0.00	1.41	1.41	0.00	1.30	1.30	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80
Time Slice 4/22/2013-6/7/2013 Active Days: 35	8.06	36.97	91.68	0.11	0.48	2.51	2.98	0.17	2.29	2.46	13,838.79
Asphalt 04/21/2013-06/07/2013	2.89	14.20	10.17	0.00	0.02	1.15	1.17	0.01	1.05	1.06	1,647.01
Paving Off-Gas	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.10	12.84	8.03	0.00	0.00	1.09	1.09	0.00	1.00	1.00	1,131.92
Paving On Road Diesel	0.10	1.29	0.48	0.00	0.01	0.05	0.06	0.00	0.05	0.05	291.41
Paving Worker Trips	0.04	0.07	1.67	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.68
Building 04/21/2013-11/20/2015	5.18	22.77	81.51	0.10	0.45	1.36	1.82	0.16	1.23	1.39	12,191.79
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.58	6.19	7.24	0.02	0.07	0.25	0.33	0.02	0.23	0.26	1,981.22
Building Worker Trips	1.72	2.67	64.07	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,589.37
Time Slice 6/10/2013-12/31/2013 Active Days: 147	5.18	22.77	81.51	0.10	0.45	1.36	1.82	0.16	1.23	1.39	12,191.79
Building 04/21/2013-11/20/2015	5.18	22.77	81.51	0.10	0.45	1.36	1.82	0.16	1.23	1.39	12,191.79
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.58	6.19	7.24	0.02	0.07	0.25	0.33	0.02	0.23	0.26	1,981.22
Building Worker Trips	1.72	2.67	64.07	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,589.37

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Time Slice 1/1/2014-12/31/2014 Active Days: 261	4.72	20.84	75.48	0.10	0.45	1.23	1.68	0.16	1.11	1.27	12,195.74
Building 04/21/2013-11/20/2015	4.72	20.84	75.48	0.10	0.45	1.23	1.68	0.16	1.11	1.27	12,195.74
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.53	5.44	6.72	0.02	0.07	0.23	0.30	0.02	0.21	0.23	1,981.63
Building Worker Trips	1.55	2.43	58.86	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,592.92
Time Slice 1/1/2015-9/18/2015 Active Days: 187	4.29	19.05	70.01	0.10	0.45	1.14	1.60	0.16	1.03	1.19	12,198.37
Building 04/21/2013-11/20/2015	4.29	19.05	70.01	0.10	0.45	1.14	1.60	0.16	1.03	1.19	12,198.37
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.49	4.81	6.25	0.02	0.07	0.20	0.27	0.02	0.18	0.21	1,982.02
Building Worker Trips	1.39	2.20	54.14	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,595.15
Time Slice 9/21/2015-11/20/2015 Active Days: 45	371.59	19.17	73.04	0.11	0.48	1.15	1.63	0.17	1.04	1.21	12,678.01
Building 04/21/2013-11/20/2015	4.29	19.05	70.01	0.10	0.45	1.14	1.60	0.16	1.03	1.19	12,198.37
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.49	4.81	6.25	0.02	0.07	0.20	0.27	0.02	0.18	0.21	1,982.02
Building Worker Trips	1.39	2.20	54.14	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,595.15
Coating 09/21/2015-12/25/2015	367.30	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Architectural Coating	367.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Time Slice 11/23/2015-12/25/2015 Active Days: 25	367.30	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Coating 09/21/2015-12/25/2015	367.30	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Architectural Coating	367.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64

Phase Assumptions

Phase: Fine Grading 1/1/2013 - 4/21/2013 - Default Fine Site Grading Duration

Total Acres Disturbed: 35.4

Maximum Daily Acreage Disturbed: 8.85

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/21/2013 - 6/7/2013 - Default Paving Duration

Acres to be Paved: 8.85

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 4/21/2013 - 11/20/2015 - SJVAPCD Const Calculator (32-m Const Period)

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

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Phase: Architectural Coating 9/21/2015 - 12/25/2015 - SJVAPCD Const Calculator (32-m Const Period)

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2013-4/19/2013 Active Days: 79	3.54	27.81	16.73	0.00	23.79	1.41	25.20	4.97	1.30	6.27	3,147.28
Fine Grading 01/01/2013-04/21/2013	3.54	27.81	16.73	0.00	23.79	1.41	25.20	4.97	1.30	6.27	3,147.28
Fine Grading Dust	0.00	0.00	0.00	0.00	23.78	0.00	23.78	4.97	0.00	4.97	0.00
Fine Grading Off Road Diesel	3.51	27.76	15.68	0.00	0.00	1.41	1.41	0.00	1.30	1.30	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.80

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Time Slice 4/22/2013-6/7/2013 Active Days: 35	8.06	36.97	91.68	0.11	0.48	2.51	2.98	0.17	2.29	2.46	13,838.79
Asphalt 04/21/2013-06/07/2013	2.89	14.20	10.17	0.00	0.02	1.15	1.17	0.01	1.05	1.06	1,647.01
Paving Off-Gas	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.10	12.84	8.03	0.00	0.00	1.09	1.09	0.00	1.00	1.00	1,131.92
Paving On Road Diesel	0.10	1.29	0.48	0.00	0.01	0.05	0.06	0.00	0.05	0.05	291.41
Paving Worker Trips	0.04	0.07	1.67	0.00	0.01	0.00	0.01	0.00	0.00	0.01	223.68
Building 04/21/2013-11/20/2015	5.18	22.77	81.51	0.10	0.45	1.36	1.82	0.16	1.23	1.39	12,191.79
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.58	6.19	7.24	0.02	0.07	0.25	0.33	0.02	0.23	0.26	1,981.22
Building Worker Trips	1.72	2.67	64.07	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,589.37
Time Slice 6/10/2013-12/31/2013 Active Days: 147	5.18	22.77	81.51	0.10	0.45	1.36	1.82	0.16	1.23	1.39	12,191.79
Building 04/21/2013-11/20/2015	5.18	22.77	81.51	0.10	0.45	1.36	1.82	0.16	1.23	1.39	12,191.79
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.58	6.19	7.24	0.02	0.07	0.25	0.33	0.02	0.23	0.26	1,981.22
Building Worker Trips	1.72	2.67	64.07	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,589.37
Time Slice 1/1/2014-12/31/2014 Active Days: 261	4.72	20.84	75.48	0.10	0.45	1.23	1.68	0.16	1.11	1.27	12,195.74
Building 04/21/2013-11/20/2015	4.72	20.84	75.48	0.10	0.45	1.23	1.68	0.16	1.11	1.27	12,195.74
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.53	5.44	6.72	0.02	0.07	0.23	0.30	0.02	0.21	0.23	1,981.63
Building Worker Trips	1.55	2.43	58.86	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,592.92

3/9/2009 1:46:55 PM

Time Slice 1/1/2015-9/18/2015 Active Days: 187	4.29	19.05	70.01	0.10	0.45	1.14	1.60	0.16	1.03	1.19	12,198.37
Building 04/21/2013-11/20/2015	4.29	19.05	70.01	0.10	0.45	1.14	1.60	0.16	1.03	1.19	12,198.37
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.49	4.81	6.25	0.02	0.07	0.20	0.27	0.02	0.18	0.21	1,982.02
Building Worker Trips	1.39	2.20	54.14	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,595.15
Time Slice 9/21/2015-11/20/2015 Active Days: 45	371.59	19.17	73.04	0.11	0.48	1.15	1.63	0.17	1.04	1.21	12,678.01
Building 04/21/2013-11/20/2015	4.29	19.05	70.01	0.10	0.45	1.14	1.60	0.16	1.03	1.19	12,198.37
Building Off Road Diesel	2.40	12.04	9.62	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,621.20
Building Vendor Trips	0.49	4.81	6.25	0.02	0.07	0.20	0.27	0.02	0.18	0.21	1,982.02
Building Worker Trips	1.39	2.20	54.14	0.09	0.38	0.18	0.56	0.14	0.14	0.28	8,595.15
Coating 09/21/2015-12/25/2015	367.30	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Architectural Coating	367.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Time Slice 11/23/2015-12/25/2015 Active Days: 25	367.30	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Coating 09/21/2015-12/25/2015	367.30	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64
Architectural Coating	367.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.08	0.12	3.02	0.00	0.02	0.01	0.03	0.01	0.01	0.02	479.64

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2013 - 4/21/2013 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

3/9/2009 1:46:56 PM

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

3/9/2009 1:48:14 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\Kurt Legleiter\Application Data\Urbemis\Version9a\Projects\SacNatCrossing QuadD Const 030909.urb924

Project Name: Sac Natomas Crossing, Quad D Construction

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.66	3.42	8.26	0.01	7.03	0.20	7.23	1.48	0.18	1.66	1,262.59
2013 TOTALS (tons/year mitigated)	0.66	3.42	8.26	0.01	0.98	0.20	1.18	0.21	0.18	0.39	1,262.59
Percent Reduction	0.00	0.00	0.00	0.00	86.05	0.00	83.67	85.68	0.00	76.28	0.00
2014 TOTALS (tons/year unmitigated)	0.62	2.72	9.85	0.01	0.06	0.16	0.22	0.02	0.14	0.17	1,591.54
2014 TOTALS (tons/year mitigated)	0.62	2.72	9.85	0.01	0.06	0.16	0.22	0.02	0.14	0.17	1,591.54
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015 TOTALS (tons/year unmitigated)	13.35	2.21	8.23	0.01	0.05	0.13	0.19	0.02	0.12	0.14	1,431.80
2015 TOTALS (tons/year mitigated)	13.35	2.21	8.23	0.01	0.05	0.13	0.19	0.02	0.12	0.14	1,431.80
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3/9/2009 1:48:14 PM

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013	0.66	3.42	8.26	0.01	7.03	0.20	7.23	1.48	0.18	1.66	1,262.59
Fine Grading 01/01/2013-04/21/2013	0.14	1.10	0.66	0.00	6.99	0.06	7.05	1.46	0.05	1.51	124.32
Fine Grading Dust	0.00	0.00	0.00	0.00	6.99	0.00	6.99	1.46	0.00	1.46	0.00
Fine Grading Off Road Diesel	0.14	1.10	0.62	0.00	0.00	0.06	0.06	0.00	0.05	0.05	118.80
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52
Asphalt 04/21/2013-06/07/2013	0.05	0.25	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	28.82
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.04	0.22	0.14	0.00	0.00	0.02	0.02	0.00	0.02	0.02	19.81
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.10
Paving Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.91
Building 04/21/2013-11/20/2015	0.47	2.07	7.42	0.01	0.04	0.12	0.17	0.01	0.11	0.13	1,109.45
Building Off Road Diesel	0.26	1.27	0.93	0.00	0.00	0.08	0.08	0.00	0.08	0.08	147.53
Building Vendor Trips	0.05	0.56	0.66	0.00	0.01	0.02	0.03	0.00	0.02	0.02	180.29
Building Worker Trips	0.16	0.24	5.83	0.01	0.03	0.02	0.05	0.01	0.01	0.03	781.63
2014	0.62	2.72	9.85	0.01	0.06	0.16	0.22	0.02	0.14	0.17	1,591.54
Building 04/21/2013-11/20/2015	0.62	2.72	9.85	0.01	0.06	0.16	0.22	0.02	0.14	0.17	1,591.54
Building Off Road Diesel	0.34	1.69	1.29	0.00	0.00	0.11	0.11	0.00	0.10	0.10	211.57
Building Vendor Trips	0.07	0.71	0.88	0.00	0.01	0.03	0.04	0.00	0.03	0.03	258.60
Building Worker Trips	0.20	0.32	7.68	0.01	0.05	0.02	0.07	0.02	0.02	0.04	1,121.38

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2015	13.35	2.21	8.23	0.01	0.05	0.13	0.19	0.02	0.12	0.14	1,431.80
Building 04/21/2013-11/20/2015	0.50	2.21	8.12	0.01	0.05	0.13	0.19	0.02	0.12	0.14	1,415.01
Building Off Road Diesel	0.28	1.40	1.12	0.00	0.00	0.09	0.09	0.00	0.08	0.08	188.06
Building Vendor Trips	0.06	0.56	0.73	0.00	0.01	0.02	0.03	0.00	0.02	0.02	229.91
Building Worker Trips	0.16	0.26	6.28	0.01	0.04	0.02	0.07	0.02	0.02	0.03	997.04
Coating 09/21/2015-12/25/2015	12.86	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.79
Architectural Coating	12.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.79

Phase Assumptions

Phase: Fine Grading 1/1/2013 - 4/21/2013 - Default Fine Site Grading Duration

Total Acres Disturbed: 35.4

Maximum Daily Acreage Disturbed: 8.85

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/21/2013 - 6/7/2013 - Default Paving Duration

Acres to be Paved: 8.85

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 4/21/2013 - 11/20/2015 - SJVAPCD Const Calculator (32-m Const Period)

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/21/2015 - 12/25/2015 - SJVAPCD Const Calculator (32-m Const Period)

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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2013	0.66	3.42	8.26	0.01	0.98	0.20	1.18	0.21	0.18	0.39	1,262.59
Fine Grading 01/01/2013-04/21/2013	0.14	1.10	0.66	0.00	0.94	0.06	1.00	0.20	0.05	0.25	124.32
Fine Grading Dust	0.00	0.00	0.00	0.00	0.94	0.00	0.94	0.20	0.00	0.20	0.00
Fine Grading Off Road Diesel	0.14	1.10	0.62	0.00	0.00	0.06	0.06	0.00	0.05	0.05	118.80
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52
Asphalt 04/21/2013-06/07/2013	0.05	0.25	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	28.82
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.04	0.22	0.14	0.00	0.00	0.02	0.02	0.00	0.02	0.02	19.81
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.10
Paving Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.91
Building 04/21/2013-11/20/2015	0.47	2.07	7.42	0.01	0.04	0.12	0.17	0.01	0.11	0.13	1,109.45
Building Off Road Diesel	0.26	1.27	0.93	0.00	0.00	0.08	0.08	0.00	0.08	0.08	147.53
Building Vendor Trips	0.05	0.56	0.66	0.00	0.01	0.02	0.03	0.00	0.02	0.02	180.29
Building Worker Trips	0.16	0.24	5.83	0.01	0.03	0.02	0.05	0.01	0.01	0.03	781.63
2014	0.62	2.72	9.85	0.01	0.06	0.16	0.22	0.02	0.14	0.17	1,591.54
Building 04/21/2013-11/20/2015	0.62	2.72	9.85	0.01	0.06	0.16	0.22	0.02	0.14	0.17	1,591.54
Building Off Road Diesel	0.34	1.69	1.29	0.00	0.00	0.11	0.11	0.00	0.10	0.10	211.57
Building Vendor Trips	0.07	0.71	0.88	0.00	0.01	0.03	0.04	0.00	0.03	0.03	258.60
Building Worker Trips	0.20	0.32	7.68	0.01	0.05	0.02	0.07	0.02	0.02	0.04	1,121.38

2015	13.35	2.21	8.23	0.01	0.05	0.13	0.19	0.02	0.12	0.14	1,431.80
Building 04/21/2013-11/20/2015	0.50	2.21	8.12	0.01	0.05	0.13	0.19	0.02	0.12	0.14	1,415.01
Building Off Road Diesel	0.28	1.40	1.12	0.00	0.00	0.09	0.09	0.00	0.08	0.08	188.06
Building Vendor Trips	0.06	0.56	0.73	0.00	0.01	0.02	0.03	0.00	0.02	0.02	229.91
Building Worker Trips	0.16	0.26	6.28	0.01	0.04	0.02	0.07	0.02	0.02	0.03	997.04
Coating 09/21/2015-12/25/2015	12.86	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.79
Architectural Coating	12.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.79

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2013 - 4/21/2013 - Default Fine Site Grading Duration

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

URBEMIS MULTI-YEAR CONSTRUCTION SCHEDULE CALCULATOR

NOTES: The timelines presented in this worksheet were based on the construction schedules and estimated active days of construction derived from the SJVAPCD "Development Timeline Calculator" (February 2009). The SJVAPCD's calculator is based on URBEMIS2002 construction timeline default schedules, which assume an average of approximately 22 work days per month. Use of the SJVAPCD's calculator has been approved for use by SMAQMD, provided the construction schedules are adjusted to reflect a recommended 5-day workweek and to be consistent with URBEMIS2007 input parameters. In accordance with SMAQMD recommendation, the construction schedules provided in this worksheet have been adjusted to reflect a 5-day work week based on the total active days of construction identified in the SJVAPCD"s timeline calculator. Construction schedules provided in this worksheet are approximate for use when project-specific construction schedules are not known.

	SJVAPCD Development Timeline Calculator Assumptions							
	24-Month		36-Month		48-Month		60-Month	
Phase	Months	Active Days	Months	Active Days	Months	Active Days	Months	Active Days
Demolition	1.2	26	1.8	40	2.4	53	3	66
Site Grading	2.4	53	3.6	79	4.8	106	6	132
Paving	1	22	1.5	33	2	44	2.6	57
Building Construction	20.4	449	30.6	673	40.8	898	51	1122
Architectural Coating	2	44	3.1	68	4.1	90	5.1	112
Source: SJVAPCD's Development Timeline Calculator (Feb 2009).								

URBEMIS2007 INPUT SCHEDULES (5-Day Work-Week)

QUAD B: 24-Month Construction Schedule				
Input Start Date:	*1/1/2013*			
Demolition?	☐			
Phase	Start Date	End Date	Months	Active Days
Demolition	0	0	1.3	0
Site Grading	1/1/2013	3/15/2013	2.6	53
Paving	3/15/2013	4/15/2013	1.1	22
Building Construction	3/15/2013	12/4/2014	22.4	449
Architectural Coating	10/4/2014	12/4/2014	2.2	44

QUAD D: 36-Month Construction Schedule				
Input Start Date:	*1/1/2013*			
Demolition?	☐			
Phase	Start Date	End Date	Months	Active Days
Demolition	0	0	2.0	0
Site Grading	1/1/2013	4/21/2013	4.0	79
Paving	4/21/2013	6/7/2013	1.7	33
Building Construction	4/21/2013	11/20/2015	33.7	673
Architectural Coating	9/21/2015	12/25/2015	3.4	68

CONSTRUCTION EMISSIONS FEE CALCULATIONS

CONSTRUCTION EMISSIONS MITIGATION FEE CALCULATIONS

The proposed project would be developed in multiple phases. Some phases and construction activities may occur simultaneously. The following table provides a summary of the URBEMIS2007 output, by "time slice". Maximum daily NOx emissions for the "time slice" period were then inputted into the SMAQMD's Mitigation Fee Worksheet for the calculation of mitigation fees.

URBEMIS MODELING OUTPUT

Construction Year	Project Phase	NOx Emissions (lbs/day)	Time Slice	Exceeds 85 lbs/day	Duration (days)
2011	Quad C, Phase I	31.66	1/3/2011-1/28/2011		20
2011	Quad C, Phase III	23.48	1/3/2011-1/28/2011		20
	Max Daily Emissions:	**55.14**	1/3/2011-1/28/2011	**NO**	20
2011	Quad C, Phase I	50.11	1/31/2011-2/11/2011		10
2011	Quad C, Phase III	39.42	1/31/2011-2/11/2011		10
	Max Daily Emissions:	**89.53**	1/31/2011-2/11/2011	**YES**	10
2011	Quad C, Phase I	17.83	2/14/2011-9/9/2011		150
2011	Quad C, Phase III	16.6	2/14/2011-9/9/2011		150
	Max Daily Emissions:	**34.43**	2/14/2011-9/9/2011	**NO**	150
2011	Quad C, Phase I	17.96	9/12/2011-9/23/2011		10
2011	Quad C, Phase III	16.66	9/12/2011-9/23/2011		10
	Max Daily Emissions:	**34.62**	**9/12/2011-9/23/2011**	**NO**	**10**
2011	Quad C, Phase I	0.12	9/26/2011-10/7/2011		10
2011	Quad C, Phase III	0.05	9/26/2011-10/7/2011		10
	Max Daily Emissions:	**0.17**	**9/26/2011-10/7/2011**	**NO**	**10**
2012	Quad C, Phase II	21.98	1/2/2012-1/27/2012	NO	20
2012	Quad C, Phase II	40.34	1/30/2012-2/10/2012	NO	10
2012	Quad C, Phase II	16.15	2/13/2012-9/7/2012	NO	150
2012	Quad C, Phase II	16.23	9/10/2012-9/21/2012	NO	10
2012	Quad C, Phase II	0.08	9/24/2012-10/5/2012	NO	10
	Max Daily Emissions:	**(Refer to Above Time Slices)**			
2013	Quad B	35.79	1/1/2013-3/14/2013		53
2013	Quad D	27.81	1/1/2013-4/19/2013		79
2013	Quad C, Phase IV	20.6	1/3/2013-1/30/2013		20
2013	Quad C, Phase IV	34.82	1/31/2013-2/13/2013		10
2013	Quad C, Phase IV	14.64	2/14/2013-9/11/2013		150
2013	Quad B	82.1	3/15/2013-3/15/2013		1
2013	Quad B	46.31	3/18/2013-4/15/2013		21
2013	Quad B	27.71	4/16/2013-12/31/2013		186
2013	Quad D	36.97	4/22/2013-6/7/2013		35
2013	Quad D	22.77	6/10/2013-12/31/2013		147
2013	Quad C, Phase IV	14.69	9/12/2013-9/26/2013		11
2013	Quad C, Phase IV	0.04	9/27/2013-10/9/2013		9
	Max Daily Emissions:	**63.6**	**1/1/2013-1/2/2013**	**NO**	**2**
	Max Daily Emissions:	**84.2**	**1/3/2013-1/30/2013**	**NO**	**20**
	Max Daily Emissions:	**98.42**	**1/31/2013-2/13/2013**	**YES**	**10**
	Max Daily Emissions:	**78.24**	**2/14/2013-3/14/2013**	**NO**	**21**
	Max Daily Emissions:	**124.55**	**3/15/2013**	**YES**	**1**
	Max Daily Emissions:	**88.76**	**3/18/2013-4/15/2013**	**YES**	**21**
	Max Daily Emissions:	**70.16**	**4/16/2013-4/19/2013**	**NO**	**4**
	Max Daily Emissions:	**42.35**	**4/20/2013-4/30/2013**	**NO**	**7**
	Max Daily Emissions:	**79.32**	**5/1/2013-6/7/2013**	**NO**	**26**
	Max Daily Emissions:	**42.35**	**6/8/2013-6/9/2013**	**NO**	**2**
	Max Daily Emissions:	**65.12**	**6/10/2013-9/11/2013**	**NO**	**60**
	Max Daily Emissions:	**65.17**	**9/12/2013-9/26/2013**	**NO**	**11**
	Max Daily Emissions:	**50.48**	**9/27/2013-9/31/2013**	**NO**	**68**
2014	Quad B	25.34	1/1/2014-10/3/2014	NO	198
2014	Quad D	20.84	1/1/2014-12/31/2014	NO	261
2014	Quad B	25.52	10/6/2014-12/4/2014	NO	44
	Max Daily Emissions:	**46.36**	**10/6/2014-12/4/2014**	**NO**	**44**
2015	Quad D	19.05	1/1/2015-9/18/2015	NO	187
2015	Quad D	0.12	11/23/2015-12/25/2015	NO	25
2015	Quad D	19.17	9/21/2015-11/20/2015	NO	45
	Max Daily Emissions:	**19.17**	**9/21/2015-11/20/2015**	**NO**	**45**

YEAR 2013 CONSTRUCTION TIMELINE

	JANUARY																													
	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79
	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81
			20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
	63.6	**63.6**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**	**84.2**
EXCEEDS:	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2		20																											

	MAY																													JUNE
	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1
	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97
	79.32	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**
EXCEEDS:	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	26																													

	SEPTEMBER																													O
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M
	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69	14.69				
	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
																											0.04	0.04	0.04	0.04
	65.12	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**65.17**	**50.48**	**50.48**	**50.48**	**50.48**
EXCEEDS:	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	8											11																		

FEBRUARY																												MARCH				
TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M
31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4
35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79
27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81
34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	34.82	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
98.42	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**98.42**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**
YES	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
10														21																		

																													JULY			
F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4
14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
36.97	36.97	36.97	36.97	36.97	36.97			22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
79.32	**79.32**	**79.32**	**79.32**	**79.32**	**79.32**	**42.35**	**42.35**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
						2																										

OCTOBER																														NOVEMBER		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3
T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S
27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04																								
50.48	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

																											APRIL					
T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6
35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	35.79	82.1																						
27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81
14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
													46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31
78.24	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**78.24**	**124.6**	**42.45**	**42.45**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	**YES**	NO	NO	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
										1																	**21**					

																											AUGUST					
W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6
14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
65.12	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
																60																

																											DECEMBER					
4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6
S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH
27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
50.48	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
										68																						

S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81											
14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
															36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97	36.97
88.76	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**88.76**	**70.16**	**70.16**	**70.16**	**70.16**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**	**42.35**
YES	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
									4				7										

M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	F	S
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64	14.64
27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
65.12	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**	**65.12**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	F	S	S	S	M	T
27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71	27.71
22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77	22.77
50.48	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**	**50.48**
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

TIPS FOR USE:

1. For both residential and non-residential acreage entries EXCLUDE ONLY undisturbed (not graded) Open Space.
2. Append this calculation sheet to the environmental document.
3. Unmitigated NOx (lbs/day) and duration (days) should be consistent with URBEMIS results.
4. Activity Phase/Time Slice identifiers include the date range from the URBEMIS results and phases included, i.e. fine grading, asphalt

Construction Emissons Mitigation Fee Calculation

PART 1: PROJECT INFORMATION

Project Name:	Natomas Crossing		
Control/Application #:			
Single Family Dwelling Units:	0	*Note: Enter information only in blue bordered cells*	
Multi Family Dwelling Units:	180	Total Residential Acreage:	11.25
Non-residential Square Feet:	24,592,000	Total Non-residential Acreage:	106.51

PART 2: EMISSIONS INFORMATION

Year	Activity Phase	NOx (lbs/day) unmitigated	NOx (lbs/day) mitigated*	NOx over threshold (lbs/day)	duration (days)	Total significant NOx (lbs)
	Demolition (on road)					
	Demolition (off road)		0.00			
	TOTAL Demolition		0.00	0	0	0.00
	Year 2011: Quad C, Phases I & III	55.14	44.11	0	20	0.00
	Year 2011: Quad C, Phases I & III	89.53	71.62	0	10	0.00
	Year 2011: Quad C, Phases I & III	34.43	27.54	0	150	0.00
	Year 2011: Quad C, Phases I & III	34.62	27.70	0	10	0.00
	Year 2011: Quad C, Phases I & III	0.17	0.14	0	10	0.00
	Year 2012: Quad C, Phases II (Max of all time slices)	40.34	32.27	0	10	0.00
	Year 2013: Quad B, QuadC PhIV, Quad D	98.42	78.74	0	10	0.00
	Year 2013: Quad B, QuadC PhIV, Quad D	124.55	99.64	14.64	1	14.64
	Year 2013: Quad B, Quad C PhIV, Quad D	88.76	71.01	0	21	0.00
	Year 2014: Quad B, Quad D (Max of all time slices)	46.36	37.09	0	44	0.00
	Year 2015: Quad D (Max of all time slices)	19.17	15.34	0	45	0.00
			0.00	0	0	0.00
		Total project Nox over threshold (lbs)	*14.64*			
		Total project Nox over threshold (tons)	*0.01*			

PART 3: MITIGATION FEE RESULTS

*MITIGATION FEE ($16,000/TON)***	*$117*
ADMINISTRATIVE FEE (5.0%)	*$6*
TOTAL FEE	***$123***

\>>> *Fee is to be paid to the SMAQMD, either in total or on a by acre basis, prior to any ground disturbance.*

Mitigation Fee ($/acre)	**$0.99**

* Assumes a construction mitigation plan which achieves a 20% reduction in NOx from on-site, off-road equipment.
** Or the $/ton of NOx cost-effectiveness value in effect at the time the fee is collected.

HELICOPTER EMISSIONS

Helicopter:	Agusta A109
Engine:	Allison Turboshaft 250-C20B
Number of Flights/Day:	1
Number of Flights/Month:	3
Number of Annual Flights:	36
Flight Length (miles Approach&Departure):	100
Cruise Speed (miles/hour)	150
Time in Flight (Minutes Approach&Departure):	40

* A helicopter landing site feasibility study has not yet been prepared for the proposed project. Helicopter flights are assumed to be similar to those estimated for the recently proposed Sutter Sacramento Medical Center, which assumes an average of approximately 150 flights per year (12.5/month; 0.4/day). To be conservative, this analysis assumes one round-trip flight per day. Based on this data, the proposed project would average approximately 2-3 helicopter movements per month. Helicopter movements would not be anticipated to exceed one approach and one departure from the facility on a daily basis. Flight miles for the proposed project were not provided and were assumed based on information derived from the UCSF LRDP Amendemnt #2 EIR (March 2005). A 50 mile flight radius would encompass the Sacramento metropolitan area and outlying communities within the County.

MODE	TIME PER LTO	g/kg CO	HC	NOX	SOX	FUEL (kg/s)
Approach	6.5	47.2	5.2	2.2	0.54	0.011
Takeoff	2.5	7.8	0.3	6.6	0.54	0.033
Climbout	6.5	9.02	0.4	5.96	0.54	0.031
Idle (In/Out)	7	97	20	1	0.54	0.008
Cruise	40	47.2	5.2	2.2	0.54	0.011

*LTO=Landing and takeoff. One LTO cycle equals two operations: landing and takeoff (U.S. EPA, 1991).

MODE	g/mode CO	HC	NOX	SOX
Approach	202.49	22.31	9.44	2.32
Takeoff	38.61	1.49	32.67	2.67
Climbout	109.05	4.84	72.06	6.53
Idle (In/Out)	325.92	67.20	3.36	1.81
Cruise	1246.08	137.28	58.08	14.26

TOTAL (g/LTO):	1922.15	233.11	175.60	27.59
TOTAL (lbs/LTO):	4.238	0.514	0.387	0.061
TOTAL (lbs/day):	4.238	0.514	0.387	0.061
TOTAL (lbs/month):	12.71	1.54	1.16	0.18
TOTAL (lbs/year):	152.55	18.50	13.94	2.19
TOTAL (tons/year):	0.08	0.01	0.01	0.00

<u>PM10</u>
Modal PM Emission Rate (g/kg):
PMm=(EFm)(NEa)(TIMm)
where:
PMm=PM10 emissions from one aircraft type for mode m during one LTO cycle. PM2.5 emissions assumed equivalent.
NEa=Number of engines on aircraft a
TIMm=Time in mode in hours for specified mode m for a single engine
EFm=Emission factor of the engine type in lbs/hour m
*PM emissions for the 250-C20B are not available. Based on TPE-331-3 engine.

	Approach	Takeoff	Climbout	Idle	Cruise
EFm=	0.60	0.80	0.60	0.30	0.60
Nea=	2	2	2	2	2
TIMm=	0.11	0.04	0.11	0.12	0.67
PMm=	0.13	0.07	0.13	0.07	0.80

ESTIMATED TOTAL EMISSIONS

TOTAL (lbs/day):	0.13	0.07	0.13	0.07	0.80	1.20
TOTAL (lbs/month):	0.39	0.20	0.39	0.21	2.40	3.59
TOTAL (lbs/year):	4.68	2.40	4.68	2.52	28.80	43.08
TOTAL (tons/year):	0.002	0.001	0.002	0.001	0.014	0.02

(Source: U.S. FAA, EDMS, v4.12; U.S. EPA, AP-42, 1991, Supplement A to Compilation of Air Pollutant Emission Factors, Volume II: Mobile Sources.

CO SCREENING ASSESSMENT

BACKGROUND INFORMATION

PROJECT:	NATOMAS CROSSING		
PROJECT LOCATION:	SACRAMENTO		
NEAREST AIR QUALITY MONITORING STATION(S):	T Street & 3801 Airport Rd		
MONITORING YEARS:	2005	2006	2007
HIGHEST MEASURED 1-HR CO CONC. (PPM):	4.9	4.7	6.3
HIGHEST MEASURED 8-HR CO CONC. (PPM):	3.6	3.2	5.6
HIGHEST 3-YR MEASURED 1-HR CO CONC. (PPM):	6.3		
HIGHEST 3-YR MEASURED 8-HR CO CONC. (PPM):	5.6		

*Monitoring data is based on the highest measured values obtained from the neares monitoring stations for the last three years of available data. CO data for 1309 T Street monitoring station not available for years 2006 to current.

REFERENCE CO CONCENTRATIONS

ROADWAY TYPE	PRIMARY ROAD (Highest Volume)		SECONDARY ROAD (Highest Volume)	
	At Edge	At 25'	At Edge	At 25'
At Grade				
2 lane	14	7.6	3.7	2.7
4 lane	11.9	7	3.3	2.6
6 lane	9.5	6.1	2.8	2.3
8 lane	8.5	5.7	2.6	2.2
Depressed 15 feet				
2 lane	20.9	8.2	4.8	2.4
8 lane	15.4	6.3	3.7	1.9
Depressed 30 feet				
2 lane	26.8	7.9	5.2	3.2
8 lane	21.3	6	4.1	2.7
Elevated 15 feet				
2 lane	14	7.3	3.7	2.6
8 lane	8.5	5.4	2.6	2.1
Elevated 30 feet				
2 lane	14	7.3	3.6	2.6
8 lane	8.5	5.4	2.5	2.1

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: BASELINE PLUS EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	926	525	245	
WEST 864				412 EAST
WEST 1016				1204 EAST
WEST 217				299 EAST
	82	260	119	
		SOUTH		

HIGHEST VOLUMES	
N-S	3232
E-W	4309

PM PEAK-HOUR TRAFFIC:

		NORTH		
	621	320	461	
WEST 1373				257 EAST
WEST 1545				1252 EAST
WEST 223				368 EAST
	358	386	292	
		SOUTH		

HIGHEST VOLUMES	
N-S	3418
E-W	5372

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4309.00	5.72	2.34	1.50				
	Secondary Road	6	2.80	2.30	3232.00	5.72	0.52	0.43	6.3	5.6	9.2	7.0
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	5372.00	5.72	2.92	1.87				
	Secondary Road	6	2.80	2.30	3418.00	5.72	0.55	0.45	6.3	5.6	9.8	7.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: BASELINE PLUS EXISTING ZONING SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

			NORTH			
		717	289	310		
WEST	830				313	EAST
WEST	679				987	EAST
WEST	219				286	EAST
		272	302	196		
			SOUTH			

HIGHEST VOLUMES	
N-S	2761
E-W	3704

(NOT USED)

			NORTH			
		0	0	0		
WEST	0				0	EAST
WEST	0				0	EAST
WEST	0				0	EAST
		0	0	0		
			SOUTH			

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	3704.00	5.72	2.01	1.29				
	Secondary Road	6	2.80	2.30	2761.00	5.72	0.44	0.36	6.3	5.6	8.8	6.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: BASELINE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	888	480	246	
WEST 853				386 EAST
WEST 1043				1258 EAST
WEST 180				237 EAST
	96	280	126	
		SOUTH		

HIGHEST VOLUMES	
N-S	3133
E-W	4318

PM PEAK-HOUR TRAFFIC:

		NORTH		
	606	372	461	
WEST 1316				271 EAST
WEST 1513				1216 EAST
WEST 262				424 EAST
	339	418	323	
		SOUTH		

HIGHEST VOLUMES	
N-S	3444
E-W	5252

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4318	5.72	2.35	1.51				
	Secondary Road	6	2.80	2.30	3133	5.72	0.50	0.41	6.3	5.6	9.1	6.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	5252.00	5.72	2.85	1.83				
	Secondary Road	6	2.80	2.30	3444.00	5.72	0.55	0.45	6.3	5.6	9.7	7.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARENA BLVD
PROJECT SCENARIO: BASELINE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	435	224	171	
WEST 347				187 EAST
WEST 772				658 EAST
WEST 544				415 EAST
	402	206	162	
		SOUTH		

HIGHEST VOLUMES	
N-S	1953
E-W	3158

PM PEAK-HOUR TRAFFIC:

		NORTH		
	506	379	363	
WEST 442				281 EAST
WEST 704				841 EAST
WEST 641				343 EAST
	889	331	541	
		SOUTH		

HIGHEST VOLUMES	
N-S	3124
E-W	4023

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	3158	5.72	1.72	1.10				
	Secondary Road	6	2.80	2.30	1953	5.72	0.31	0.26	6.3	5.6	8.3	6.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	4023.00	5.72	2.19	1.40				
	Secondary Road	6	2.80	2.30	3124.00	5.72	0.50	0.41	6.3	5.6	9.0	6.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: BASELINE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	699	403	306	
WEST 813				312 EAST
WEST 669				975 EAST
WEST 298				398 EAST
	352	398	287	
		SOUTH		

HIGHEST VOLUMES	
N-S	2931
E-W	3806

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	3806	5.72	2.07	1.33				
	Secondary Road	6	2.80	2.30	2931	5.72	0.47	0.39	6.3	5.6	8.8	6.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARENA BLVD
PROJECT SCENARIO: BASELINE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	509	356	326	
WEST 622				272 EAST
WEST 508				471 EAST
WEST 788				328 EAST
	496	386	290	
		SOUTH		

HIGHEST VOLUMES	
N-S	2644
E-W	3394

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	3394	5.72	1.84	1.18				
	Secondary Road	6	2.80	2.30	2644	5.72	0.42	0.35	6.3	5.6	8.6	6.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	671	1111	612	
WEST 620				489 EAST
WEST 2014				1926 EAST
WEST 219				766 EAST
	311	622	422	
		SOUTH		

HIGHEST VOLUMES	
N-S	4125
E-W	6229

PM PEAK-HOUR TRAFFIC:

		NORTH		
	293	654	519	
WEST 1054				656 EAST
WEST 2297				2007 EAST
WEST 296				708 EAST
	401	1148	659	
		SOUTH		

HIGHEST VOLUMES	
N-S	4324
E-W	6846

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	6229	5.72	3.38	2.17				
	Secondary Road	6	2.80	2.30	4125	5.72	0.66	0.54	6.3	5.6	10.3	7.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	6846.00	5.72	3.72	2.39				
	Secondary Road	6	2.80	2.30	4324.00	5.72	0.69	0.57	6.3	5.6	10.7	7.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARCO MAIN ENTRANCE
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	206	1613	674	
WEST 64				660 EAST
5				30
31				63
	381	817	3	
		SOUTH		

HIGHEST VOLUMES	
N-S	4034
E-W	1435

PM PEAK-HOUR TRAFFIC:

		NORTH		
	93	1294	694	
WEST 427				910 EAST
2				5
106				35
	165	1197	16	
		SOUTH		

HIGHEST VOLUMES	
N-S	4615
E-W	1662

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4034	5.72	2.19	1.41				
	Secondary Road	6	2.80	2.30	1435	5.72	0.23	0.19	6.3	5.6	8.7	6.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	4615.00	5.72	2.51	1.61				
	Secondary Road	6	2.80	2.30	1662.00	5.72	0.27	0.22	6.3	5.6	9.1	6.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	854	528	239	
WEST 292				332 EAST
WEST 1330				1361 EAST
WEST 458				692 EAST
	433	676	838	
		SOUTH		

HIGHEST VOLUMES	
N-S	3625
E-W	4792

PM PEAK-HOUR TRAFFIC:

		NORTH		
	567	679	483	
WEST 296				406 EAST
WEST 1227				1945 EAST
WEST 405				463 EAST
	669	676	838	
		SOUTH		

HIGHEST VOLUMES	
N-S	3730
E-W	5362

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4792	5.72	2.60	1.67				
	Secondary Road	6	2.80	2.30	3625	5.72	0.58	0.48	6.3	5.6	9.5	7.1
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	5362.00	5.72	2.91	1.87				
	Secondary Road	6	2.80	2.30	3730.00	5.72	0.60	0.49	6.3	5.6	9.8	7.3
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/NATOMAS CROSSING
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	269	912	154	
WEST 414				184 EAST
WEST 368				399 EAST
WEST 212				190 EAST
	37	1139	75	
		SOUTH		

HIGHEST VOLUMES	
N-S	3072
E-W	1699

PM PEAK-HOUR TRAFFIC:

		NORTH		
	271	1165	159	
WEST 487				89 EAST
WEST 375				455 EAST
WEST 24				58 EAST
	107	1078	240	
		SOUTH		

HIGHEST VOLUMES	
N-S	3249
E-W	1719

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	3072	5.72	1.67	1.07				
	Secondary Road	2	3.70	2.70	1699	5.72	0.36	0.26	6.3	5.6	8.3	6.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	3249.00	5.72	1.77	1.13				
	Secondary Road	2	3.70	2.70	1719.00	5.72	0.36	0.27	6.3	5.6	8.4	6.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/SAN JUAN RD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	27	942	0	
WEST 71				1320 EAST
WEST 449				463 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	2360
E-W	2232

PM PEAK-HOUR TRAFFIC:

		NORTH		
	71	1190	0	
WEST 32				1021 EAST
WEST 456				478 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	2314
E-W	1955

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	2360	5.72	1.28	0.82				
	Secondary Road	4	3.30	2.60	2232	5.72	0.42	0.33	6.3	5.6	8.0	6.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	2314.00	5.72	1.26	0.81				
	Secondary Road	4	3.30	2.60	1955.00	5.72	0.37	0.29	6.3	5.6	7.9	6.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): DUCKHORN/NATOMAS CROSSING
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	34	266	670	
WEST 142				367 EAST
WEST 94				66 EAST
WEST 1				260 EAST
	0	325	230	
		SOUTH		

HIGHEST VOLUMES	
N-S	1804
E-W	1687

PM PEAK-HOUR TRAFFIC:

		NORTH		
	88	284	534	
WEST 54				473 EAST
WEST 37				106 EAST
WEST 0				253 EAST
	0	477	316	
		SOUTH		

HIGHEST VOLUMES	
N-S	1910
E-W	1719

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	2	14.00	7.60	1804	5.72	1.44	0.78				
	Secondary Road	2	3.70	2.70	1687	5.72	0.36	0.26	6.3	5.6	8.1	6.3
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	2	14.00	7.60	1910.00	5.72	1.53	0.83				
	Secondary Road	2	3.70	2.70	1719.00	5.72	0.36	0.27	6.3	5.6	8.2	6.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): TRUXEL RD/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	446	1525	203	
WEST 367				175 EAST
WEST 964				776 EAST
WEST 1013				145 EAST
	1174	946	107	
		SOUTH		

HIGHEST VOLUMES	
N-S	4910
E-W	4740

PM PEAK-HOUR TRAFFIC:

		NORTH		
	431	1355	137	
WEST 542				258 EAST
WEST 884				963 EAST
WEST 1038				117 EAST
	1408	1639	167	
		SOUTH		

HIGHEST VOLUMES	
N-S	5724
E-W	5266

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	8	8.50	5.70	4910	5.72	2.39	1.60				
	Secondary Road	4	3.30	2.60	4740	5.72	0.89	0.70	6.3	5.6	9.6	7.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	8	8.50	5.70	5724.00	5.72	2.78	1.87				
	Secondary Road	4	3.30	2.60	5266.00	5.72	0.99	0.78	6.3	5.6	10.1	7.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): I5 NB RAMP/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	0	0	0	
WEST 0				486 EAST
WEST 733				1716 EAST
WEST 76				0 EAST
	380	0	1989	
		SOUTH		

HIGHEST VOLUMES	
N-S	2445
E-W	4924

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	4924	5.72	2.68	1.72				
	Secondary Road	2	3.70	2.70	2445	5.72	0.52	0.38	6.3	5.6	9.5	7.1
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	2	3.70	2.70	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	294	374	674	
WEST 514				735 EAST
WEST 1589				2128 EAST
WEST 166				656 EAST
	172	395	549	
		SOUTH		

HIGHEST VOLUMES	
N-S	2986
E-W	6331

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	6331	5.72	3.44	2.21				
	Secondary Road	6	2.80	2.30	2986	5.72	0.48	0.39	6.3	5.6	10.2	7.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARCO MAIN ENTRANCE
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	85	590	584	
WEST 141				588 EAST
WEST 0				4 EAST
WEST 62				41 EAST
	233	841	13	

HIGHEST VOLUMES	
N-S	2829
E-W	1230

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	2829	5.72	1.54	0.99				
	Secondary Road	6	2.80	2.30	1230	5.72	0.20	0.16	6.3	5.6	8.0	6.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): TRUXEL RD/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE EXISTING ZONING SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

	NORTH			
	267	1073	65	
WEST 338				20 EAST
WEST 389				531 EAST
WEST 862				55 EAST
	764	1075	86	
	SOUTH			

HIGHEST VOLUMES	
N-S	3915
E-W	3151

(NOT USED)

	NORTH			
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
	SOUTH			

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	8	8.50	5.70	3915	5.72	1.90	1.28				
	Secondary Road	4	3.30	2.60	3151	5.72	0.59	0.47	6.3	5.6	8.8	6.8
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	8	8.50	5.70	0.00	5.72	0.00	0.00				
	Secondary Road	4	3.30	2.60	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	654	1115	565	
WEST 639				497 EAST
WEST 2037				1938 EAST
WEST 165				725 EAST
	308	618	429	
		SOUTH		

HIGHEST VOLUMES	
N-S	4088
E-W	6191

PM PEAK-HOUR TRAFFIC:

		NORTH		
	294	669	586	
WEST 1069				506 EAST
WEST 2248				2059 EAST
WEST 355				794 EAST
	399	1241	620	
		SOUTH		

HIGHEST VOLUMES	
N-S	4365
E-W	6813

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	6191	5.72	3.36	2.16				
	Secondary Road	6	2.80	2.30	4088	5.72	0.65	0.54	6.3	5.6	10.3	7.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	6813.00	5.72	3.70	2.38				
	Secondary Road	6	2.80	2.30	4365.00	5.72	0.70	0.57	6.3	5.6	10.7	7.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARCO MAIN ENTRANCE
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	102	1630	758	
WEST 121				622 EAST
27				24
57				42
	235	833	3	
		SOUTH		

HIGHEST VOLUMES	
N-S	4066
E-W	1476

PM PEAK-HOUR TRAFFIC:

		NORTH		
	225	1388	679	
WEST 463				881 EAST
8				15
130				67
	387	1201	16	
		SOUTH		

HIGHEST VOLUMES	
N-S	4837
E-W	1666

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4066	5.72	2.21	1.42				
	Secondary Road	6	2.80	2.30	1476	5.72	0.24	0.19	6.3	5.6	8.7	6.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	4837.00	5.72	2.63	1.69				
	Secondary Road	6	2.80	2.30	1666.00	5.72	0.27	0.22	6.3	5.6	9.2	6.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	927	556	290	
WEST 258				277 EAST
WEST 1279				1275 EAST
WEST 514				707 EAST
	413	540	605	
		SOUTH		

HIGHEST VOLUMES	
N-S	3335
E-W	4666

PM PEAK-HOUR TRAFFIC:

		NORTH		
	532	707	499	
WEST 316				450 EAST
WEST 1249				1938 EAST
WEST 441				532 EAST
	741	838	798	
		SOUTH		

HIGHEST VOLUMES	
N-S	4057
E-W	5466

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4666	5.72	2.54	1.63				
	Secondary Road	6	2.80	2.30	3335	5.72	0.53	0.44	6.3	5.6	9.4	7.0
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	5466.00	5.72	2.97	1.91				
	Secondary Road	6	2.80	2.30	4057.00	5.72	0.65	0.53	6.3	5.6	9.9	7.3
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/NATOMAS CROSSING
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

	NORTH			
	267	1175	137	
WEST 375				102 EAST
WEST 358				359 EAST
WEST 185				303 EAST
	64	1122	105	
	SOUTH			

HIGHEST VOLUMES	
N-S	3178
E-W	1608

PM PEAK-HOUR TRAFFIC:

	NORTH			
	269	1150	133	
WEST 547				103 EAST
WEST 357				389 EAST
WEST 51				152 EAST
	127	1353	296	
	SOUTH			

HIGHEST VOLUMES	
N-S	3555
E-W	1740

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	3178	5.72	1.73	1.11				
	Secondary Road	2	3.70	2.70	1608	5.72	0.34	0.25	6.3	5.6	8.4	6.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	3555.00	5.72	1.93	1.24				
	Secondary Road	2	3.70	2.70	1740.00	5.72	0.37	0.27	6.3	5.6	8.6	6.7
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ROAD D2
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	514	890	62	
WEST 328				105 EAST
WEST 3				17 EAST
WEST 107				63 EAST
	532	858	54	
		SOUTH		

HIGHEST VOLUMES	
N-S	2757
E-W	1501

PM PEAK-HOUR TRAFFIC:

		NORTH		
	189	1038	106	
WEST 887				77 EAST
WEST 13				4 EAST
WEST 228				47 EAST
	244	812	70	
		SOUTH		

HIGHEST VOLUMES	
N-S	3109
E-W	1565

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	2757	5.72	1.50	0.96				
	Secondary Road	6	2.80	2.30	1501	5.72	0.24	0.20	6.3	5.6	8.0	6.4
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	3109.00	5.72	1.69	1.08				
	Secondary Road	6	2.80	2.30	1565.00	5.72	0.25	0.21	6.3	5.6	8.2	6.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/SAN JUAN RD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	57	0	908	
WEST 128				1316 EAST
WEST 497				497 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	2409
E-W	3218

PM PEAK-HOUR TRAFFIC:

		NORTH		
	151	0	1223	
WEST 73				1054 EAST
WEST 476				522 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	2501
E-W	3275

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	3218	5.72	1.75	1.12				
	Secondary Road	6	2.80	2.30	2409	5.72	0.39	0.32	6.3	5.6	8.4	6.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	3275.00	5.72	1.78	1.14				
	Secondary Road	6	2.80	2.30	2501.00	5.72	0.40	0.33	6.3	5.6	8.5	6.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): DUCKHORN/NATOMAS CROSSING
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	42	323	597	
WEST 128				387 EAST
WEST 108				64 EAST
WEST 1				238 EAST
	0	322	213	
		SOUTH		

HIGHEST VOLUMES	
N-S	1799
E-W	1607

PM PEAK-HOUR TRAFFIC:

		NORTH		
	85	333	562	
WEST 43				424 EAST
WEST 63				133 EAST
WEST 0				229 EAST
	0	532	331	
		SOUTH		

HIGHEST VOLUMES	
N-S	1979
E-W	1742

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	1799	5.72	0.98	0.63				
	Secondary Road	6	2.80	2.30	1607	5.72	0.26	0.21	6.3	5.6	7.5	6.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	1979.00	5.72	1.08	0.69				
	Secondary Road	6	2.80	2.30	1742.00	5.72	0.28	0.23	6.3	5.6	7.7	6.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): TRUXEL RD/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT WEEKDAY
ANALYSIS YEAR: 2010

AM PEAK-HOUR TRAFFIC:

		NORTH		
	422	1473	234	
WEST 375				172 EAST
WEST 942				758 EAST
WEST 1080				138 EAST
	1182	978	108	
		SOUTH		

HIGHEST VOLUMES	
N-S	4959
E-W	4759

PM PEAK-HOUR TRAFFIC:

		NORTH		
	435	1380	142	
WEST 594				266 EAST
WEST 862				1011 EAST
WEST 1050				130 EAST
	1413	1639	191	
		SOUTH		

HIGHEST VOLUMES	
N-S	5803
E-W	5365

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
AM PEAK HOUR												
	Primary Road	6	9.50	6.10	4959	5.72	2.69	1.73				
	Secondary Road	6	2.80	2.30	4759	5.72	0.76	0.63	6.3	5.6	9.8	7.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
PM PEAK HOUR												
	Primary Road	6	9.50	6.10	5803.00	5.72	3.15	2.02				
	Secondary Road	6	2.80	2.30	5365.00	5.72	0.86	0.71	6.3	5.6	10.3	7.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): I5 NB RAMPS/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	0	0	0	
WEST 0				602 EAST
WEST 813				1786 EAST
WEST 77				0 EAST
	359	0	2188	
		SOUTH		

HIGHEST VOLUMES	
N-S	2624
E-W	5389

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	5389	5.72	2.93	1.88				
	Secondary Road	6	2.80	2.30	2624	5.72	0.42	0.35	6.3	5.6	9.6	7.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/DEL PASO RD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

	NORTH			
	296	486	650	
WEST 498				713 EAST
WEST 1594				2118 EAST
WEST 241				819 EAST
	199	476	680	
	SOUTH			

HIGHEST VOLUMES

N-S	3119
E-W	6574

(NOT USED)

	NORTH			
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
	SOUTH			

HIGHEST VOLUMES

N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	6574	5.72	3.57	2.29				
	Secondary Road	6	2.80	2.30	3119	5.72	0.50	0.41	6.3	5.6	10.4	7.5
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARCO MAIN ENTRANCE
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	250	782	562	
WEST 407				558 EAST
WEST 0				13 EAST
WEST 180				94 EAST
	648	854	13	
		SOUTH		

HIGHEST VOLUMES	
N-S	3413
E-W	1498

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

			REFERENCE MOBILE-SOURCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION					
PEAK HOUR		NUMBER OF LANES	AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	3413	5.72	1.85	1.19				
	Secondary Road	6	2.80	2.30	1498	5.72	0.24	0.20	6.3	5.6	8.4	6.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): E COMMERCE/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	302	609	338	
WEST 617				339 EAST
WEST 1878				1643 EAST
WEST 485				580 EAST
	440	565	521	
		SOUTH		

HIGHEST VOLUMES	
N-S	3200
E-W	5365

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	5365	5.72	2.92	1.87				
	Secondary Road	6	2.80	2.30	3200	5.72	0.51	0.42	6.3	5.6	9.7	7.2
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): TRUXEL RD/ARENA BLVD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT SATURDAY
ANALYSIS YEAR: 2010

SAT PEAK-HOUR TRAFFIC:

		NORTH		
	291	1063	64	
WEST 360				30 EAST
WEST 431				548 EAST
WEST 906				80 EAST
	789	1064	102	
		SOUTH		

HIGHEST VOLUMES	
N-S	4004
E-W	3325

(NOT USED)

		NORTH		
	0	0	0	
WEST 0				0 EAST
WEST 0				0 EAST
WEST 0				0 EAST
	0	0	0	
		SOUTH		

HIGHEST VOLUMES	
N-S	0
E-W	0

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE MOBILE-SOURCE CO CONC: AT ROADWAY EDGE	REFERENCE MOBILE-SOURCE CO CONC: AT 25 FEET	HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 1-HR	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION: 8-HR	BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
SAT PEAK HOUR												
	Primary Road	6	9.50	6.10	4004	5.72	2.18	1.40				
	Secondary Road	6	2.80	2.30	3325	5.72	0.53	0.44	6.3	5.6	9.0	6.9
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**
(NOT USED)												
	Primary Road	6	9.50	6.10	0.00	5.72	0.00	0.00				
	Secondary Road	6	2.80	2.30	0.00	5.72	0.00	0.00	6.3	5.6	6.3	5.6
										CAAQS:	**20.0**	**9.0**
										EXCEEDS:	**NO**	**NO**

NOTES:
CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007.
Background concentrations based on the highest measured concentration at the nearest air quality monitoring staiton for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

SCREENING HUMAN HEALTH-RISK ASSESSMENT

PROJECT: NATOMAS CROSSING,
LOCATION: SACRAMENTO, CA
METHODOLOGY: SMAQMD's Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways. Version 2.2. (March 2009)

Diesel PM Cancer Risk (Potential Incremental Cancer Cases per Million People)
East and West of a North-South Roadway (2009)

Peak Hour Traffic (vehicle/hr)	Receptor Distance from Edge of Nearest Travel Lane (feet)							
	10	**25**	**50**	**100**	**200**	**300**	**400**	**500**
Incremental Cancer Risk Per Million: East (downwind)								
4000	242	207	165	114	73	54	45	35
8000	483	413	328	232	146	108	86	73
12000	725	623	493	347	223	162	130	108
16000	1094	932	735	518	331	245	194	159
20000	1212	1037	820	579	369	273	216	178
24000	1453	1243	986	693	442	328	261	216
Incremental Cancer Risk Per Million: West (upwind)								
4000	153	121	89	60	38	29	22	19
8000	308	242	178	121	76	54	45	35
12000	461	366	267	181	114	83	67	54
16000	728	576	423	289	181	134	105	86
20000	770	611	448	305	191	140	111	89
24000	922	731	623	366	229	169	130	108

Source: SMAQMD. January 2009. Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways (v2.1),Table 2.

RECEPTOR:
MEDICAL CENTER

NEAREST MAJOR ROADWAY:
Interstate 5

PEAK-HOUR TRAFFIC VOLUMES-AM(PM):
11006(11928)

DISTANCE FROM ROADWAY TO NEAREST BUILDING FACADE: 200'

PREDICTED DIESEL-PM CANCER RISK:
223 CHANCES PER MILLION

SMAQMD EVALUATION CRITERIA:
296 CHANCES PER MILLION

EXCEEDS SMAQMD EVALUATION CRITERIA?:
NO

FURTHER EVALUATION REQUIRED?:
NO

Sources: Traffic volujmes were derived from the traffic analysis prepared for this project (DKS Associates. January 2009. Natomas Crossing Transportation Impact Assessment.)

GREENHOUSE GAS EMISSIONS SUMMARY

EMISSIONS INVENTORIES	ANNUAL (YEAR 2004) EMISSIONS INVENTORY (CO2e)
CALIFORNIA	5.0E+08
UNITED STATES	8.0E+09
WORLD-WIDE	2.2E+10

OPERATIONAL EMISSIONS SUMMARY AT BUILDOUT				
	CO2 EQUIV TONS/YR			
SOURCE	CO2	N20	CH4	TOTAL
MOTOR VEHICLES	80,158.0	3,599.8	199.0	83,956.8
ELECTRICITY USE	19,969.0	28.4	51.7	20,049.1
NAT GAS	4,311.5	3.3	13.1	4,327.9
SOLID WASTE	621.4	7,456.4	0.0	8,077.7
			TOTAL CO2 EQUIV (TONS/YR):	116,411.5
			PERCENT OF CA INVENTORY:	0.02
			PERCENT OF US INVENTORY:	0.001
			PERCENT OF GLOBAL INVENTORY:	0.0005

CONSTRUCTION EMISSIONS SUMMARY	
	TOTAL CO2 EQUIVALENT EMISSIONS
EQUIPMENT EMISSIONS	
2011	598.8
2012	291.3
2013	2850.3
2014	3006.8
2015	1431.8
WASTE EMISSIONS	
2011	576.9
2012	382.4
2013	1678.5
2014	1878.2
2015	778
COMBINED EMISSIONS	
2011	1175.7
2012	673.7
2013	4528.8
2014	4885.0
2015	1431.8

GHG EMISSIONS: ELECTRICITY USE

		GHG EMISSIONS (TONS/YR)			**CO2 EQUIV EMISSIONS (TONS/YR)**			
SOURCE	ELECTRICITY USE (MWH/YR)	CO2	N20	CH4	CO2	N20	CH4	TOTAL
STATE OF CALIFORNIA	272,464,000	109,604,093	504	913	109,604,093	156,258	19,168	109,779,519
SACRAMENTO COUNTY	10,574,000	4,253,603	20	35	4,253,603	6,064	744	4,260,411
CITY OF SACRAMENTO	3,363,000	1,352,834	6	11	1,352,834	1,929	237	1,354,999
Natomas Crossing	49,641	19,969.0	0.1	0.2	19,969.0	28.4	51.7	20,049.1
NOTES: Based on ratio of City-wide emissions calculated based on percentage of statewide energy use according to ratio from US Bureau of the Census,								

ELECTRICITY USAGE RATES

Residential	180	DU	4469.00	kWh/DU-yr	804420	kWh
Office	1040000	SF	19.95	kWh/SF-yr	20748000	kWh
Commercial/Retail	819200	SF	16.50	kWh/SF-yr	13516800	kWh
Health	600000	SF	23.06	kWh/SF-yr	13836000	kWh
Lodging	60000	SF	12.26	kWh/SF-yr	735600	kWh
				Sum	49640820	kWh
Residential usage rates derived from California Energy Commission. 2004. California Statewide Residential Appliance Saturation Study.						
Commercial usage rates derived from California Energy Commission. March 2006. California Commercial End-Use Survey. Table 12-1						

GHG EMISSIONS: NATURAL GAS USE

					CO2 EQUIVALENT (TONS/YR)			
	NATURAL GAS USE(THERMS/YR)	N20 (TONS/YEAR)	CH4 (TONS/YEAR)	CO2 (TONS/YR)	CO2 (TONS/YR)	N20 (TONS/YEAR)	CH4 (TONS/YEAR)	TOTAL (N2O,CH4,CO2)
Natomas Crossing	958,664.8	0.01	0.62	4752.56	4,311.5	3.3	13.1	4,327.9
CO2 EMISSIONS WERE CALCULATED USING THE URBEMIS2007 COMPUTER PROGRAM. CH4 AND N20 EMISSION FACTORS DERIVED FROM CALIFORNIA CLIMATE ACTION REGISTRY GENERAL REPORTING PROTOCOL, VERSION 2.2, MARCH 2007; APPENDIX C, TABLE C-1. PROJECT USAGE RATES WERE OBTAINED FROM								

NATURAL GAS USAGE RATES								
				factor		converted factor	usage	
Residential	180	DU	326	therms/year			58680.0	therm/sf/yr
Office	1040000	SF	19.8	kBtu/sf/year	0.198	therm/sf/yr	205920.0	therm/sf/yr
Commercial/Retail	819200	SF	26.9	kBtu/sf/year	0.269	therm/sf/yr	220364.8	therm/sf/yr
Health	600000	SF	74.8	kBtu/sf/year	0.748	therm/sf/yr	448800.0	therm/sf/yr
Lodging	60000	SF	41.5	kBtu/sf/year	0.415	therm/sf/yr	24900.0	therm/sf/yr
California Energy Commission. March 2006. California Commercial End-Use Survey. Table 9-5, which is specific to PG&E								

GHG EMISSIONS: SOLID WASTE

	GENERATION RATES		GHG EMISSIONS (TONS/YR)		**CO2 EQUIVALENT EMISSIONS (TONS/YR)**		
SOURCE	SOLID WASTE (TONS/YR)	LANDFILL GAS (TONS/YEAR)	CO2	CH4	CO2	CH4	TOTAL
CITY OF SACRAMENTO							
2005	291,691	33,106	21,068	12,039	21,068	252,813	273,880
2005 (INCLUDING PRIVATE HAULING)	632,800	71,822	45,705	26,117	45,705	548,455	594,160
OPERATIONAL EMISSIONS							
Natomas Crossing	8,603	976	621.4	355.1	621.4	7,456.4	8,077.7
CONSTRUCTION EMISSIONS							
Natomas Crossing	778	88	56.2	32.1	56.2	674.3	730.5
NOTES: BASED ON A RATIO OF PROJECT GENERATED WASTE AND ESTIMATED 2005 WASTE GENERATION RATES FOR CITY OF SACRAMENTO; EMISSION FACTORS DERIVED FROM U.S. EPA STATE WORKBOOK: METHODOLOGIES FOR ESTIMATING GREENHOUSE GAS EMISSIONS. (Source: City of Sacramento. November 2007).							

SOLID WASTE GENERATION RATES

Operational

Residential	180	DU	0.73	tons/per unit/per yea	131.4	tons/year
Commercial/Office	1094000	SF	1	lbs/100 sf/day	1996.6	tons/year
Retail	819200	SF	2.5	lbs/100sf/day	3737.6	tons/year
Mixed Use	600000	SF	2.5	lbs/100sf/day	2737.5	tons/year
				Sum	8603.1	tons/year
All demand factors from www.ciwmb.ca.gov, accessed on December 19, 2007						

Construction

2014 Quad B-Res TH	180000	SF	4.38	lb/sf	394.2	tons
2013 Quad B-NonRes	363000	SF	3.89	lb/sf	706.0	tons
2014 Quad B-NonRes	363000	SF	3.89	lb/sf	706.0	tons
2011 Quad C, PHI	196600	SF	3.89	lb/sf	382.4	tons
2012 Quad C, PHII	196600	SF	3.89	lb/sf	382.4	tons
2011 Quad C, PHIII	100000	SF	3.89	lb/sf	194.5	tons
2013 Quad C, PHIV	100000	SF	3.89	lb/sf	194.5	tons
Year 2013 Quad D	400000	SF	3.89	lb/sf	778.0	tons
Year 2014 Quad D	400000	SF	3.89	lb/sf	778.0	tons
Year 2015 Quad D	400000	SF	3.89	lb/sf	778.0	tons
Assumes 1,000 sq.ft./T.H./Condo; 200 sq.ft./hotel room.						

Source: US EPA, Characterization of Building Related Construction and Demolition Debris in the Untied States, June 1998, pages 2-3 to 2-4.

GHG EMISSIONS: MOBILE-SOURCE

N20 & CH4

			GASOLINE			
			CH4		N2O	
VEHICLE TYPE	**VEH. FLEET MIX**	**FUEL FRACTION**	**EMFAC**	**WT EMFAC**	**EMFAC**	**WT EMFAC**
Light Auto	0.475	0.996	0.040	0.019	0.040	0.019
Light Truck < 3750 lbs	0.1	0.940	0.050	0.005	0.060	0.006
Light Truck 3751-5750 lbs	0.227	0.996	0.050	0.011	0.060	0.014
Med Truck 5751-8500 lbs	0.102	0.990	0.120	0.012	0.200	0.020
Lite-Heavy Truck 8501-10,000 lbs	0.021	0.762	0.120	0.002	0.200	0.003
Lite-Heavy Truck 10,001-14,000 lbs	0.009	0.556	0.120	0.001	0.200	0.001
Med-Heavy Truck 14,001-33,000 lbs	0.016	0.188	0.120	0.000	0.200	0.001
Heavy-Heavy Truck 33,001-60,000 lbs	0.005	0.000	0.120	0.000	0.200	0.000
Other Bus	0.001	0.000	0.120	0.000	0.200	0.000
Urban Bus	0.000	0.000				
Motorcycle	0.035	0.486	0.090	0.002	0.010	0.000
School Bus	0.001	0.000	0.120	0.000	0.200	0.000
Motor Home	0.008	0.875	0.120	0.001	0.200	0.001
				0.052		0.065

Vehicle fleet mix derived from URBEMIS2007 (version 9.2.4) computer program. Emission factors derived from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008.

N20 & CH4

			DIESEL			
			CH4		N2O	
VEHICLE TYPE	**VEH. FLEET MIX**	**FUEL FRACTION**	**EMFAC**	**WT EMFAC**	**EMFAC**	**WT EMFAC**
Light Auto	0.475	0.002	0.010	0.000	0.020	0.000
Light Truck < 3750 lbs	0.1	0.050	0.010	0.000	0.030	0.000
Light Truck 3751-5750 lbs	0.227	0.000	0.010	0.000	0.030	0.000
Med Truck 5751-8500 lbs	0.102	0.000	0.060	0.000	0.050	0.000
Lite-Heavy Truck 8501-10,000 lbs	0.021	0.238	0.060	0.000	0.050	0.000
Lite-Heavy Truck 10,001-14,000 lbs	0.009	0.444	0.060	0.000	0.050	0.000
Med-Heavy Truck 14,001-33,000 lbs	0.016	0.812	0.060	0.001	0.050	0.001
Heavy-Heavy Truck 33,001-60,000 lbs	0.005	1.000	0.060	0.000	0.050	0.000
Other Bus	0.001	1.000	0.060	0.000	0.050	0.000
Urban Bus	0.000	0.000				
Motorcycle	0.035	0.000	0.090	0.000	0.010	0.000
School Bus	0.001	1.000	0.060	0.000	0.050	0.000
Motor Home	0.008	0.125	0.060	0.000	0.050	0.000
				0.002		0.002

Vehicle fleet mix derived from URBEMIS2007 (version 9.2.4) computer program. Emission factors derived from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008.

CO2	88,357.6	TONS/YR
GWP	1	
Annual CO2e	80,158.0	MT/YR
SOURCE: URBEMIS2007, VERSION 9.2.4		

MOBILE-SOURCE EMISSIONS SUMMARY

		Composite EMFACs (g/mi)		Tons (short)/Year			CO2e (Tons/Year)			
	ANNUAL VMT	CH4	N2O	CH4	N2O	CO2	CH4	N2O	CO2	TOTAL
Natomas Crossing	1.75E+08	0.054	0.066	10.4	12.8	88,357.6	199.0	3,599.8	80,158.0	83,956.8

Annual vehicle miles traveled derived from URBEMIS2007 computer program.

REFERENCES

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APPENDIX F

Environmental Noise Assessment

Natomas Crossing

Sacramento, California

Job # 2008-233

Prepared For:

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INTRODUCTION:

This report has been prepared to address the noise impacts due to and upon the proposed Natomas Crossing project located within the City of Sacramento, California. The proposed development is located between I-5 and East Commerce Way. The project is located within three separate areas or Quadrants B, C and D. Quadrant B is designated for a mixed use center, which includes residential, hotel, and retail services. The Quadrant C portion includes the development of 404,580 square feet of regional retail uses and approximately 200,000 square feet for office uses. Quadrant D includes the development of 600,000 square feet for a hospital, as well as an additional 600,000 square feet of medical office uses. Quadrant D also includes two parking structures and a ground floor Helistop.

The area surrounding the Natomas Crossing site is mostly vacant. Proposed commercial, offices, and some residential uses are proposed adjacent to the site. The project site is bordered to the north and south by undeveloped commercial. Single family homes are currently under construction to the east of the site (across from Quadrants C and D). Existing high density residential development is located across from the Quadrant B portion of the site.

Traffic on roadways adjacent to the project site which include Interstate 5 (I-5), Arena Boulevard, and East Commerce Way dominate the existing noise environment.

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

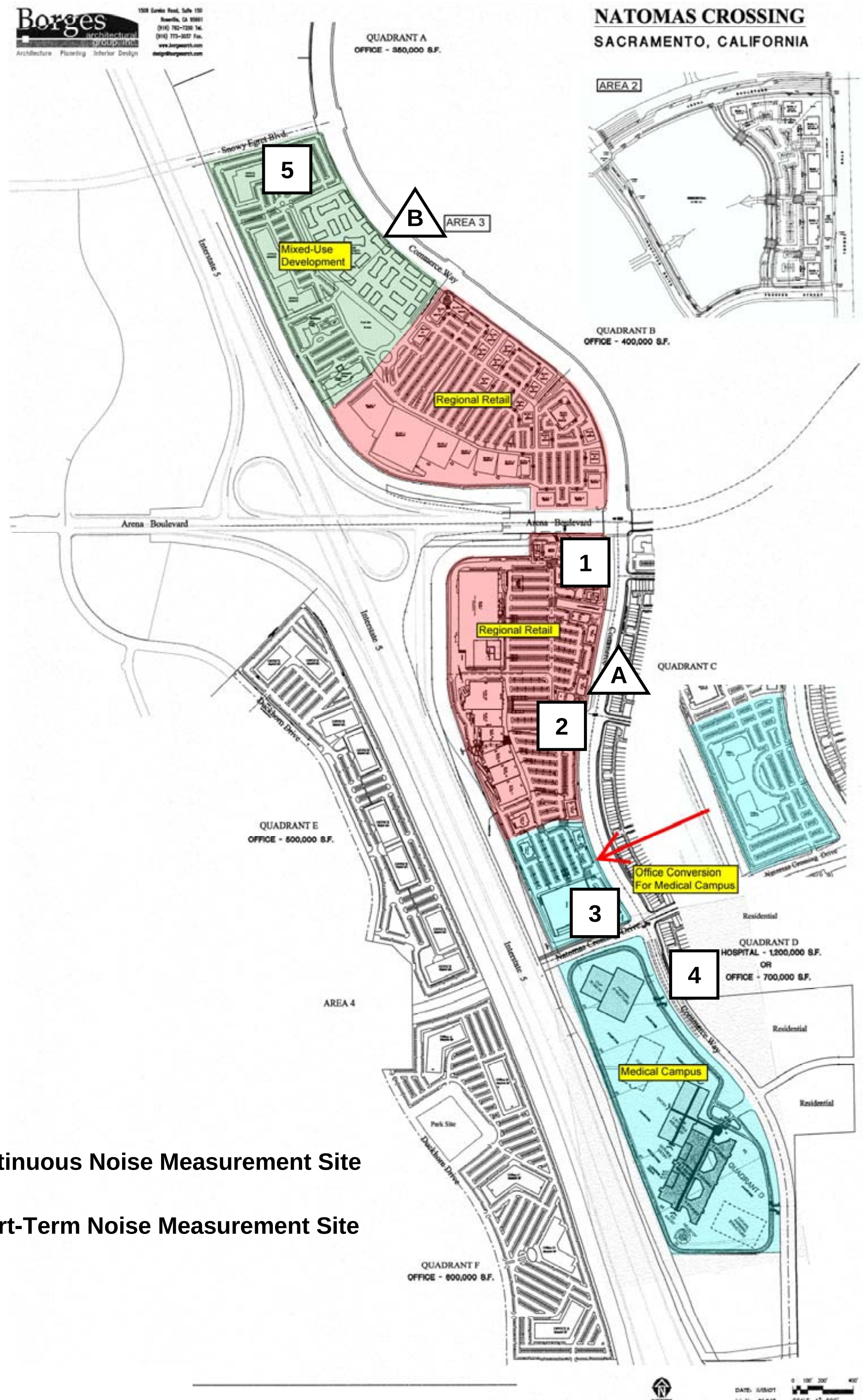
Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective. Often, someone’s music is described as noise by another.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB[1]. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

[1] For an explanation of these terms, see Appendix A: "Acoustical Terminology"

Figure 1
Natomas Crossing – City of Sacramento, California
Project Site Plan and Noise Monitoring Locations



: Continuous Noise Measurement Site

: Short-Term Noise Measurement Site

Source: Alleghany Properties, LLC.

j.c. brennan & associates
consultants in acoustics

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels.

There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common noise sources. Appendix A provides a summary of acoustical terms used in this report.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

Table 1 Typical Noise Levels		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source:Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. October 1998.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and

- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as vibration decibels (VdB).

Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel wheeled trains, and traffic on rough roads. However, if a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. Construction activities can generate groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants.

CRITERIA:

Noise compliance is determined through the policies established in general plans, zoning ordinances, and community plans. The following sections describe the existing noise environment and noise criteria for the proposed project sites and surrounding areas.

Proposed City of Sacramento General Plan Update

The City of Sacramento has proposed changes to the General Plan Noise Element and is expecting these changes to be adopted in the near future. Below are excerpts from the Environmental Constraints: Noise section.

Goal EC 3.1

Noise Reduction. Minimize noise impacts on human activity to ensure the health and safety of the community.

Policies

EC 3.1.1 **Exterior Noise Standards.** The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table 2, (EC 1 of the new General Plan), to the extent feasible. (RDR)

Table 2

Table EC 1 Exterior Noise Compatibility Standards for various Land Uses

Land Use Type	Highest Level of Noise Exposure That Is Regarded as "Normally Acceptable" [a] (Ldn [b] or CNEL [c])
Residential – Low Density Single Family, Duplex, Mobile Homes	60 dBA [d,c]
Residential – Multi-family	65 dBA
Urban Residential Infill and Mixed-Use Projects	70 dBA
Transient Lodging – Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office buildings – business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

Source: governor's Office of Planning and Research, *State of California General Plan Guidelines 2003*, October 2003.

a. As defied in the *Guidelines*, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."
b. Ldn or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.
c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.
d. dBA or A-weighted decibel scale is a measurement of noise levels.
e. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.
f. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High).
g. All mixed-use projects located anywhere in the City of Sacramento.

EC 3.1.2 **Exterior Incremental Noise Standards**. The City shall require mitigation for all development that increases existing noise levels by more than the allowable increment as shown in Table 3 Table (EC 2 of the General Plan), to the extent feasible. (RDR)

Table 3 Table EC 2 Exterior Incremental Noise Impact Standards for Noise-Sensitive Uses (dBA)			
Residences and Buildings where people normally sleep a		Institutional land uses with primarily daytime and evening uses b	
Existing Ldn	Allowable Noise Increment	Existing Peak Hour Leq	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Source: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, Mat 2006.

a. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.

b. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, mediation, and concentration on reading material.

EC 3.1.3 **Interior noise Standards.** The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA Ldn for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA Leq (peak hour) for office buildings and similar uses. (RDR)

EC 3.1.4 **Interior Noise Review Standards for Multiple, Loud Short-TermSingle Events.** In cases where new development is proposed in areas subject to frequent, high noise events (such as aircraft over-flights, or train and truck pass-bys), the City shall evaluate noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings.

City of Sacramento Noise Control Ordinance

Construction activities are regulated under the City of Sacramento Noise Control Ordinance. Construction activities are conditionally exempt from the Noise Ordinance. Construction activities are exempt from the noise standard from 7:00 a.m. to 6:00 p.m. Monday through Saturday, and from 9:00 a.m. to 6:00 p.m. on Sunday. Noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure between the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday, and from 9:00 a.m. to 6:00 p.m. on Sunday are exempt from the noise control ordinance, provided that the operation of an internal combustion engine is equipped with suitable exhaust and intake silencers which are in good working order. The director of building inspections, may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work.

Federal Aviation Administration

The Federal Aviation Administration has adopted a noise compatibility criterion of 65 dB Ldn for residential uses, which includes penalties for evening noises.

State of California Public Utilities Code

The state legislative authority to adopt noise standards governing the operation of aircraft and aircraft engines for airports is provided in Section 21669, Article 3, Chapter 4, Part 1, Division 9 of the Public Utilities Code (PUC) (Aeronautics Law). Caltrans Division of Aeronautics is the agency responsible for compliance with this PUC section.

The PUC differentiates emergency service helicopters from other aircraft by providing exemptions from local ordinances. Section 21662.4 (a), Article 3, Chapter 4, Part 1, Divison 9 of the PUC state the following concerning exemptions from the noise ordinances:

Emergency aircraft flights for medical purposes by law enforcement, fire fighting, military, or other persons who provide emergency flights for medical purposes are exempt from local ordinances adopted by a city, county, or city and county, whether general law chartered, that restricts flight departures and arrivals to particular hours of the day or night, that restrict the departure or arrival of aircraft based upon the aircraft's noise level, or that restrict the operation of certain types of aircraft.

Caltrans Division of Aeronautics

The Caltrans Division of Aeronautics has adopted CNEL as the noise descriptr to be used in describing the noise impact boundary of California airports. The Divison of Aeronautics has identified a CNEL value of 65 dB as the noise impact criterion for noise-sensitive land uses, such as single family or multi-family dwellings. The CNEL is typically about 1 dB more than the Ldn because it applies an additional penalty for noise sources between the hours of 7:00 p.m. and 10:00 p.m. The Ldn descriptor only applies a penalty to noise levels between the hours of 10:00 p.m. and 7:00 a.m.

PROJECT DESCRIPTION

The Natomas Crossing project proposes a multi-phase development that incorporates three areas or quadrants throughout the project site. Figure 1 shows the project site plan. Below are brief descriptions of each of the three quadrants that are part of the project.

Quadrant B would include:

- 319,500 to 426,000 square feet of retail space;
- 10 acres of Residential with approximate total of 180 units;

- 5 acres of Hotel use consisting of approximately 130,000 square feet, or 300 rooms;
- 14 acres of Office consisting of approximately 240,000 square feet.

It is important to note that development of Quadrant B is not proposed at this time.

Quadrant C development includes:

- 404,580 square feet of regional retail uses and 200,000 square feet of office uses;
- Quadrant C would include a total of 20 retail pads with one large retail pad approximately 137,933 square feet and an attached 31,179 square foot garden center.

Quadrant D development includes:

- 600,000 square feet for a hospital;
- 600,000 square feet for medical office uses;
- A ground floor Helistop for ER uses;
- Phase 2 of the project includes two multi-level parking structures.

EXISTING NOISE ENVIRONMENT

Major Noise Sources in the Project Vicinity

Transportation:

Motor vehicle traffic on East Commerce Way, Arena Boulevard and I-5 are the major contributors to the existing noise environment in the project vicinity. Periodic increases of traffic noise along these roadways will occur when events are held at Arco Arena. Commercial Aircraft overflights from the Sacramento Metropolitan Airport also contribute to the ambient noise environment on the project site.

Non-Transportation:

The non-transportation noise sources in the project vicinity were due primarily to construction of commercial and residential zoned developments to the east of the project site.

Existing Traffic Noise Levels in the Project Vicinity

To determine the existing traffic noise levels at the identified noise sensitive land uses within the project vicinity, j.c. brennan & associates, Inc., employs the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) for the prediction of traffic noise levels. The FHWA Model is based upon the Calveno reference noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model inputs consisted of existing traffic volumes obtained from the traffic study prepared by DKS & Associates for this project and j.c. brennan & associates, Inc. traffic assumptions are based on site observations. The FHWA model was used for both weekday and Saturday scenarios. A compete listing of the FHWA model inputs is provided in Appendix B.

Predicted existing weekday and Saturday traffic noise levels are shown in Tables 4 and 5, respectively, in terms of the Day/Night Average Level descriptor (Ldn) at a standard distance of 75 feet from the centerlines of the existing immediate project-area roadways for existing conditions, as well as distances to existing traffic noise contours. The extent by which existing land uses in the project vicinity are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise.

Table 4
Existing Weekday Traffic Noise Levels

Roadway	Segment	Distance	Traffic Noise Levels Ldn	Distance to Ldn Contours [1]		
				70 dB	65 dB	60 dB
El Centro Rd	North of Arena	75’	63.2 dB	27’	57’	123’
	South of Arena	75’	63.5 dB	28’	60’	129’
Duckhorn Dr	North of Arena	75’	62.1 dB	22’	48’	104’
	Arena to (future) Natomas Crossing	75’	64.5 dB	32’	70’	150’
E. Commerce Way	Del Paso to West Entrance	75’	66.2 dB	42’	90’	194’
	Arco West Entrance to Arena	75’	62.9 dB	25’	54’	116’
	Arena to Amelia Earhart	75’	49.3 dB	3’	7’	14’
Truxel Rd	North of Arena	75’	68.6 dB	60’	130’	280’
	Arena to Natomas Crossing	75’	68.6 dB	60’	130’	279’
	South of Natomas Crossing	75’	69.3 dB	67’	145’	311’
Arena Blvd	El Centro to Duckhorn	75’	62.1 dB	22’	48’	103’
	Duckhorn to SB 5 Ramps	75’	67.5 dB	51’	111’	239’
	NB 5 Ramps to E. Commerce	75’	68.1 dB	56’	120’	259’
	E. Commerce to Truxel	75’	67.8 dB	54’	116’	249’
	East of Truxel	75’	65.7 dB	39’	83’	179’
San Juan Rd	West of Duckhorn	75’	61.6 dB	21’	45’	96’
	Duckhorn to E. Commerce	75’	63.9 dB	29’	63’	136’
I-5	I-80 to Arena	75’	82.3 dB	499’	1075’	2316’

[1] Distances to traffic noise levels are from the roadway centerline.
Source: DKS & Associates and j.c. brennan & associates, Inc., 2009

Table 5 Existing Saturday Traffic Noise Levels						
Roadway	Segment	Distance	Traffic Noise Levels Ldn	Distance to Ldn Contours [1]		
				70 dB	65 dB	60 dB
El Centro Rd	North of Arena	75’	59.6 dB	15’	33’	70’
	South of Arena	75’	59.6 dB	15’	33’	71’
Duckhorn Dr	North of Arena	75’	59.8 dB	16’	34’	72’
	Arena to (future) Natomas Crossing	75’	63.4 dB	27’	59’	127’
E. Commerce Way	Del Paso to West Entrance	75’	65.1 dB	35’	76’	164’
	Arco West Entrance to Arena	75’	61.1 dB	19’	42’	89’
	Arena to Amelia Earhart	75’	52.6 dB	5’	11’	24’
Truxel Rd	North of Arena	75’	67.9 dB	54’	116’	250’
	Arena to Natomas Crossing	75’	68.1 dB	56’	121’	260’
	South of Natomas Crossing	75’	68.9 dB	64’	137’	295’
Arena Blvd	El Centro to Duckhorn	75’	59.6 dB	15’	33’	71’
	Duckhorn to SB 5 Ramps	75’	66.0 dB	40’	87’	188’
	NB 5 Ramps to E. Commerce	75’	65.3 dB	37’	79’	170’
	E. Commerce to Truxel	75’	65.2 dB	36’	77’	166’
	East of Truxel	75’	61.9 dB	22’	47’	101’
San Juan Rd	West of Duckhorn	75’	59.6 dB	15’	33’	70’
	Duckhorn to E. Commerce	75’	61.9 dB	21’	46’	100’
I-5	I-80 to Arena	75’	82.3 dB	499’	1075’	2316’

[1] Distances to traffic noise levels are from the roadway centerline.
Source: DKS & Associates and j.c. brennan & associates, Inc., 2009

Existing Ambient Noise Levels in the Project Vicinity

As a means of quantifying background noise levels, j.c. brennan & associates, Inc., staff conducted short-term noise level measurements at five locations and continuous 24-hour noise level measurements at two locations on and in the vicinity of the project site on January 2-3, 2008 and December 22-23, 2008 (see Figure 1 for the noise measurement locations). The noise level measurements were conducted to determine typical background noise levels and for comparison to the project related noise levels. The measured noise levels included the average, median and maximum noise level at each site during the surveys. The maximum value, denoted Lmax, represents the highest noise level measured. The average value, denoted Leq, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median noise level which is denoted L50 is the noise level exceeded half of the time during the measurement. The continuous 24-hour noise measurements indicate the temporal distribution of the hourly noise levels during the 24-hour period, as well as the measured Ldn. The short-term noise measurements provide an indication of measured noise levels during the middle of the day, and how they vary based upon proximity to I-5. Table 6 shows a summary of the noise measurement results. Appendix C graphically shows the continuous 24-hour ambient noise measurement results.

Equipment used for the noise measurement included Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters. The meters were calibrated before and after use with an LDL CAL200 acoustical calibrator to ensure the accuracy of the measurements.

Table 6
Summary of Measured Noise Levels at the Natomas Crossing Site

			Average Measured Hourly Noise Levels, dBA						
				Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm - 7 am)		
Site	Location	Date	Ldn/ CNEL	Leq	L50	Lmax	Leq	L50	Lmax
Continuous 24-hour Noise Measurement Site									
A	75' East of E. Commerce and 180' North of Amelia Earhart Street	January 2-3, 2008	60.8	57.2	54.0	71.9	53.7	52.7	60.6
B	90' East of E. Commerce Way within the Bella Rose housing community.	Dec. 23, 2008	66.0	63.6	57.5	78.1	58.3	51.6	77.1
Short-term Noise Measurement Sites									
1	On Project Site, 95' West of E. Commerce Way and 390' South of Arena Boulevard.	January 2, 2008	--	51.6	50.7	60.8	@ 10:27 a.m.		
2	On Project Site, 165' South of Amelia Earhart Street and 75' West of E. Commerce Way	January 2, 2008	--	49.9	48.7	58.7	@ 11:06 a.m.		
3	On Project Site, 120' Northwest of Natomas Crossing and E. Commerce Way	January 2, 2008	--	53.2	54.5	66.9	@ 11:27 a.m.		
4	75' East of E. Commerce and 100' South of Natomas Crossing Drive	Dec. 22, 2008	--	55.5	55.5	57.4	@ 12:00 p.m.		
5	On Project Site, 800' East of I-5 and 290' West of E. Commerce Way	Dec. 22, 2008	--	56.5	56.4	60.1	@ 12:26 p.m.		
Source – j.c. brennan & associates, Inc. - 2008									

IMPACTS AND MITIGATION MEASURES

Methodologies

The analysis of noise impacts for this project focuses on the following areas:

1. Noise impacts due to increased traffic;
2. Noise impacts due to on-site truck circulation;
3. Noise impacts due to loading dock activities;
4. Noise impacts due to roof-top HVAC equipment;
5. Noise impacts due to construction activities;

6. Noise impacts due to helicopter landing pad (Helistop) use at the proposed hospital in Quadrant D;
7. Noise impacts associated with the proposed hospital on-site operations.

Noise Impact Assessment Methodology for Traffic Noise

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used for both weekday and Saturday scenarios. The FHWA model is the analytical method currently favored for highway traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans).

The FHWA model is based upon the Calveno reference noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. To predict Ldn/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Tables 7 and 8 (weekday and Saturday scenarios respectively) show the comparison between the Baseline with No Development and the Baseline Plus Project traffic noise levels. Tables 9 and 10 (weekday and Saturday scenarios respectively) show the comparison between the Baseline with No Development and the Baseline Plus Existing Zoning traffic noise levels. Tables 11 and 12 (weekday and Saturday scenarios respectively) show the comparison between the Cumulative Plus Existing Zoning and the Cumulative Plus Project traffic noise levels. Predicted traffic noise levels are shown at a representative distance of 75 feet from roadway centerlines for all scenarios.

Table7
Predicted Weekday Baseline No Development and Baseline Plus Project Traffic Noise Levels

		Traffic Noise Levels @ 75 feet, Ldn			Distance to Ldn contours Baseline No Development			Distance to Ldn contours Baseline + Project		
Roadway	Segment	Baseline No Development	Baseline + Project	Change	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB
El Centro Rd	North of Arena	64.2 dB	64.3 dB	0.1 dB	31’	67’	143’	31’	68’	146’
	South of Arena	65.1 dB	65.0 dB	0.1 dB	35’	76’	163’	35’	75’	162’
Duckhorn Dr	North of Arena	63.6 dB	63.6 dB	0.0 dB	28’	60’	130’	28’	60’	129’
	Arena to (future) Natomas Crossing	66.0 dB	65.2 dB	-0.8 dB	41’	87’	188’	36’	77’	165’
E. Commerce	Del Paso to West Entrance	66.1 dB	68.3 dB	2.2 dB	41’	89’	192’	58’	124’	267’
	Arco West Entrance to Arena Blvd	62.6 dB	68.0 dB	5.4 dB	24’	52’	112’	55’	118’	255’
	Arena to Amelia Earhart	58.6 dB	69.9 dB	11.3dB	13’	28’	60’	74’	160’	344’
	Amelia Earhart to Natomas Crossing	58.1 dB	69.5 dB	11.4dB	12’	26’	56’	69’	149’	321’
	Natomas Crossing to San Juan	--	68.3 dB	--	--	--	--	58’	124’	267’
Truxel	North of Arena	69.3 dB	69.1 dB	-0.2 dB	67’	144’	310’	65’	140’	302’
	Arena to Natomas Crossing	69.0 dB	69.4 dB	0.4 dB	64’	138’	298’	68’	146’	315’
	South of Natomas Crossing	69.6 dB	69.9 dB	0.3 dB	71’	153’	329’	74’	159’	343’
Arena	El Centro to Duckhorn	66.6 dB	67.0 dB	0.4 dB	44’	95’	205’	47’	101’	218’
	Duckhorn to SB I-5 Ramps	69.6 dB	69.7 dB	0.1 dB	71’	152’	327’	72’	154’	332’
	NB I-5 Ramps to E. Commerce	68.9 dB	71.0 dB	2.1 dB	63’	137’	294’	88’	190’	409’
	E. Commerce to Truxel	68.8 dB	69.9 dB	1.1 dB	63’	135’	291’	73’	158’	340’
	East of Truxel	67.9 dB	68.6 dB	0.8 dB	54’	116’	250’	61’	131’	281’
Natomas Crossing	East of E. Commerce	58.1 dB	57.7 dB	-0.4 dB	12’	26’	56’	11’	25’	53’
San Juan	West of Duckhorn	62.7 dB	63.5 dB	0.8 dB	24’	53’	113’	27’	59’	128’
	Duckhorn to E. Commerce	65.7 dB	66.2 dB	0.6 dB	39’	83’	179’	42’	91’	196’
	East of E. Commerce	--	68.3 dB	--	--	--	--	58’	125’	269’

-- indicates that traffic volumes were not available for this scenario.
Bold indicates increases in traffic noise levels greater than 4 dB.
Source – j.c. brennan & associates, Inc. – 2009

Table 8
Predicted Saturday Baseline No Development and Baseline Plus Project Traffic Noise Levels

		Traffic Noise Levels @ 75 feet, Ldn			Distance to Ldn contours Baseline No Development			Distance to Ldn contours Baseline + Project		
Roadway	Segment	Baseline No Development	Baseline + Project	Change	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB
El Centro Rd	North of Arena	61.3 dB	60.9 dB	-0.4 dB	20’	42’	91’	19’	40’	86’
	South of Arena	62.4 dB	62.5 dB	0.1 dB	24’	51’	109’	24’	51’	111’
Duckhorn Dr	North of Arena	61.2 dB	61.1 dB	-0.1 dB	19’	42’	90’	19’	41’	89’
	Arena to (future) Natomas Crossing	64.6 dB	64.3 dB	-0.3 dB	33’	71’	153’	31’	67’	145’
E. Commerce	Del Paso to West Entrance	65.7 dB	68.3 dB	2.6 dB	39’	84’	181’	58’	124’	267’
	Arco West Entrance to Arena Blvd	61.9 dB	68.3 dB	6.4 dB	22’	47’	101’	57’	124’	267’
	Arena to Amelia Earhart	58.3 dB	69.2 dB	10.9dB	12’	27’	58’	66’	143’	308’
	Amelia Earhart to Natomas Crossing	57.1 dB	68.7 dB	11.6dB	10’	22’	48’	61’	132’	284’
	Natomas Crossing to San Juan	--	66.8 dB	NA	--	--	--	46’	98’	212’
Truxel	North of Arena	68.6 dB	68.6 dB	0.0 dB	61’	131’	283’	61’	131’	282’
	Arena to Natomas Crossing	68.2 dB	68.3 dB	0.1 dB	57’	123’	265’	57’	124’	266’
	South of Natomas Crossing	69.0 dB	69.0 dB	0.0 dB	64’	139’	299’	64’	138’	297’
Arena	El Centro to Duckhorn	65.2 dB	65.6 dB	0.4 dB	36’	77’	167’	38’	82’	177’
	Duckhorn to SB I-5 Ramps	68.1 dB	68.3 dB	0.2 dB	56’	121’	260’	58’	125’	270’
	NB I-5 Ramps to E. Commerce	66.8 dB	70.3 dB	3.5 dB	46’	99’	213’	79’	170’	365’
	E. Commerce to Truxel	66.7 dB	68.4 dB	1.7 dB	45’	97’	208’	59’	126’	272’
	East of Truxel	65.5 dB	66.6 dB	1.1 dB	37’	80’	173’	44’	95’	206’
Natomas Crossing	East of E. Commerce	57.0 dB	57.2 dB	0.2 dB	10’	22’	48’	10’	23’	49’
San Juan	West of Duckhorn	60.8 dB	61.4 dB	0.6 dB	18’	40’	85’	20’	43’	93’
	Duckhorn to E. Commerce	63.9 dB	64.6 dB	0.7 dB	30’	64’	137’	33’	70’	151’
	East of E. Commerce	--	67.6 dB	NA	--	--	--	52’	112’	240’

-- indicates that traffic volumes were not available for this scenario.
Bold indicates increases in traffic noise levels greater than 4 dB.
Source – j.c. brennan & associates, Inc. – 2009

Table 9
Predicted Weekday Baseline No Development and Baseline Plus Existing Zoning Traffic Noise Levels

		Traffic Noise Levels @ 75 feet, Ldn			Distance to Ldn contours Baseline No Development			Distance to Ldn contours Baseline + Existing Zoning		
Roadway	Segment	Baseline No Development	Baseline + Existing Zoning	Change	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB
El Centro Rd	North of Arena	64.2 dB	64.5 dB	0.3 dB	31’	67’	143’	32’	69’	150’
	South of Arena	65.1 dB	65.1 dB	0.0 dB	35’	76’	163’	35’	76’	165’
Duckhorn Dr	North of Arena	63.6 dB	63.5 dB	-0.1 dB	28’	60’	130’	28’	60’	129’
	Arena to (future) Natomas Crossing	66.0 dB	65.0 dB	-1.0 dB	41’	87’	188’	35’	74’	160’
E. Commerce	Del Paso to West Entrance	66.1 dB	67.9 dB	1.8 dB	41’	89’	192’	54’	117’	251’
	Arco West Entrance to Arena Blvd	62.6 dB	66.9 dB	4.3 dB	24’	52’	112’	47’	101’	218’
	Arena to Amelia Earhart	58.6 dB	68.6 dB	10.0dB	13’	28’	60’	61’	131’	281’
	Amelia Earhart to Natomas Crossing	58.1 dB	67.8 dB	9.7 dB	12’	26’	56’	53’	115’	248’
	Natomas Crossing to San Juan	--	66.6 dB	0.0 dB	--	--	--	45’	96’	207’
Truxel	North of Arena	69.3 dB	69.0 dB	-0.3 dB	67’	144’	310’	65’	139’	300’
	Arena to Natomas Crossing	69.0 dB	69.2 dB	0.2 dB	64’	138’	298’	66’	143’	308’
	South of Natomas Crossing	69.6 dB	69.8 dB	0.2 dB	71’	153’	329’	73’	157’	338’
Arena	El Centro to Duckhorn	66.6 dB	66.8 dB	0.2 dB	44’	95’	205’	46’	99’	212’
	Duckhorn to SB I-5 Ramps	69.6 dB	69.6 dB	0.0 dB	71’	152’	327’	71’	153’	330’
	NB I-5 Ramps to E. Commerce	68.9 dB	70.5 dB	1.6 dB	63’	137’	294’	82’	176’	378’
	E. Commerce to Truxel	68.8 dB	69.6 dB	0.8 dB	63’	135’	291’	71’	153’	329’
	East of Truxel	67.9 dB	68.4 dB	0.5 dB	54’	116’	250’	59’	126’	272’
Natomas Crossing	East of E. Commerce	58.1 dB	58.2 dB	0.1 dB	12’	26’	56’	12’	27’	57’
San Juan	West of Duckhorn	62.7 dB	62.8 dB	0.1 dB	24’	53’	113’	25’	54’	116’
	Duckhorn to E. Commerce	65.7 dB	65.7 dB	0.0 dB	39’	83’	179’	39’	84’	181’
	East of E. Commerce	--	67.4 dB	0.0 dB	--	--	--	51’	109’	235’

-- indicates that traffic volumes were not available for this scenario.
Bold indicates increases in traffic noise levels greater than 4 dB.
Source – j.c. brennan & associates, Inc. – 2008

Table 10
Predicted Saturday Baseline No Development and Baseline Plus Existing Zoning Traffic Noise Levels

		Traffic Noise Levels @ 75 feet, Ldn			Distance to Ldn contours Baseline No Development			Distance to Ldn contours Baseline + Existing Zoning		
Roadway	Segment	Baseline No Development	Baseline + Existing Zoning	Change	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB
El Centro Rd	North of Arena	61.3 dB	61.0 dB	-0.3 dB	20’	42’	91’	19’	41’	88’
	South of Arena	62.4 dB	62.5 dB	0.1 dB	24’	51’	109’	24’	51’	110’
Duckhorn Dr	North of Arena	61.2 dB	61.2 dB	0.0 dB	19’	42’	90’	19’	42’	90’
	Arena to (future) Natomas Crossing	64.6 dB	63.7 dB	-0.9 dB	33’	71’	153’	28’	61’	132’
E. Commerce	Del Paso to West Entrance	65.7 dB	66.9 dB	1.2 dB	39’	84’	181’	47’	101’	217’
	Arco West Entrance to Arena Blvd	61.9 dB	65.7 dB	3.8 dB	22’	47’	101’	39’	83’	179’
	Arena to Amelia Earhart	58.3 dB	66.3 dB	8.0 dB	12’	27’	58’	42’	91’	197’
	Amelia Earhart to Natomas Crossing	57.1 dB	65.7 dB	8.6 dB	10’	22’	48’	39’	84’	181’
	Natomas Crossing to San Juan	--	63.8 dB	NA	--	--	--	29’	62’	135’
Truxel	North of Arena	68.6 dB	68.5 dB	-0.1 dB	61’	131’	283’	60’	129’	279’
	Arena to Natomas Crossing	68.2 dB	68.1 dB	-0.1 dB	57’	123’	265’	56’	120’	259’
	South of Natomas Crossing	69.0 dB	68.9 dB	-0.1 dB	64’	139’	299’	63’	136’	292’
Arena	El Centro to Duckhorn	65.2 dB	65.3 dB	0.1 dB	36’	77’	167’	36’	78’	168’
	Duckhorn to SB I-5 Ramps	68.1 dB	68.1 dB	0.0 dB	56’	121’	260’	56’	121’	260’
	NB I-5 Ramps to E. Commerce	66.8 dB	68.6 dB	1.8 dB	46’	99’	213’	60’	130’	279’
	E. Commerce to Truxel	66.7 dB	67.3 dB	0.6 dB	45’	97’	208’	49’	106’	229’
	East of Truxel	65.5 dB	65.8 dB	0.3 dB	37’	80’	173’	39’	85’	182’
Natomas Crossing	East of E. Commerce	57.0 dB	57.0 dB	0.0 dB	10’	22’	48’	10’	22’	48’
San Juan	West of Duckhorn	60.8 dB	60.7 dB	-0.1 dB	18’	40’	85’	18’	39’	84’
	Duckhorn to E. Commerce	63.9 dB	64.0 dB	0.1 dB	30’	64’	137’	30’	64’	138’
	East of E. Commerce	--	65.8 dB	NA	--	--	--	39’	85’	182’

-- indicates that traffic volumes were not available for this scenario.
Bold indicates increases in traffic noise levels greater than 4 dB.
Source – j.c. brennan & associates, Inc. – 2008

Table 11
Predicted Weekday Cumulative Plus Existing Zoning and Cumulative Plus Project Traffic Noise Levels

		Traffic Noise Levels @ 75 feet, Ldn			Distance to Ldn contours Cumulative + Existing Zoning			Distance to Ldn contours Cumulative + Project		
Roadway	Segment	Cumulative + Existing Zoning	Cumulative + Project	Change	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB
El Centro Rd	North of Arena	67.7 dB	67.8 dB	0.1 dB	53’	114’	246’	53’	115’	247’
	South of Arena	67.4 dB	67.4 dB	0.0 dB	51’	109’	235’	50’	108’	233’
Duckhorn Dr	North of Arena	63.0 dB	63.0 dB	0.0 dB	26’	55’	119’	26’	55’	119’
	Arena to Natomas Crossing	66.6 dB	66.8 dB	0.2 dB	45’	97’	208’	46’	99’	213’
	Natomas Crossing to San Juan	66.2 dB	66.5 dB	0.3 dB	42’	90’	195’	44’	95’	204’
E. Commerce	Del Paso to West Entrance	70.8 dB	71.1 dB	0.3 dB	85’	184’	397’	89’	191’	411’
	Arco West Entrance Main Entrance	71.6 dB	71.8 dB	0.2 dB	95’	205’	442’	99’	212’	457’
	Main Entrance to Arena Blvd	69.5 dB	70.0 dB	0.5 dB	69’	149’	321’	75’	162’	349’
	Arena to Amelia Earhart	70.7 dB	71.1 dB	0.4 dB	83’	180’	387’	88’	190’	410’
	Amelia Earhart to Natomas Crossing	70.5 dB	71.0 dB	0.5 dB	81’	174’	375’	87’	188’	405’
	Natomas Crossing to San Juan	69.2 dB	69.9 dB	0.7 dB	67’	144’	310’	74’	160’	344’
Truxel	North of Arena	71.4 dB	71.5 dB	0.1 dB	93’	200’	430’	94’	202’	436’
	Arena to Natomas Crossing	72.6 dB	72.6 dB	0.0 dB	111’	239’	515’	112’	241’	520’
	South of Natomas Crossing	73.5 dB	73.4 dB	-0.1 dB	128’	275’	593’	127’	274’	591’
Snowy Egret	West of E. Commerce	66.5 dB	66.6 dB	0.1 dB	44’	95’	205’	45’	96’	207’
Arena	El Centro to Duckhorn	66.6 dB	66.8 dB	0.2 dB	45’	97’	208’	46’	99’	214’
	Duckhorn to SB I-5 Ramps	67.1 dB	67.1 dB	0.0 dB	48’	103’	222’	48’	104’	224’
	NB I-5 Ramps to E. Commerce	72.1 dB	72.2 dB	0.1 dB	103’	223’	479’	104’	225’	485’
	E. Commerce to Truxel	72.3 dB	72.4 dB	0.1 dB	106’	229’	493’	108’	232’	500’
	East of Truxel	69.0 dB	69.1 dB	0.1 dB	64’	139’	299’	66’	141’	305’
Natomas Crossing	West of E. Commerce	67.3 dB	67.4 dB	0.1 dB	50’	107’	231’	50’	108’	233’
	East of E. Commerce	66.4 dB	66.5 dB	0.1 dB	43’	92’	199’	44’	95’	204’
San Juan	West of Duckhorn	63.8 dB	64.2 dB	0.4 dB	29’	62’	134’	31’	67’	143’
	Duckhorn to E. Commerce	65.4 dB	66.1 dB	0.7 dB	37’	80’	173’	41’	89’	193’
	East of E. Commerce	70.0 dB	70.1 dB	0.1 dB	74’	160’	346’	76’	165’	355’

Source – j.c. brennan & associates, Inc. – 2008

Table 12
Predicted Saturday Cumulative Plus Existing Zoning and Cumulative Plus Project Traffic Noise Levels

		Traffic Noise Levels @ 75 feet, Ldn			Distance to Ldn contours Cumulative + Existing Zoning			Distance to Ldn contours Cumulative + Project		
Roadway	Segment	Cumulative + Existing Zoning	Cumulative + Project	Change	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB
El Centro Rd	North of Arena	64.9 dB	64.9 dB	0.0 dB	34’	74’	159’	34’	74’	158’
	South of Arena	65.4 dB	65.4 dB	0.0 dB	37’	80’	173’	37’	80’	172’
Duckhorn Dr	North of Arena	59.7 dB	61.2 dB	1.5 dB	15’	33’	71’	20’	42’	91’
	Arena to Natomas Crossing	65.2 dB	65.3 dB	0.1 dB	36’	78’	167’	36’	79’	169’
	Natomas Crossing to San Juan	62.4 dB	62.6 dB	0.2 dB	23’	50’	108’	24’	52’	112’
E. Commerce	Del Paso to West Entrance	68.6 dB	69.6 dB	1.0 dB	61’	131’	282’	71’	152’	328’
	West Entrance Main Entrance	69.7 dB	70.5 dB	0.8 dB	71’	154’	331’	81’	173’	374’
	Main Entrance to Arena Blvd	67.5 dB	69.1 dB	1.6 dB	51’	110’	236’	65’	140’	302’
	Arena to Amelia Earhart	68.1 dB	70.0 dB	1.9 dB	56’	120’	259’	75’	162’	350’
	Amelia Earhart to Natomas Crossing	67.5 dB	69.5 dB	2.0 dB	51’	110’	237’	69’	149’	320’
	Natomas Crossing to San Juan	66.9 dB	67.6 dB	0.7 dB	47’	101’	217’	52’	112’	242’
Truxel	North of Arena	69.5 dB	69.6 dB	0.1 dB	70’	150’	323’	70’	151’	325’
	Arena to Natomas Crossing	70.9 dB	71.0 dB	0.1 dB	86’	186’	400’	87’	188’	406’
	South of Natomas Crossing	72.0 dB	72.1 dB	0.1 dB	101’	218’	470’	104’	223’	481’
Snowy Egret	West of E. Commerce	64.2 dB	64.9 dB	0.7 dB	31’	67’	144’	34’	74’	159’
Arena	El Centro to Duckhorn	64.4 dB	64.4 dB	0.0 dB	32’	68’	147’	32’	69’	148’
	Duckhorn to SB I-5 Ramps	67.4 dB	67.8 dB	0.4 dB	51’	109’	235’	53’	115’	247’
	NB I-5 Ramps to E. Commerce	71.9 dB	72.3 dB	0.4 dB	100’	216’	466’	107’	230’	495’
	E. Commerce to Truxel	71.9 dB	72.2 dB	0.3 dB	101’	217’	467’	105’	227’	489’
	East of Truxel	65.6 dB	66.0 dB	0.4 dB	38’	82’	176’	40’	87’	187’
Natomas Crossing	West of E. Commerce	65.1 dB	65.5 dB	0.4 dB	35’	76’	164’	38’	81’	175’
	East of E. Commerce	63.5 dB	64.9 dB	1.4 dB	28’	60’	128’	34’	74’	159’
San Juan	West of Duckhorn	60.5 dB	61.1 dB	0.6 dB	17’	38’	81’	19’	41’	89’
	Duckhorn to E. Commerce	61.8 dB	62.2 dB	0.4 dB	21’	46’	98’	23’	49’	105’
	East of E. Commerce	67.0 dB	67.9 dB	0.9 dB	47’	101’	218’	54’	117’	253’

Source – j.c. brennan & associates, Inc. – 2008

Existing or proposed residential uses in the vicinity of the project site are generally located on Arena Boulevard from East Commerce to Truxel, East Commerce from West Entrance to Arena Boulevard, East Commerce from Arena Boulevard to Amelia Earhart, and East Commerce south of Amelia Earhart.

Weekday traffic noise level scenarios are predicted to be greater than the Saturday traffic noise level scenarios. Therefore, weekday traffic noise level scenarios will be used to analyze potential impacts at existing or proposed residential uses.

The predicted traffic noise levels at the residential building facades adjacent to Arena Boulevard are predicted to be approximately 69 dB and 70 dB Ldn for both the Baseline and Baseline plus Project Scenarios and the Baseline and Baseline Plus Existing Zoning Scenarios, and 72 dB Ldn for both the Cumulative and Cumulative plus Project Scenarios. These are multi-family residential uses which have a common outdoor activity areas located in the center of the complex, which is approximately 385 feet from Arena Boulevard. The predicted noise level at the common outdoor activity area is less than 60 dB Ldn under each scenario, while accounting for shielding from the building facades.

The predicted traffic noise levels at the existing residential building facades adjacent to East Commerce from the Arco West Entrance to Arena Boulevard are predicted to be approximately 63 dB and 68 dB Ldn for the Baseline and Baseline Plus Project scenarios, 63 dB and 67 dB Ldn under the Baseline and Baseline Plus Existing Zoning scenarios, and 72 dB Ldn for both the Cumulative and Cumulative plus Project scenarios. These residences include multi-family units which have a centralized common outdoor activity area, which is shielded from traffic noise by the building facades. Observations and noise measurements indicate that the traffic noise levels at the common outdoor activity area were approximately 15 dB less than those measured at the nearest building facades to the roadway. Therefore, the predicted noise levels will comply with the 60 dB Ldn noise level standard for each of the scenarios.

The predicted traffic noise levels at the future residential building facades adjacent to East Commerce from Arena Boulevard to Amelia Earhart are predicted to be approximately 59 dB and 70 dB Ldn for the Baseline and Baseline Plus Project scenarios, 59 dB and 69 dB Ldn under the Baseline and Baseline Plus Existing Zoning scenarios, and 71 dB Ldn for both the Cumulative and Cumulative plus Project scenarios. These residences are in early construction stages and include both single-family and multi-family units. The outdoor activity areas are expected to be located behind the building facades and therefore shielded from traffic noise. In addition, recent project approvals have included noise analyses which require compliance with the City of Sacramento General Plan noise level criteria.

The predicted traffic noise levels at the future residential building facades adjacent to East Commerce south of Amelia Earhart are predicted to be approximately 58 dB and 70 dB Ldn for the Baseline and Baseline Plus Project scenarios, 58 dB and 68 dB Ldn under the Baseline and Baseline Plus Existing Zoning scenarios, and 71 dB Ldn for both the Cumulative and Cumulative plus Project scenarios. These residences include single-family units. Backyard patios are expected to be located behind the building facades and therefore shielded from traffic noise.

In addition, recent project approvals have included noise analyses which require compliance with the City of Sacramento General Plan noise level criteria.

The proposed hospital building is located 150 feet from the I-5 centerline. The traffic analysis for the project did not include I-5. However, based upon the total traffic on I-5, the contribution by the project is expected to be minimal. Based upon Caltrans data for existing and future traffic on I-5, the predicted traffic noise levels at the closest hospital façade is 78 dB Ldn under the existing conditions, and 81 dB Ldn under future conditions.

Noise Impact Assessment Methodology Associated with Construction

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in construction would generate maximum noise levels, as indicated in Table 12, ranging from 85 to 90 dB at a distance of 50 feet. Construction activities would be temporary in nature and normally occur during normal daytime working hours.

Noise would also be generated during the construction phase by increased construction-related traffic. The intensity of this traffic will depend on how uses are under construction at any given time. A potentially significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

Table 12
Construction Noise Levels

Type of Equipment	Maximum Level, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Source: Environmental Noise Pollution, Patrick R. Cunniff, 1977.

Noise Impact Assessment Methodology Associated with Truck Circulation and Loading Docks

To determine noise levels associated with trucks circulating on the project site combined with loading dock activities, j.c. brennan & associates, Inc. collected noise level data associated with the Natomas Center in Sacramento, California. The Natomas Center is located in the northwest quadrant of Truxel Road and I-80. The Natomas Center is a large commercial center, which is somewhat larger in size to the proposed project. The loading dock and truck unloading area on the west side of the Natomas Center includes six large store loading docks for a Ross Dress for Less, Michael's, Wal-Mart, Pet's Mart, Staples, and a Home Depot. The Natomas Center is similar in nature to the proposed Natomas Crossing, in that it contains several large box stores, including a home improvement store. Both are located adjacent to a major Interstate Highway, and both are regional shopping facilities. The Natomas Center is somewhat larger in scale than the proposed Natomas Crossing. For the purposes of this analysis, use of the noise level data collected at the Natomas Center will be conservative, when applying it to the proposed Natomas Crossing project. Therefore, the predicted noise levels may be somewhat higher than those which will be generated by the project. In addition, the two centers are similar in the fact that they are located adjacent to major Interstate Highways and are both regional shopping centers.

The noise measurements were conducted during the morning hours between 7:00 a.m. and 10:00 a.m. on January 6, 2006. During the noise measurement survey, the primary noise sources associated with the Natomas Center were loading dock activities, heavy and medium delivery trucks circulating on the site, trash compactors, palate jacks, trash pick-up activities and truck air brakes. The loading dock and truck circulation configurations and locations of trash compactors and trash bins are generally located at the rear areas of the commercial uses, and are considered to be similar to those associated with the proposed Natomas Crossing project.

In addition, the noise measurement data included aircraft overflights and off-site traffic. However, the contributions from the aircraft overflights and off-site traffic were minimal.

During the noise measurement periods, the measured hourly noise levels ranged between 54 dB and 60 dB L50 and between 79 dB and 85 dB Lmax, at a distance of approximately 40 feet from the center of the truck circulation service road. Based upon the site plan for Quandrant C of the Natomas Crossing, the nearest residences are a minimum of 450 feet from the unloading docks and rear of the buildings, and are primarily on the opposite side of the building facades from the unloading area of the proposed Natomas Crossing. In addition, the noise measurement data which was used for this analysis also includes noise levels from trash pickup and trash compactors. Therefore, the predicted noise levels are considered conservative. Since loading dock and large truck deliveries occur for a limited number of hours per day, and assuming that this level of activity occurred for 6 hours, the predicted Ldn associated with truck circulation and loading docks would be less than 40 dB Ldn. It is expected that shielding will occur from the proposed building facades. Therefore the predicted noise levels are actually expected to be less due to the shielding effects.

Since a site plan for the Quadrant B portion of the site has not been prepared, noise impacts associated with loading docks are assumed to be similar to those described above. However, a detailed analysis of noise impacts will need to be conducted when a site plan has been prepared. In particular, noise levels at residences to the east of Quadrant B will need to be evaluated.

Noise Impact Assessment Methodology Associated with Roof-top HVAC Equipment

Large commercial developments include roof-top heating and ventilation equipment which is required for climate control and refrigeration. For the Major stores j.c. brennan & associates, Inc. utilized the roof-top HVAC equipment noise level data provided for a Home Depot store. Based upon the Home Depot Store in Auburn California, 20 packaged rooftop air conditioning systems with 15 to 20 tons of refrigeration each are required. The roof-top HVAC units are predicted to generate noise levels of approximately 55 dB per unit, at a reference distance of 100 feet, and approximately 58 dB Ldn. Assuming that a Home Improvement store is not located on the project site, the use of the Home Depot store data is expected to be conservative, and overestimate the HVAC noise levels.

For the other Major Stores (Stores located on the west side of Quadrant B, designated as Buildings #1 and #16 through #22), it was assumed that each of the stores would include up to 100 tons of cooling capacity with an overall noise level of 60 dB at 100 feet, and approximately 63 dB Ldn. The HVAC units will be distributed across the roof of the building, starting about 30 feet in from the edges of the roof. These HVAC units, which stand about 4-5 feet tall, would be shielded from view of the nearest residential uses by the roof-top parapets. Parapets along the east sides of the major stores would be required to be 5-feet in height. Based a barrier analysis of the shielding effects from the parapets for the major stores, the 50 60 dB Ldn contour does not extend past the property line due to the shielding from the building parapets. Therefore, the predicted Ldn value at the roof line of the buildings is expected to be approximately 55 dB Ldn.

The Minor stores which are located along the east and northeast sides of the project site (Buildings #2 through #15) range between 2,500 square feet and 7,500 square feet in size. These stores will also require some roof-top mechanical equipment. Noise levels from these types of equipment can vary significantly. Noise levels from these types of sources generally range between 45 dB to 65 dB at a distance of 50 feet. Based upon the distances from the proposed Minor stores to the nearest residential uses (200 feet), the predicted noise levels could be as high as 53 dB. The residences to the east would experience an Ldn of approximately 56 dB Ldn. However, design guidelines require all mechanical equipment to be shielded by parapets or through design which would mitigate noise levels to less than significant levels.

Since a site plan for the Quadrant B portion of the site has not been prepared, noise impacts associated with HVAC equipment are assumed to be similar to those described above. However, a detailed analysis of noise impacts will need to be conducted when a site plan has been prepared.

Noise Impact Assessment Methodology Associated with Trash Pickup

During removal of garbage from the site, brief periods of elevated noise levels may be noticed at the nearest existing residential locations. However, provided that these garbage removal operations occur during daytime hours, the intrusion to the nearest residences would likely be no greater than that occurring during normal residential garbage removal activities in those residential neighborhoods. As a result, significant adverse noise impacts are not anticipated to result from normal garbage removal activities.

Since a site plan for the Quadrant B portion of the site has not been prepared, noise impacts associated with trash pickup are assumed to be similar to those described above. However, a detailed analysis of noise impacts will need to be conducted when a site plan has been prepared.

Helicopter Noise Impact Assessment Methodology

The proposed project includes a non-emergency helistop which would be located at the south side of Quadrant D. The helistop would be located at ground level. The helistop would be used for periodic scheduled transfers of seriously ill and other patients to and from the hospital. To determine the potential noise impacts as they relate to the 60 dB CNEL standard, j.c. brennan & associates, Inc. utilized the noise assessment previously conducted by Bollard & Brennan, Inc. for the Sutter Hospital in Sacramento. For the purposes of this analysis, helicopter trips are estimated at approximately 150 round-trips per year.

There is no primary provider of helicopter service for the hospital which has been identified at this time. The types of helicopters which may utilize the facility are assumed to include the BK117, BO105, A109, and Bell 206 Long Ranger helicopters.

There two basic approach and departure flight paths which were assumed for the Natomas Crossing project. The approach and departure flight paths generally follow I-5 from the north to the south or the south to the north. The approach from the north is on a heading of approximately 180^0, at an altitude of 1,000 ft. mean sea level (MSL), and descending at a rate of 500 feet per minute. The departure would continue on the heading of 180^0 to the south. The approach from the south is on a heading of approximately 360^0, at an altitude of 1,000 ft. MSL, and descending at a rate of 500 feet per minute. The departure would continue on the heading of 360^0 to the north.

CNEL contours were developed for the Sutter Hospital in Sacramento utilizing the Federal Aviation Administration (FAA) Integrated Noise Model (INM) Version 6.1. The INM has the ability to develop noise contours for both fixed wing (airplanes) aircraft and helicopter operations. The INM has an extensive data base for various helicopters, including the Bell 206 Long Ranger. The INM also allows user input for all aspects of aircraft noise levels and operational characteristics. However, the INM does not account for shielding from buildings or other structures such as elevated roadways. Inputs to the model include the helicopter type, operational characteristics such as flight path, air speed, rate of descent and climb, thrust settings and head wind. The contours which were developed for the Sutter Hospital project were used to assess the potential helicopter noise impacts associated with the Natomas Crossing project. Figures 2 and 3 show the CNEL contours for the Natomas Crossing project.

Figure 2 assumes helicopter operations which approach from the north and depart to the south. Figure 3 assumes helicopter operations which approach from the south and depart to the north. In each case the 60 dB CNEL contour does not encroach upon any residential uses.

j.c. brennan staff conducted noise level measurements of staged helicopter operations for the Sacramento Sutter Hospital EIR. The noise level measurements were conducted for a Bell Long Ranger helicopter. Typical measured Sound Exposure Levels (SEL) noise levels at a distance of 500 feet from the landing area were 96 dB on arrival and 90 dB on departure. The measured maximum noise levels at a distance of approximately 500 feet from the landing area ranged between 81 dB and 83 dB Lmax. Helicopter noise levels at the hospital could be as high as 98 dB SEL and 93 dB Lmax.

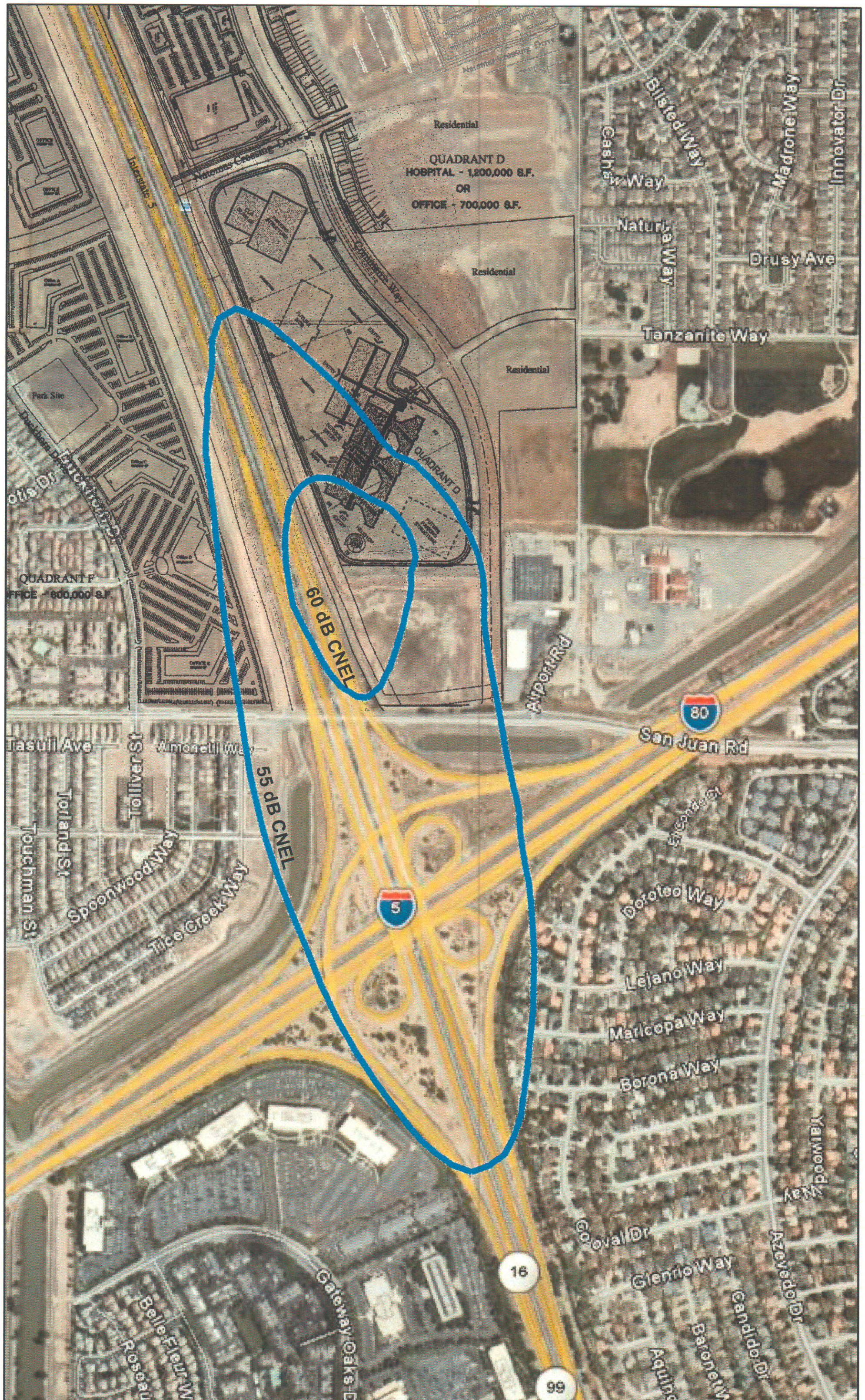
Vibration Associated with Construction Assessment Methodology

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person’s perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Sacramento does not contain specific policies pertaining to vibration levels. However, vibration levels associated with construction activities. The vibration impact discussion for construction will address criteria for evaluating vibration impacts.

Figure 2
Northbound Helicopter CNEL Noise Contours



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consultants in acoustics

Figure 3
Southbound Helicopter CNEL Noise Contours

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consultants in acoustics

Project Specific Impacts and Mitigation Measures

Impact 1 - Construction noise impacts.

Activities associated with the construction of the proposed project would result in elevated noise levels, with maximum noise levels ranging from 85 to 90 dB at 50 feet, as shown in Table 13. Construction activities would be temporary in nature and would likely occur during normal daytime working hours. Nonetheless, because construction activities would result in periods of elevated noise levels at nearby sensitive receptors, the development of the proposed project could result in an adverse impact with regard to construction noise.

Table 13
Construction Noise Levels

Type of Equipment	Maximum Level, dB at 50 Feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Source: Patrick R. Cunniff, Environmental Noise Pollution, 1977.

In addition, noise would be generated by increased truck traffic on area roadways during the construction phase. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. The noise increase would be of short duration, and would occur primarily during daytime hours. The City of Sacramento noise ordinance exempts construction activities from the specified noise ordinance standards during the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday, and from 9:00 a.m. to 6:00 p.m. on Sunday. Generally, if a construction project adheres to the construction times identified in the noise ordinance, construction noise is exempted.

The following language in the Noise Ordinance with regards to construction noise is as follows:

Construction activities shall be limited to the hours set forth below (unless an exception is granted, as described below):

Monday through Saturday *7:00 a.m. to 6:00 p.m.*
Sunday *9:00 a.m. to 6:00 p.m.*

These criteria shall be included in the grading plan submitted by the applicant for the review and approval of the Development Services Department prior to grading permit issuance. The director of building inspections may permit work to be done during the hours not set forth above in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Application for this exemption may be *made in conjunction with the application for the work permit or during the progress of the work.*

Construction activities shall adhere to the requirements of the City of Sacramento with respect to hours of operation, muffling of internal combustion engines, and other factors that affect construction noise generation and the effects on noise-sensitive land uses. These criteria shall be included in the grading plan submitted by the applicant for the review and approval of the Development Services Department prior to grading permit issuance.

This is a Less Than Significant Impact

Impact 2 – Quadrant B loading dock and truck circulation noise impacts.

Quadrant B would include approximately 319,500 to 426,000 square feet of retail space, 10 acres of Residential with approximate total of 180 units, 5 acres of hotel use consisting of approximately 130,000 square feet, or 300 rooms, and 14 acres of Office consisting of approximately 240,000 square feet.

To determine noise levels associated with trucks circulating on the Quadrant B portion of the project site combined with loading dock activities, j.c. brennan & associates, Inc. collected noise level data associated with the Natomas Center in Sacramento, California. The Natomas Center is located in the northwest quadrant of Truxel Road and I-80. The Natomas Center is a large commercial center, which is somewhat larger in size than the proposed project. The loading dock and truck unloading area on the west side of the Natomas Center includes six large store loading docks for a Ross Dress for Less, Michael's, Wal-Mart, PetSmart, Staples, and a Home Depot. The Natomas Center is similar in nature to the proposed Natomas Crossing project in that it contains several large box stores, including a home improvement store. In addition, both are located adjacent to a major Interstate Highway, and both are regional shopping facilities. It is also noteworthy that the Natomas Center project is somewhat larger in scale than the proposed Natomas Crossing project. Therefore, for the purposes of this analysis, use of the noise level data collected at the Natomas Center is considered conservative, when applied to the proposed Natomas Crossing project. As a result, the predicted noise levels may be somewhat higher than those which will be generated by the proposed project.

The noise measurements were conducted during the morning hours between 7:00 a.m. and 10:00 a.m. on January 6, 2006. During the noise measurement survey, the primary noise sources associated with the Natomas Center were loading dock activities, heavy and medium delivery trucks circulating on the site, trash compactors, palate jacks, trash pick-up activities and truck air brakes. The loading dock and truck circulation configurations and locations of trash compactors and trash bins are generally located at the rear areas of the commercial uses, and are considered to be similar to those associated with the proposed Natomas Crossing project. In addition, the noise measurement data included aircraft overflights and off-site traffic. However, the contributions from the aircraft overflights and off-site traffic were minimal.

During the Natomas Center noise measurement periods, the measured hourly noise levels ranged between 54 dB and 60 dB L50 and between 79 dB and 85 dB Lmax, at a distance of approximately 40 feet from the center of the truck circulation service road. Based upon the preliminary site plan for Quadrant B of the Natomas Crossing project, the nearest proposed on-site residences are approximately 100 feet from the loading docks, and are primarily on the opposite side of the building facades from the unloading areas of the Natomas Crossing Quadrant B. In addition, the noise measurement data which was used for this analysis also includes noise levels from trash pickup and trash compactors. Therefore, the predicted noise levels are considered conservative. Because loading dock and large truck deliveries occur for a limited number of hours per day, and assuming that this level of activity occurred for 6 hours, the predicted Ldn associated with truck circulation and loading docks would be less than 46 dB Ldn. It is expected that shielding will occur from the proposed building facades. Therefore, the predicted noise levels are actually expected to be less due to the shielding effects.

The nearest proposed off-site residences are a minimum of 450 feet from the loading docks, and are primarily on the opposite side of the building facades from the unloading area of the proposed Natomas Crossing Quadrant B. In addition, the noise measurement data which was used for this analysis also includes noise levels from trash pickup and trash compactors. Therefore, the predicted noise levels are considered conservative. Because loading dock and large truck deliveries occur for a limited number of hours per day, and assuming that this level of activity occurred for 6 hours, the predicted Ldn associated with truck circulation and loading docks would be less than 40 dB Ldn. It is expected that shielding will occur from the proposed building facades. Therefore, the predicted noise levels are actually expected to be less due to the shielding effects.

This is a Less Than Significant Impact

Impact 3 – Quadrant C loading dock and truck circulation noise impacts.

Quadrant C would include approximately 404,580 square feet of regional retail uses and 200, 000 square feet of office uses.

To determine noise levels associated with trucks circulating on the Quadrant C portion of the project site combined with loading dock activities, j.c. brennan & associates, Inc. utilized the noise level data described earlier in this report, associated with the Natomas Center in Sacramento, California. The Natomas Center is located in the northwest quadrant of Truxel Road and I-80. The Natomas Center is a large commercial center, which is somewhat larger in size than the proposed project. The loading dock and truck unloading area on the west side of the Natomas Center includes six large store loading docks for a Ross Dress for Less, Michael’s, Wal-Mart, PetSmart, Staples, and a Home Depot. The Natomas Center is similar in nature to the proposed Natomas Crossing project in that it contains several large box stores, including a home improvement store.

In addition, both are located adjacent to a major Interstate Highway, and both are regional shopping facilities. It is also noteworthy that the Natomas Center project is somewhat larger in scale than the proposed Natomas Crossing project. Therefore, for the purposes of this analysis, use of the noise level data collected at the Natomas Center is considered conservative, when applied to the proposed Natomas Crossing project. As a result, the predicted noise levels may be somewhat higher than those which will be generated by the proposed project.

The noise measurements were conducted during the morning hours between 7:00 a.m. and 10:00 a.m. on January 6, 2006. During the noise measurement survey, the primary noise sources associated with the Natomas Center were loading dock activities, heavy and medium delivery trucks circulating on the site, trash compactors, palate jacks, trash pick-up activities and truck air brakes. The loading dock and truck circulation configurations and locations of trash compactors and trash bins are generally located at the rear areas of the commercial uses, and are considered to be similar to those associated with the proposed Natomas Crossing project. In addition, the noise measurement data included aircraft overflights and off-site traffic. However, the contributions from the aircraft overflights and off-site traffic were minimal.

During the Natomas Center noise measurement periods, the measured hourly noise levels ranged between 54 dB and 60 dB L50 and between 79 dB and 85 dB Lmax, at a distance of approximately 40 feet from the center of the truck circulation service road.

The nearest proposed off-site residences are a minimum of 450 feet from the loading docks, and are primarily on the opposite side of the building facades from the unloading area of the proposed Natomas Crossing Quadrant B. In addition, the noise measurement data which was used for this analysis also includes noise levels from trash pickup and trash compactors. Therefore, the predicted noise levels are considered conservative. Because loading dock and large truck deliveries occur for a limited number of hours per day, and assuming that this level of activity occurred for 6 hours, the predicted Ldn associated with truck circulation and loading docks would be less than 40 dB Ldn. It is expected that shielding will occur from the proposed building facades. Therefore, the predicted noise levels are actually expected to be less due to the shielding effects.

This is a Less Than Significant Impact

Impact 4 – Quadrant D loading dock and truck circulation noise impacts.

Quadrant D would include 600,000 square feet for a hospital, and an additional 600,000 square feet for medical offices.

Quadrant D indicates where loading docks and truck circulation routes will be located. The loading docks are located at a distance of more than 500 feet from the nearest residential areas. In addition, the loading dock areas are shielded by the main hospital building. Deliveries to the hospital are generally associated with local cleaning services, linen supply providers, and local food suppliers, and therefore, are expected to occur primarily during the daytime hours. Deliveries are expected to be similar to, or less than those associated with a large commercial development, such as those described in Quadrants B and C. Therefore, the loading dock activities would generate noise levels of less than 40 dB Ldn, and are not expected to exceed the City of Sacramento noise level criteria.

This is a Less Than Significant Impact

Impact 5 – Quadrant C Rooftop HVAC noise impacts.

For the Buildings 1 and 15 through 20, j.c. brennan & associates, Inc. utilized the roof-top HVAC equipment noise level data provided for a Home Depot store. Based upon the Home Depot Store in Auburn California, 20 packaged rooftop air conditioning systems with 15 to 20 tons of refrigeration each are required. The roof-top HVAC units are predicted to generate noise levels of approximately 55 dB per unit, at a reference distance of 100 feet, and approximately 58 dB Ldn. Assuming that a Home Improvement store is not located on the project site, the use of the Home Depot store data is expected to be conservative, and overestimate the HVAC noise levels.

Parapets along the east sides of the major stores would be required to be 5-feet in height. The project's PD Design Guidelines require all mechanical rooftop equipment to be shielded by parapets or through design. More specifically, as noted in the EIR Project Description and the project's PD Guidelines, rooftop parapets, at least five feet in height, will be constructed along the east sides of major stores (Stores designated as #1 and #15 through #20). In addition, rooftop parapets, at least three feet in height, will be constructed along the east roofline sides of the stores designated as #2 through #14. It should be noted that other forms of shielding can be implemented in place of the parapets.

Based on a barrier analysis of the shielding effects from the parapets for stores #1 and #15 through #20, the 60 dB Ldn contour would not extend past the property line due to the shielding from the building parapets, resulting in a less-than-significant impact. Therefore, the predicted Ldn value at the roof line of the buildings is expected to be approximately 55 dB Ldn.

The stores which are located along the east and northeast sides of the project site (Buildings #2 through #14) range between 2,500 square feet and 7,500 square feet in size. These stores will also require some roof-top mechanical equipment. Noise levels from these types of equipment can vary significantly, and can generally range between 45 dB to 65 dB Leq at a distance of 50 feet (*Noise Control for Buildings and Manufacturing Plants, Hoover & Keith Inc., 1990*). Based upon the distances from these proposed stores to the nearest residential uses (200 feet), the predicted noise levels could be as high as 53 dB Leq. The residences to the east would experience an Ldn of approximately 56 dB Ldn. This assumes that the air conditioning units operate 24 hours, and the calculated shielding from the 3-foot tall parapets.

This is a less than significant impact.

Impact 6 – Quadrant B Rooftop HVAC noise impacts.

Because a site plan has not been submitted for the development of Quadrant B, noise levels from rooftop HVAC equipment on this part of the site cannot be predicted at this time. The potential exists for Quadrant B noise levels to exceed the City's threshold at nearby existing and proposed residences. Because a site plan has not been submitted for the development of Quadrant B, the determination cannot be conclusively made whether HVAC noise levels on Quadrant B would generate noise levels in exceedance of applicable City noise level thresholds, resulting in a *potentially significant* impact.

<u>Mitigation Measure(s)</u>
Implementation of the following mitigation measures would reduce the above impact to a ***less than significant*** level.

MM1 *In conjunction with the submittal of a site plan for Quadrant B, the applicant shall retain a qualified acoustical consultant to prepare a noise analysis consistent with the Noise Assessment Report Guidelines contained within the requirements of the General Plan Noise Element. If the report determines that on-site operations would exceed the City of Sacramento Noise Element criteria, the report shall include recommendations to reduce noise below the City's applicable noise level standards. These recommendations shall be incorporated into the design of the proposed project for the review and approval of the Development Services Department.*

Impact 7 – Quadrant D HVAC noise impacts.

The Quadrant D includes medical offices as well as the main hospital building which require HVAC equipment. The medical office buildings are expected to have either roof-top HVAC equipment, or ground mounted equipment. In the event that the equipment is roof-top mounted, implementation of parapets are expected to be sufficient to reduce noise levels within the City of Sacramento noise level criteria.

The main hospital climate control is generally located within a mechanical equipment room, designated as the CUP building on the site plan. The CUP building houses all heating and cooling facilities, as well as an emergency generator. The CUP building is located approximately 400 feet from the nearest residential uses. Specific types of cooling towers, heat pumps and chillers which will reside inside of the CUP building have not been determined. In addition, the type and size of the emergency generator has not been determined. Noise levels associated with these types of equipment vary substantially, and therefore, it is not possible to predict the potential noise levels associated with the equipment. In addition, construction of the CUP building will result in the need for air intake and exhaust, and those openings in the building have not been determined. Based upon these reasons the noise levels associated with this building could be a *potentially significant* impact.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce the above impact to a ***less than significant*** level.

MM2 *When specific equipment needs have been determined, the overall noise levels associated with the CUP building typical operations shall not exceed 50 dB Leq at the nearest residence. Assuming that the equipment operates continually for 24-hours, the resulting noise level would be approximately 58 dB Ldn/CNEL. Mitigation measures shall include the use of silencers or acoustical louvers on openings for air intake or exhaust, and locating openings for air intake and exhaust on the opposite sides of the building from residences to the east.   In addition, emergency generators shall be equipped with hospital grade mufflers to reduce the overall noise levels associated with their operations during periods of power failures or other emergencies. Emergency generators shall be exercised during the daytime hours for a period of no more than 30 minutes to reduce the potential for annoyance.*

Impact 8 - Construction-induced vibration impacts.

Construction activities can generate groundborne vibrations. Construction-related vibrations can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants.

Construction vibrations can either be transient, random, or continuous. Transient construction vibrations occur from blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibrations can result from jackhammers, pavement breakers, and heavy construction equipment. The proposed project does not include significant site grading (because the entire site was previously mass graded and the site is generally flat) or demolition of existing buildings. The project could inlcude pile driving in Quadrant D, associated with the hospital and parking garage construction.

j.c. brennan & associates, Inc. staff has conducted vibration measurements of pile driving for the Shriners Pediatric Care facility in Sacramento. The vibration measurements were conducted at a distance of 100 feet from the pile driving activities. The pile driving hammer was driven by a diesel engine and the maximum energy of the hammer was 55,000 ft-lb/blow. The typical operations associated with the pile driving included an auger which drilled a pilot hole; the pile was then set into the hole and tapped with the hammer until the pile was at the bottom of the pilot hole. The pile was then driven the last 15 feet. The final driving of the pile lasts for a duration of approximately 3-1/2 minutes. The results of the vibration measurements indicated that the peak particle velocity was approximately .055 to .078 inches per second.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 14, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 14 indicates that the threshold for damage to structures ranges from 2 to 6 in/sec. One-half this minimum threshold or 1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is notes as 0.1 in/sec p.p.v. Based upon Table 14, it is not expected that the pile driving activities will result in a significant vibration impact.

This is a less than significant impact.

Table 14
Effects of Vibration on People and Buildings

Peak Particle Velocity inches/second	Peak Particle Velocity mm/second	Human Reaction	Effect on Buildings
0-.006	0.15	Imperceptible by people	Vibrations unlikely to cause damage of any type
.006-.02	0.5	Range of Threshold of perception	Vibrations unlikely to cause damage of any type
.08	2.0	Vibrations clearly perceptible	Recommended upper level of which ruins and ancient monuments should be subjected
0.1	2.54	Level at which continuous vibrations begin to annoy people	Virtually no risk of architectural damage to normal buildings
0.2	5.0	Vibrations annoying to people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
1.0	25.4		Architectural Damage
2.0	50.4		Structural Damage to Residential Buildings
6.0	151.0		Structural Damage to Commercial Buildings

Source: Survey of Earth-borne Vibrations due to Highway Construction and Highway Traffic, Caltrans 1976.

Impact 9 - Project-related increase in traffic noise levels on the existing roadways.

Tables 6 and 7 (weekday and Saturday scenarios respectively) show the comparison between the Baseline with No Development and the Baseline Plus Project traffic noise levels. Tables 8 and 9 (weekday and Saturday scenarios respectively) show the comparison between the Baseline with No Development and the Baseline Plus Existing Zoning traffic noise levels. Tables 10 and 11 (weekday and Saturday scenarios respectively) show the comparison between the Cumulative Plus Existing Zoning and the Cumulative Plus Project traffic noise levels. Predicted traffic noise levels are shown at a representative distance of 75 feet from roadway centerlines for all scenarios.

Existing or proposed residential uses in the vicinity of the project site are generally located on Arena Boulevard from East Commerce to Truxel, East Commerce from West Entrance to Arena Boulevard, East Commerce from Arena Boulevard to Amelia Earhart, and East Commerce south of Amelia Earhart.

Weekday traffic noise level scenarios are predicted to be greater than the Saturday traffic noise level scenarios. Therefore, weekday traffic noise level scenarios will be used to analyze potential impacts at existing or proposed residential uses.

The predicted traffic noise levels at the residential building facades adjacent to Arena Boulevard are predicted to be approximately 69 dB and 70 dB Ldn for both the Baseline and Baseline plus Project Scenarios and the Baseline and Baseline Plus Existing Zoning Scenarios, and 72 dB Ldn for both the Cumulative and Cumulative plus Project Scenarios. These are multi-family residential uses which have a common outdoor activity areas located in the center of the complex, which is approximately 385 feet from Arena Boulevard. The predicted noise level at the common outdoor activity area, based upon a distance of 385 feet is less than 62 dB Ldn for each scenario. Assuming a minimum of a 10 dB shielding from the building facades, the predicted traffic noise level is less than 60 dB Ldn under each scenario, while accounting for shielding from the building facades.

The predicted traffic noise levels at the existing residential building facades adjacent to East Commerce from the Arco West Entrance to Arena Boulevard are predicted to be approximately 63 dB and 68 dB Ldn for the Baseline and Baseline Plus Project scenarios, 63 dB and 67 dB Ldn under the Baseline and Baseline Plus Existing Zoning scenarios, and 72 dB Ldn for both the Cumulative and Cumulative plus Project scenarios. These residences include multi-family units which have a centralized common outdoor activity area, which is shielded from traffic noise by the building facades. Observations and noise measurements indicate that the traffic noise levels at the common outdoor activity area were approximately 15 dB less than those measured at the nearest building facades to the roadway. Therefore, the predicted noise levels will comply with the 60 dB Ldn noise level standard for each of the scenarios.

The predicted traffic noise levels at the future residential building facades adjacent to East Commerce from Arena Boulevard to Amelia Earhart are predicted to be approximately 59 dB and 70 dB Ldn for the Baseline and Baseline Plus Project scenarios, 59 dB and 69 dB Ldn under the Baseline and Baseline Plus Existing Zoning scenarios, and 71 dB Ldn for both the Cumulative and Cumulative plus Project scenarios. These residences are in early construction stages and include both single-family and multi-family units. The outdoor activity areas are expected to be located behind the building facades and therefore shielded from traffic noise. This assumes a worst case exterior noise level of approximately 68 dB Ldn at the outdoor activity areas and a 10 dB shielding due to the building facades. In addition, recent project approvals have included noise analyses which require compliance with the City of Sacramento General Plan noise level criteria.

The predicted traffic noise levels at the future residential building facades adjacent to East Commerce south of Amelia Earhart are predicted to be approximately 58 dB and 70 dB Ldn for the Baseline and Baseline Plus Project scenarios, 58 dB and 68 dB Ldn under the Baseline and Baseline Plus Existing Zoning scenarios, and 71 dB Ldn for both the Cumulative and Cumulative plus Project scenarios. These residences include single-family units. Backyard patios are expected to be located behind the building facades and therefore shielded from traffic noise.

In addition, recent project approvals have included noise analyses which require compliance with the City of Sacramento General Plan noise level criteria.

This impact is less than significant.

Impact 9 – Traffic noise levels at proposed on-site residential uses.

Quadrant B proposes high density residential development as a part of the project design. Currently, a site plan has not been submitted for the development of Quadrant B, noise levels from roadway traffic could exceed the City's thresholds. Because a site plan has not been submitted for the development of Quadrant B, the determination cannot be conclusively made whether the proposed residential portion of the site would exceed the applicable City noise level thresholds, resulting in a *potentially significant* impact.

<u>Mitigation Measure(s)</u>
Implementation of the following mitigation measures would reduce the above impact to a ***less than significant*** level.

MM3 *In conjunction with the submittal of a site plan for Quadrant B, the applicant shall retain a qualified acoustical consultant to prepare a noise analysis* *consistent with the Noise Assessment Report Guidelines contained within the requirements of the General Plan Noise Element. If the report determines that the residential portion of the site would exceed the City of Sacramento Noise Element criteria, the report shall include recommendations to reduce noise below the City's applicable noise level standards. These recommendations shall be incorporated into the design of the proposed project for the review and approval of the Development Services Department.*

Impact 10 – Traffic noise levels at the proposed Hospital.

Quadrant D proposes a hospital on the site. The predicted future I-5 traffic noise level at the nearest façade is 81 dB Ldn. Typical construction techniques for a hospital include brick facades. In addition, windows from patient rooms or offices will typically include windows. A brick façade will generally provide a minimum noise level transmission loss of 40 dB. However, a typical duel glazed window will provide a 27 dB to 28 dB transmission loss. Therefore, interior noise levels are expected to be in excess of the 45 dB Ldn interior noise level standard. This is a *potentially significant impact.*

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a ***less than significant*** level.

MM3 Windows for patients rooms, offices or rooms which require good speech intelligibility on the west facing facades should include windows with an STC rating of 40. Windows on the north and south facing facades for patients rooms, offices or rooms which require good speech intelligibility should include windows with an STC rating of 38. Windows for patients rooms, offices or rooms which require good speech intelligibility on the east facing facade should include windows with an STC rating of 35.

Impact 11 - Noise levels associated with the proposed helistop.

The proposed project includes a non-emergency helistop, which would be located at ground level on the south side of Quadrant D. The helistop would be used for periodic scheduled transfers of seriously ill and other patients to and from the proposed hospital.

For discussion and analysis purposes, j.c. brennan & associates, Inc. utilized the noise assessment previously conducted by Bollard & Brennan, Inc. for the Sutter Hospital in Sacramento. The Sutter Hospital helicopter assessment is considered to be somewhat conservative in the fact that it included a trauma center. The noise analysis for the Sutter Hospital included noise measurements of staged helicopter arrivals and departures, based upon the proposed flight paths. The analysis for the Sutter Hospital estimated approximately 150 round-trips per year. While the primary provider of helicopter service for the hospital has not been identified at this time, it is anticipated that this trip estimate is considered a worst-case estimate, given the fact that the proposed hospital helistop would be used for “non-emergency” purposes.

Two basic approach and departure flight paths were assumed for the proposed project. The approach and departure flight paths generally follow I-5 from the north to the south or from the south to the north. The approach from the north is on a heading of approximately 180 degrees, at an altitude of 1,000 feet mean sea level (msl), and descending at a rate of 500 feet per minute. The departure would continue on the heading of 180 degrees to the south. The approach from the south is on a heading of approximately 360 degrees, at an altitude of 1,000 ft. msl, and descending at a rate of 500 feet per minute. The departure would continue on the heading of 360 degrees to the north.

CNEL contours were developed for the Sutter Hospital in Sacramento utilizing the Federal Aviation Administration (FAA) Integrated Noise Model (INM) Version 6.1. The INM has the ability to develop noise contours for helicopter operations. The INM also allows user input for all aspects of aircraft noise levels and operational characteristics. However, the INM does not account for shielding from buildings. Inputs to the model include the helicopter type, operational characteristics such as flight path, air speed, rate of descent and climb, thrust settings and head wind. The contours that were developed for the Sutter Hospital project were used to assess the potential helicopter noise impacts associated with the proposed project. It was assumed that the helicopter arrivals and departures would generally follow the I-5 corridors.

Noise level measurements were conducted of staged helicopter operations for the Sacramento Sutter Hospital EIR. Typical measured Sound Exposure Levels (SEL) noise levels at a distance of 500 feet from the landing area were 96 dB on arrival and 90 dB on departure. The measured maximum noise levels at a distance of approximately 500 feet from the landing area ranged between 81 dB and 83 dB Lmax. Though the proposed project would be exposed to reduced noise levels given that it does not include a trauma center, it is assumed, for the purposes of a conservative analysis, that the nearest residences for the proposed project would be similarly exposed to single event helicopter noise levels of up to 95 dB SEL, and 83 dB Lmax. Subsequently, interior noise levels at the proposed residences would be expected to be approximately 70 dB SEL and 58 dB Lmax. Based upon the Federal Interagency Committee on Aviation Noise (FICAN), the expected percent of the population which may experience awakening with an interior SEL of 70 dB is approximately 5 percent. Assuming a maximum noise level of 58 dB, the FICAN report assumes that two (2) individuals can have a “normal conversation with 95% speech intelligibility at a distance of 1 meters (10 feet).”

It is expected that the hospital will be exposed to single event noise levels as high as 98 dB SEL and 93 dB Lmax. Assuming that the project includes windows with STC ratings ranging from 38 to 40 (as required per Mitigation Measure 4.3-7), and the facades are constructed of concrete block or similar construction, interior hospital noise levels are anticipated to be approximately 65 dB SEL and 60 dB Lmax. Therefore, the interior noise levels for the hospital are anticipated to be similar to or lower than those described above for the nearest residences.

Because the helistop is not expected to result in multiple events, similar to train operations or large truck passbys on a roadway, it is anticipated that the impact would not meet the single-event test of Policy EC 3.1.4 of the Sacramento 2030 General Plan, resulting in a ***less than significant*** impact.

This impact is less than significant.

Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	6710	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	7140	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	5210	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	9010	85		15	2.5	1.5	45	75	
5	E. Commerce	Del Paso to West Entrance	13210	85		15	2.5	1.5	45	75	
6	E. Commerce	West Entrance to Arena Blvd	6140	85		15	2.5	1.5	45	75	
7	E. Commerce	Arena to Amelia Earhart	270	85		15	2.5	1.5	45	75	
8	Truxel	North of Arena	22890	85		15	2.5	1.5	45	75	
9	Truxel	Arena to Natomas Crossing	22860	85		15	2.5	1.5	45	75	
10	Truxel	South of Natomas Crossing	26890	85		15	2.5	1.5	45	75	
11	Arena	El Centro to Duckhorn	5100	85		15	2.5	1.5	45	75	
12	Arena	Duckhorn to SB 5 Ramps	18060	85		15	2.5	1.5	45	75	
13	Arena	NB 5 Ramps to E. Commerce	20410	85		15	2.5	1.5	45	75	
14	Arena	E. Commerce to Truxel	19250	85		15	2.5	1.5	45	75	
15	Arena	East of Truxel	11740	85		15	2.5	1.5	45	75	
16	San Juan	West of Duckhorn	4630	85		15	2.5	1.5	45	75	
17	San Juan	Duckhorn to E. Commerce	7790	85		15	2.5	1.5	45	75	
18	I-5	I-80 to Arena	137000	79		21	3	6	65	75	

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consultants in acoustics

Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	61.6	54.0	56.3	63.2
2	El Centro Rd	South of Arena	61.8	54.3	56.5	63.5
3	Duckhorn Dr	North of Arena	60.5	52.9	55.2	62.1
4	Duckhorn Dr	Arena to (future) Natomas Crossing	62.9	55.3	57.5	64.5
5	E. Commerce	Del Paso to West Entrance	64.5	56.9	59.2	66.2
6	E. Commerce	West Entrance to Arena Blvd	61.2	53.6	55.9	62.9
7	E. Commerce	Arena to Amelia Earhart	47.6	40.0	42.3	49.3
8	Truxel	North of Arena	66.9	59.3	61.6	68.6
9	Truxel	Arena to Natomas Crossing	66.9	59.3	61.6	68.6
10	Truxel	South of Natomas Crossing	67.6	60.0	62.3	69.3
11	Arena	El Centro to Duckhorn	60.4	52.8	55.1	62.1
12	Arena	Duckhorn to SB 5 Ramps	65.9	58.3	60.6	67.5
13	Arena	NB 5 Ramps to E. Commerce	66.4	58.8	61.1	68.1
14	Arena	E. Commerce to Truxel	66.2	58.6	60.8	67.8
15	Arena	East of Truxel	64.0	56.4	58.7	65.7
16	San Juan	West of Duckhorn	60.0	52.4	54.6	61.6
17	San Juan	Duckhorn to E. Commerce	62.2	54.6	56.9	63.9
18	I-5	I-80 to Arena	79.9	71.3	77.7	82.3

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	12	27	57	123	266
2	El Centro Rd	South of Arena	13	28	60	129	277
3	Duckhorn Dr	North of Arena	10	22	48	104	225
4	Duckhorn Dr	Arena to (future) Natomas Crossing	15	32	70	150	324
5	E. Commerce	Del Paso to West Entrance	19	42	90	194	418
6	E. Commerce	West Entrance to Arena Blvd	12	25	54	116	251
7	E. Commerce	Arena to Amelia Earhart	1	3	7	14	31
8	Truxel	North of Arena	28	60	130	280	602
9	Truxel	Arena to Natomas Crossing	28	60	130	279	602
10	Truxel	South of Natomas Crossing	31	67	145	311	671
11	Arena	El Centro to Duckhorn	10	22	48	103	221
12	Arena	Duckhorn to SB 5 Ramps	24	51	111	239	514
13	Arena	NB 5 Ramps to E. Commerce	26	56	120	259	558
14	Arena	E. Commerce to Truxel	25	54	116	249	537
15	Arena	East of Truxel	18	39	83	179	386
16	San Juan	West of Duckhorn	10	21	45	96	208
17	San Juan	Duckhorn to E. Commerce	14	29	63	136	294
18	I-5	I-80 to Arena	232	499	1075	2316	4990

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	2880	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	2930	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	3010	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	6990	85		15	2.5	1.5	45	75	
5	E. Commerce	Del Paso to West Entrance	10250	85		15	2.5	1.5	45	75	
6	E. Commerce	West Entrance to Arena Blvd	4140	85		15	2.5	1.5	45	75	
7	E. Commerce	Arena to Amelia Earhart	580	85		15	2.5	1.5	45	75	
8	Truxel	North of Arena	19380	85		15	2.5	1.5	45	75	
9	Truxel	Arena to Natomas Crossing	20510	85		15	2.5	1.5	45	75	
10	Truxel	South of Natomas Crossing	24780	85		15	2.5	1.5	45	75	
11	Arena	El Centro to Duckhorn	2930	85		15	2.5	1.5	45	75	
12	Arena	Duckhorn to SB 5 Ramps	12610	85		15	2.5	1.5	45	75	
13	Arena	NB 5 Ramps to E. Commerce	10830	85		15	2.5	1.5	45	75	
14	Arena	E. Commerce to Truxel	10430	85		15	2.5	1.5	45	75	
15	Arena	East of Truxel	4970	85		15	2.5	1.5	45	75	
16	San Juan	West of Duckhorn	2870	85		15	2.5	1.5	45	75	
17	San Juan	Duckhorn to E. Commerce	4870	85		15	2.5	1.5	45	75	
18	I-5	I-80 to Arena	137000	79		21	3	6	65	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	57.9	50.3	52.6	59.6
2	El Centro Rd	South of Arena	58.0	50.4	52.7	59.6
3	Duckhorn Dr	North of Arena	58.1	50.5	52.8	59.8
4	Duckhorn Dr	Arena to (future) Natomas Crossing	61.8	54.2	56.4	63.4
5	E. Commerce	Del Paso to West Entrance	63.4	55.8	58.1	65.1
6	E. Commerce	West Entrance to Arena Blvd	59.5	51.9	54.2	61.1
7	E. Commerce	Arena to Amelia Earhart	50.9	43.3	45.6	52.6
8	Truxel	North of Arena	66.2	58.6	60.9	67.9
9	Truxel	Arena to Natomas Crossing	66.4	58.8	61.1	68.1
10	Truxel	South of Natomas Crossing	67.3	59.7	61.9	68.9
11	Arena	El Centro to Duckhorn	58.0	50.4	52.7	59.6
12	Arena	Duckhorn to SB 5 Ramps	64.3	56.7	59.0	66.0
13	Arena	NB 5 Ramps to E. Commerce	63.7	56.1	58.3	65.3
14	Arena	E. Commerce to Truxel	63.5	55.9	58.2	65.2
15	Arena	East of Truxel	60.3	52.7	55.0	61.9
16	San Juan	West of Duckhorn	57.9	50.3	52.6	59.6
17	San Juan	Duckhorn to E. Commerce	60.2	52.6	54.9	61.9
18	I-5	I-80 to Arena	79.9	71.3	77.7	82.3

Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	-------- Distances to Traffic Noise Contours --------				
			75	70	65	60	55
1	El Centro Rd	North of Arena	7	15	33	70	151
2	El Centro Rd	South of Arena	7	15	33	71	153
3	Duckhorn Dr	North of Arena	7	16	34	72	156
4	Duckhorn Dr	Arena to (future) Natomas Crossing	13	27	59	127	273
5	E. Commerce	Del Paso to West Entrance	16	35	76	164	353
6	E. Commerce	West Entrance to Arena Blvd	9	19	42	89	193
7	E. Commerce	Arena to Amelia Earhart	2	5	11	24	52
8	Truxel	North of Arena	25	54	116	250	539
9	Truxel	Arena to Natomas Crossing	26	56	121	260	560
10	Truxel	South of Natomas Crossing	29	64	137	295	635
11	Arena	El Centro to Duckhorn	7	15	33	71	153
12	Arena	Duckhorn to SB 5 Ramps	19	40	87	188	405
13	Arena	NB 5 Ramps to E. Commerce	17	37	79	170	366
14	Arena	E. Commerce to Truxel	17	36	77	166	357
15	Arena	East of Truxel	10	22	47	101	218
16	San Juan	West of Duckhorn	7	15	33	70	151
17	San Juan	Duckhorn to E. Commerce	10	21	46	100	215
18	I-5	I-80 to Arena	232	499	1075	2316	4990

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Baseline Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	8960	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	10350	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	7140	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	9950	85		15	2.5	1.5	45	75	
5	E. Commerce	Del Paso to West Entrance	19470	85		15	2.5	1.5	45	75	
6	E. Commerce	West Entrance to Arena Blvd	15740	85		15	2.5	1.5	45	75	
7	E. Commerce	Arena to Amelia Earhart	23090	85		15	2.5	1.5	45	75	
8	E. Commerce	Amelia Earhart to (future) Natomas Crossing	19120	85		15	2.5	1.5	45	75	
9	E. Commerce	(future) Natomas Crossing to San Juan	14620	85		15	2.5	1.5	45	75	
10	Truxel	North of Arena	25400	85		15	2.5	1.5	45	75	
11	Truxel	Arena to Natomas Crossing	26510	85		15	2.5	1.5	45	75	
12	Truxel	South of Natomas Crossing	30390	85		15	2.5	1.5	45	75	
13	Arena	El Centro to Duckhorn	15150	85		15	2.5	1.5	45	75	
14	Arena	Duckhorn to SB 5 Ramps	29320	85		15	2.5	1.5	45	75	
15	Arena	NB 5 Ramps to E. Commerce	36020	85		15	2.5	1.5	45	75	
16	Arena	E. Commerce to Truxel	29160	85		15	2.5	1.5	45	75	
17	Arena	East of Truxel	21920	85		15	2.5	1.5	45	75	
18	Natomas Crossing	East of E. Commerce	2120	85		15	2.5	1.5	45	75	
19	San Juan	West of Duckhorn	6080	85		15	2.5	1.5	45	75	
20	San Juan	Duckhorn to E. Commerce	11940	85		15	2.5	1.5	45	75	
21	San Juan	East of E. Commerce	17670	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Baseline Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	62.8	55.2	57.5	64.5
2	El Centro Rd	South of Arena	63.5	55.9	58.1	65.1
3	Duckhorn Dr	North of Arena	61.8	54.3	56.5	63.5
4	Duckhorn Dr	Arena to (future) Natomas Crossing	63.3	55.7	58.0	65.0
5	E. Commerce	Del Paso to West Entrance	66.2	58.6	60.9	67.9
6	E. Commerce	West Entrance to Arena Blvd	65.3	57.7	60.0	66.9
7	E. Commerce	Arena to Amelia Earhart	66.9	59.3	61.6	68.6
8	E. Commerce	Amelia Earhart to (future) Natomas C	66.1	58.5	60.8	67.8
9	E. Commerce	(future) Natomas Crossing to San Jua	65.0	57.4	59.6	66.6
10	Truxel	North of Arena	67.4	59.8	62.0	69.0
11	Truxel	Arena to Natomas Crossing	67.5	59.9	62.2	69.2
12	Truxel	South of Natomas Crossing	68.1	60.5	62.8	69.8
13	Arena	El Centro to Duckhorn	65.1	57.5	59.8	66.8
14	Arena	Duckhorn to SB 5 Ramps	68.0	60.4	62.7	69.6
15	Arena	NB 5 Ramps to E. Commerce	68.9	61.3	63.6	70.5
16	Arena	E. Commerce to Truxel	68.0	60.4	62.6	69.6
17	Arena	East of Truxel	66.7	59.1	61.4	68.4
18	Natomas Crossing	East of E. Commerce	56.6	49.0	51.3	58.2
19	San Juan	West of Duckhorn	61.1	53.6	55.8	62.8
20	San Juan	Duckhorn to E. Commerce	64.1	56.5	58.8	65.7
21	San Juan	East of E. Commerce	65.8	58.2	60.5	67.4

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Baseline Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	15	32	69	150	322
2	El Centro Rd	South of Arena	16	35	76	165	355
3	Duckhorn Dr	North of Arena	13	28	60	129	277
4	Duckhorn Dr	Arena to (future) Natomas Crossing	16	35	74	160	346
5	E. Commerce	Del Paso to West Entrance	25	54	117	251	541
6	E. Commerce	West Entrance to Arena Blvd	22	47	101	218	469
7	E. Commerce	Arena to Amelia Earhart	28	61	131	281	606
8	E. Commerce	Amelia Earhart to (future) Natomas (	25	53	115	248	534
9	E. Commerce	(future) Natomas Crossing to San Ju	21	45	96	207	447
10	Truxel	North of Arena	30	65	139	300	646
11	Truxel	Arena to Natomas Crossing	31	66	143	308	664
12	Truxel	South of Natomas Crossing	34	73	157	338	728
13	Arena	El Centro to Duckhorn	21	46	99	212	458
14	Arena	Duckhorn to SB 5 Ramps	33	71	153	330	711
15	Arena	NB 5 Ramps to E. Commerce	38	82	176	378	815
16	Arena	E. Commerce to Truxel	33	71	153	329	708
17	Arena	East of Truxel	27	59	126	272	585
18	Natomas Crossing	East of E. Commerce	6	12	27	57	123
19	San Juan	West of Duckhorn	12	25	54	116	249
20	San Juan	Duckhorn to E. Commerce	18	39	84	181	390
21	San Juan	East of E. Commerce	24	51	109	235	507

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Baseline Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	8600	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	10120	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	7200	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	10420	85		15	2.5	1.5	45	75	
5	E. Commerce	Del Paso to West Entrance	21380	85		15	2.5	1.5	45	75	
6	E. Commerce	West Entrance to Arena Blvd	19950	85		15	2.5	1.5	45	75	
7	E. Commerce	Arena to Amelia Earhart	31240	85		15	2.5	1.5	45	75	
8	E. Commerce	Amelia Earhart to (future) Natomas Crossing	28110	85		15	2.5	1.5	45	75	
9	E. Commerce	(future) Natomas Crossing to San Juan	21400	85		15	2.5	1.5	45	75	
10	Truxel	North of Arena	25750	85		15	2.5	1.5	45	75	
11	Truxel	Arena to Natomas Crossing	27410	85		15	2.5	1.5	45	75	
12	Truxel	South of Natomas Crossing	31150	85		15	2.5	1.5	45	75	
13	Arena	El Centro to Duckhorn	15760	85		15	2.5	1.5	45	75	
14	Arena	Duckhorn to SB 5 Ramps	29600	85		15	2.5	1.5	45	75	
15	Arena	NB 5 Ramps to E. Commerce	40470	85		15	2.5	1.5	45	75	
16	Arena	E. Commerce to Truxel	30730	85		15	2.5	1.5	45	75	
17	Arena	East of Truxel	23110	85		15	2.5	1.5	45	75	
18	Natomas Crossing	East of E. Commerce	1880	85		15	2.5	1.5	45	75	
19	San Juan	West of Duckhorn	7050	85		15	2.5	1.5	45	75	
20	San Juan	Duckhorn to E. Commerce	13380	85		15	2.5	1.5	45	75	
21	San Juan	East of E. Commerce	21550	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Baseline Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	62.7	55.1	57.3	64.3
2	El Centro Rd	South of Arena	63.4	55.8	58.0	65.0
3	Duckhorn Dr	North of Arena	61.9	54.3	56.6	63.6
4	Duckhorn Dr	Arena to (future) Natomas Crossing	63.5	55.9	58.2	65.2
5	E. Commerce	Del Paso to West Entrance	66.6	59.0	61.3	68.3
6	E. Commerce	West Entrance to Arena Blvd	66.3	58.7	61.0	68.0
7	E. Commerce	Arena to Amelia Earhart	68.3	60.7	62.9	69.9
8	E. Commerce	Amelia Earhart to (future) Natomas C	67.8	60.2	62.5	69.5
9	E. Commerce	(future) Natomas Crossing to San Jua	66.6	59.0	61.3	68.3
10	Truxel	North of Arena	67.4	59.8	62.1	69.1
11	Truxel	Arena to Natomas Crossing	67.7	60.1	62.4	69.4
12	Truxel	South of Natomas Crossing	68.2	60.7	62.9	69.9
13	Arena	El Centro to Duckhorn	65.3	57.7	60.0	67.0
14	Arena	Duckhorn to SB 5 Ramps	68.0	60.4	62.7	69.7
15	Arena	NB 5 Ramps to E. Commerce	69.4	61.8	64.1	71.0
16	Arena	E. Commerce to Truxel	68.2	60.6	62.9	69.9
17	Arena	East of Truxel	66.9	59.4	61.6	68.6
18	Natomas Crossing	East of E. Commerce	56.1	48.5	50.7	57.7
19	San Juan	West of Duckhorn	61.8	54.2	56.5	63.5
20	San Juan	Duckhorn to E. Commerce	64.6	57.0	59.3	66.2
21	San Juan	East of E. Commerce	66.6	59.1	61.3	68.3

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Baseline Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	15	31	68	146	314
2	El Centro Rd	South of Arena	16	35	75	162	350
3	Duckhorn Dr	North of Arena	13	28	60	129	279
4	Duckhorn Dr	Arena to (future) Natomas Crossing	17	36	77	165	357
5	E. Commerce	Del Paso to West Entrance	27	58	124	267	576
6	E. Commerce	West Entrance to Arena Blvd	26	55	118	255	550
7	E. Commerce	Arena to Amelia Earhart	34	74	160	344	741
8	E. Commerce	Amelia Earhart to (future) Natomas (	32	69	149	321	691
9	E. Commerce	(future) Natomas Crossing to San Ju	27	58	124	267	576
10	Truxel	North of Arena	30	65	140	302	652
11	Truxel	Arena to Natomas Crossing	32	68	146	315	679
12	Truxel	South of Natomas Crossing	34	74	159	343	740
13	Arena	El Centro to Duckhorn	22	47	101	218	470
14	Arena	Duckhorn to SB 5 Ramps	33	72	154	332	715
15	Arena	NB 5 Ramps to E. Commerce	41	88	190	409	881
16	Arena	E. Commerce to Truxel	34	73	158	340	733
17	Arena	East of Truxel	28	61	131	281	606
18	Natomas Crossing	East of E. Commerce	5	11	25	53	114
19	San Juan	West of Duckhorn	13	27	59	128	275
20	San Juan	Duckhorn to E. Commerce	20	42	91	196	421
21	San Juan	East of E. Commerce	27	58	125	269	579

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Baseline Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	4010	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	5610	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	4210	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	7440	85		15	2.5	1.5	45	75	
5	E. Commerce	Del Paso to West Entrance	15640	85		15	2.5	1.5	45	75	
6	E. Commerce	West Entrance to Arena Blvd	11740	85		15	2.5	1.5	45	75	
7	E. Commerce	Arena to Amelia Earhart	13500	85		15	2.5	1.5	45	75	
8	E. Commerce	Amelia Earhart to (future) Natomas Crossing	11870	85		15	2.5	1.5	45	75	
9	E. Commerce	(future) Natomas Crossing to San Juan	7640	85		15	2.5	1.5	45	75	
10	Truxel	North of Arena	22760	85		15	2.5	1.5	45	75	
11	Truxel	Arena to Natomas Crossing	20420	85		15	2.5	1.5	45	75	
12	Truxel	South of Natomas Crossing	24460	85		15	2.5	1.5	45	75	
13	Arena	El Centro to Duckhorn	10660	85		15	2.5	1.5	45	75	
14	Arena	Duckhorn to SB 5 Ramps	20550	85		15	2.5	1.5	45	75	
15	Arena	NB 5 Ramps to E. Commerce	22840	85		15	2.5	1.5	45	75	
16	Arena	E. Commerce to Truxel	17000	85		15	2.5	1.5	45	75	
17	Arena	East of Truxel	12050	85		15	2.5	1.5	45	75	
18	Natomas Crossing	East of E. Commerce	1610	85		15	2.5	1.5	45	75	
19	San Juan	West of Duckhorn	3770	85		15	2.5	1.5	45	75	
20	San Juan	Duckhorn to E. Commerce	7950	85		15	2.5	1.5	45	75	
21	San Juan	East of E. Commerce	12060	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Baseline Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	59.3	51.7	54.0	61.0
2	El Centro Rd	South of Arena	60.8	53.2	55.5	62.5
3	Duckhorn Dr	North of Arena	59.6	52.0	54.2	61.2
4	Duckhorn Dr	Arena to (future) Natomas Crossing	62.0	54.4	56.7	63.7
5	E. Commerce	Del Paso to West Entrance	65.3	57.7	59.9	66.9
6	E. Commerce	West Entrance to Arena Blvd	64.0	56.4	58.7	65.7
7	E. Commerce	Arena to Amelia Earhart	64.6	57.0	59.3	66.3
8	E. Commerce	Amelia Earhart to (future) Natomas C	64.1	56.5	58.7	65.7
9	E. Commerce	(future) Natomas Crossing to San Jua	62.1	54.5	56.8	63.8
10	Truxel	North of Arena	66.9	59.3	61.6	68.5
11	Truxel	Arena to Natomas Crossing	66.4	58.8	61.1	68.1
12	Truxel	South of Natomas Crossing	67.2	59.6	61.9	68.9
13	Arena	El Centro to Duckhorn	63.6	56.0	58.3	65.3
14	Arena	Duckhorn to SB 5 Ramps	66.4	58.8	61.1	68.1
15	Arena	NB 5 Ramps to E. Commerce	66.9	59.3	61.6	68.6
16	Arena	E. Commerce to Truxel	65.6	58.0	60.3	67.3
17	Arena	East of Truxel	64.1	56.5	58.8	65.8
18	Natomas Crossing	East of E. Commerce	55.4	47.8	50.1	57.0
19	San Juan	West of Duckhorn	59.1	51.5	53.8	60.7
20	San Juan	Duckhorn to E. Commerce	62.3	54.7	57.0	64.0
21	San Juan	East of E. Commerce	64.1	56.5	58.8	65.8

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Baseline Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	9	19	41	88	189
2	El Centro Rd	South of Arena	11	24	51	110	236
3	Duckhorn Dr	North of Arena	9	19	42	90	195
4	Duckhorn Dr	Arena to (future) Natomas Crossing	13	28	61	132	285
5	E. Commerce	Del Paso to West Entrance	22	47	101	217	467
6	E. Commerce	West Entrance to Arena Blvd	18	39	83	179	386
7	E. Commerce	Arena to Amelia Earhart	20	42	91	197	424
8	E. Commerce	Amelia Earhart to (future) Natomas (	18	39	84	181	389
9	E. Commerce	(future) Natomas Crossing to San Ju	13	29	62	135	290
10	Truxel	North of Arena	28	60	129	279	600
11	Truxel	Arena to Natomas Crossing	26	56	120	259	558
12	Truxel	South of Natomas Crossing	29	63	136	292	630
13	Arena	El Centro to Duckhorn	17	36	78	168	362
14	Arena	Duckhorn to SB 5 Ramps	26	56	121	260	561
15	Arena	NB 5 Ramps to E. Commerce	28	60	130	279	602
16	Arena	E. Commerce to Truxel	23	49	106	229	494
17	Arena	East of Truxel	18	39	85	182	393
18	Natomas Crossing	East of E. Commerce	5	10	22	48	103
19	San Juan	West of Duckhorn	8	18	39	84	181
20	San Juan	Duckhorn to E. Commerce	14	30	64	138	298
21	San Juan	East of E. Commerce	18	39	85	182	393

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Baseline Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	3920	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	5700	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	4100	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	8510	85		15	2.5	1.5	45	75	
5	E. Commerce	Del Paso to West Entrance	21360	85		15	2.5	1.5	45	75	
6	E. Commerce	West Entrance to Arena Blvd	21300	85		15	2.5	1.5	45	75	
7	E. Commerce	Arena to Amelia Earhart	26440	85		15	2.5	1.5	45	75	
8	E. Commerce	Amelia Earhart to (future) Natomas Crossing	23420	85		15	2.5	1.5	45	75	
9	E. Commerce	(future) Natomas Crossing to San Juan	15090	85		15	2.5	1.5	45	75	
10	Truxel	North of Arena	23210	85		15	2.5	1.5	45	75	
11	Truxel	Arena to Natomas Crossing	21280	85		15	2.5	1.5	45	75	
12	Truxel	South of Natomas Crossing	25050	85		15	2.5	1.5	45	75	
13	Arena	El Centro to Duckhorn	11490	85		15	2.5	1.5	45	75	
14	Arena	Duckhorn to SB 5 Ramps	21700	85		15	2.5	1.5	45	75	
15	Arena	NB 5 Ramps to E. Commerce	34190	85		15	2.5	1.5	45	75	
16	Arena	E. Commerce to Truxel	21950	85		15	2.5	1.5	45	75	
17	Arena	East of Truxel	14420	85		15	2.5	1.5	45	75	
18	Natomas Crossing	East of E. Commerce	1660	85		15	2.5	1.5	45	75	
19	San Juan	West of Duckhorn	4380	85		15	2.5	1.5	45	75	
20	San Juan	Duckhorn to E. Commerce	9100	85		15	2.5	1.5	45	75	
21	San Juan	East of E. Commerce	18230	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Baseline Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	59.2	51.6	53.9	60.9
2	El Centro Rd	South of Arena	60.9	53.3	55.6	62.5
3	Duckhorn Dr	North of Arena	59.4	51.8	54.1	61.1
4	Duckhorn Dr	Arena to (future) Natomas Crossing	62.6	55.0	57.3	64.3
5	E. Commerce	Del Paso to West Entrance	66.6	59.0	61.3	68.3
6	E. Commerce	West Entrance to Arena Blvd	66.6	59.0	61.3	68.3
7	E. Commerce	Arena to Amelia Earhart	67.5	59.9	62.2	69.2
8	E. Commerce	Amelia Earhart to (future) Natomas C	67.0	59.4	61.7	68.7
9	E. Commerce	(future) Natomas Crossing to San Jua	65.1	57.5	59.8	66.8
10	Truxel	North of Arena	67.0	59.4	61.7	68.6
11	Truxel	Arena to Natomas Crossing	66.6	59.0	61.3	68.3
12	Truxel	South of Natomas Crossing	67.3	59.7	62.0	69.0
13	Arena	El Centro to Duckhorn	63.9	56.3	58.6	65.6
14	Arena	Duckhorn to SB 5 Ramps	66.7	59.1	61.4	68.3
15	Arena	NB 5 Ramps to E. Commerce	68.6	61.1	63.3	70.3
16	Arena	E. Commerce to Truxel	66.7	59.1	61.4	68.4
17	Arena	East of Truxel	64.9	57.3	59.6	66.6
18	Natomas Crossing	East of E. Commerce	55.5	47.9	50.2	57.2
19	San Juan	West of Duckhorn	59.7	52.1	54.4	61.4
20	San Juan	Duckhorn to E. Commerce	62.9	55.3	57.6	64.6
21	San Juan	East of E. Commerce	65.9	58.3	60.6	67.6

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Baseline Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	-------- Distances to Traffic Noise Contours --------				
			75	70	65	60	55
1	El Centro Rd	North of Arena	9	19	40	86	186
2	El Centro Rd	South of Arena	11	24	51	111	238
3	Duckhorn Dr	North of Arena	9	19	41	89	191
4	Duckhorn Dr	Arena to (future) Natomas Crossing	14	31	67	145	312
5	E. Commerce	Del Paso to West Entrance	27	58	124	267	575
6	E. Commerce	West Entrance to Arena Blvd	27	57	124	267	574
7	E. Commerce	Arena to Amelia Earhart	31	66	143	308	663
8	E. Commerce	Amelia Earhart to (future) Natomas (	28	61	132	284	612
9	E. Commerce	(future) Natomas Crossing to San Ju	21	46	98	212	456
10	Truxel	North of Arena	28	61	131	282	608
11	Truxel	Arena to Natomas Crossing	27	57	124	266	574
12	Truxel	South of Natomas Crossing	30	64	138	297	640
13	Arena	El Centro to Duckhorn	18	38	82	177	381
14	Arena	Duckhorn to SB 5 Ramps	27	58	125	270	581
15	Arena	NB 5 Ramps to E. Commerce	37	79	170	365	787
16	Arena	E. Commerce to Truxel	27	59	126	272	586
17	Arena	East of Truxel	21	44	95	206	443
18	Natomas Crossing	East of E. Commerce	5	10	23	49	105
19	San Juan	West of Duckhorn	9	20	43	93	200
20	San Juan	Duckhorn to E. Commerce	15	33	70	151	326
21	San Juan	East of E. Commerce	24	52	112	240	518

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Cumulative Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	18920	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	17640	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	6350	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	14690	85		15	2.5	1.5	45	75	
5	Duckhorn Dr	(future) Natomas Crossing to San Juan	13300	85		15	2.5	1.5	45	75	
6	E. Commerce	Del Paso to West Entrance	38660	85		15	2.5	1.5	45	75	
7	E. Commerce	West Entrance to Main Entrance	45470	85		15	2.5	1.5	45	75	
8	E. Commerce	Main Entrance to Arena Blvd	28130	85		15	2.5	1.5	45	75	
9	E. Commerce	Arena to Amelia Earhart	37300	85		15	2.5	1.5	45	75	
10	E. Commerce	Amelia Earhart to (future) Natomas Crossing	35580	85		15	2.5	1.5	45	75	
11	E. Commerce	(future) Natomas Crossing to San Juan	26720	85		15	2.5	1.5	45	75	
12	Truxel	North of Arena	43620	85		15	2.5	1.5	45	75	
13	Truxel	Arena to Natomas Crossing	57240	85		15	2.5	1.5	45	75	
14	Truxel	South of Natomas Crossing	70620	85		15	2.5	1.5	45	75	
15	Snowy Egret	West of E. Commerce	14340	85		15	2.5	1.5	45	75	
16	Arena	El Centro to Duckhorn	14680	85		15	2.5	1.5	45	75	
17	Arena	Duckhorn to SB 5 Ramps	16160	85		15	2.5	1.5	45	75	
18	Arena	NB 5 Ramps to E. Commerce	51390	85		15	2.5	1.5	45	75	
19	Arena	E. Commerce to Truxel	53620	85		15	2.5	1.5	45	75	
20	Arena	East of Truxel	25260	85		15	2.5	1.5	45	75	
21	Natomas Crossing	West of E. Commerce	17190	85		15	2.5	1.5	45	75	
22	Natomas Crossing	East of E. Commerce	13760	85		15	2.5	1.5	45	75	
23	San Juan	West of Duckhorn	7550	85		15	2.5	1.5	45	75	
24	San Juan	Duckhorn to E. Commerce	11150	85		15	2.5	1.5	45	75	
25	San Juan	East of E. Commerce	31450	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Cumulative Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	66.1	58.5	60.8	67.7
2	El Centro Rd	South of Arena	65.8	58.2	60.5	67.4
3	Duckhorn Dr	North of Arena	61.3	53.7	56.0	63.0
4	Duckhorn Dr	Arena to (future) Natomas Crossing	65.0	57.4	59.7	66.6
5	Duckhorn Dr	(future) Natomas Crossing to San Jua	64.5	57.0	59.2	66.2
6	E. Commerce	Del Paso to West Entrance	69.2	61.6	63.9	70.8
7	E. Commerce	West Entrance to Main Entrance	69.9	62.3	64.6	71.6
8	E. Commerce	Main Entrance to Arena Blvd	67.8	60.2	62.5	69.5
9	E. Commerce	Arena to Amelia Earhart	69.0	61.4	63.7	70.7
10	E. Commerce	Amelia Earhart to (future) Natomas C	68.8	61.2	63.5	70.5
11	E. Commerce	(future) Natomas Crossing to San Jua	67.6	60.0	62.3	69.2
12	Truxel	North of Arena	69.7	62.1	64.4	71.4
13	Truxel	Arena to Natomas Crossing	70.9	63.3	65.6	72.6
14	Truxel	South of Natomas Crossing	71.8	64.2	66.5	73.5
15	Snowy Egret	West of E. Commerce	64.9	57.3	59.6	66.5
16	Arena	El Centro to Duckhorn	65.0	57.4	59.7	66.6
17	Arena	Duckhorn to SB 5 Ramps	65.4	57.8	60.1	67.1
18	Arena	NB 5 Ramps to E. Commerce	70.4	62.8	65.1	72.1
19	Arena	E. Commerce to Truxel	70.6	63.0	65.3	72.3
20	Arena	East of Truxel	67.3	59.7	62.0	69.0
21	Natomas Crossing	West of E. Commerce	65.7	58.1	60.3	67.3
22	Natomas Crossing	East of E. Commerce	64.7	57.1	59.4	66.4
23	San Juan	West of Duckhorn	62.1	54.5	56.8	63.8
24	San Juan	Duckhorn to E. Commerce	63.8	56.2	58.5	65.4
25	San Juan	East of E. Commerce	68.3	60.7	63.0	70.0

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Cumulative Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	25	53	114	246	531
2	El Centro Rd	South of Arena	24	51	109	235	506
3	Duckhorn Dr	North of Arena	12	26	55	119	256
4	Duckhorn Dr	Arena to (future) Natomas Crossing	21	45	97	208	448
5	Duckhorn Dr	(future) Natomas Crossing to San Ju	19	42	90	195	420
6	E. Commerce	Del Paso to West Entrance	40	85	184	397	854
7	E. Commerce	West Entrance to Main Entrance	44	95	205	442	952
8	E. Commerce	Main Entrance to Arena Blvd	32	69	149	321	691
9	E. Commerce	Arena to Amelia Earhart	39	83	180	387	834
10	E. Commerce	Amelia Earhart to (future) Natomas (	38	81	174	375	808
11	E. Commerce	(future) Natomas Crossing to San Ju	31	67	144	310	668
12	Truxel	North of Arena	43	93	200	430	926
13	Truxel	Arena to Natomas Crossing	52	111	239	515	1110
14	Truxel	South of Natomas Crossing	59	128	275	593	1277
15	Snowy Egret	West of E. Commerce	20	44	95	205	441
16	Arena	El Centro to Duckhorn	21	45	97	208	448
17	Arena	Duckhorn to SB 5 Ramps	22	48	103	222	478
18	Arena	NB 5 Ramps to E. Commerce	48	103	223	479	1033
19	Arena	E. Commerce to Truxel	49	106	229	493	1063
20	Arena	East of Truxel	30	64	139	299	643
21	Natomas Crossing	West of E. Commerce	23	50	107	231	498
22	Natomas Crossing	East of E. Commerce	20	43	92	199	429
23	San Juan	West of Duckhorn	13	29	62	134	288
24	San Juan	Duckhorn to E. Commerce	17	37	80	173	373
25	San Juan	East of E. Commerce	35	74	160	346	745

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	19020	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	17400	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	6380	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	15170	85		15	2.5	1.5	45	75	
5	Duckhorn Dr	(future) Natomas Crossing to San Juan	14250	85		15	2.5	1.5	45	75	
6	E. Commerce	Del Paso to West Entrance	40780	85		15	2.5	1.5	45	75	
7	E. Commerce	West Entrance to Main Entrance	47860	85		15	2.5	1.5	45	75	
8	E. Commerce	Main Entrance to Arena Blvd	31890	85		15	2.5	1.5	45	75	
9	E. Commerce	Arena to Amelia Earhart	40570	85		15	2.5	1.5	45	75	
10	E. Commerce	Amelia Earhart to (future) Natomas Crossing	39860	85		15	2.5	1.5	45	75	
11	E. Commerce	(future) Natomas Crossing to San Juan	31290	85		15	2.5	1.5	45	75	
12	Truxel	North of Arena	44560	85		15	2.5	1.5	45	75	
13	Truxel	Arena to Natomas Crossing	58030	85		15	2.5	1.5	45	75	
14	Truxel	South of Natomas Crossing	70270	85		15	2.5	1.5	45	75	
15	Snowy Egret	West of E. Commerce	14560	85		15	2.5	1.5	45	75	
16	Arena	El Centro to Duckhorn	15320	85		15	2.5	1.5	45	75	
17	Arena	Duckhorn to SB 5 Ramps	16420	85		15	2.5	1.5	45	75	
18	Arena	NB 5 Ramps to E. Commerce	52280	85		15	2.5	1.5	45	75	
19	Arena	E. Commerce to Truxel	54660	85		15	2.5	1.5	45	75	
20	Arena	East of Truxel	26020	85		15	2.5	1.5	45	75	
21	Natomas Crossing	West of E. Commerce	17400	85		15	2.5	1.5	45	75	
22	Natomas Crossing	East of E. Commerce	14300	85		15	2.5	1.5	45	75	
23	San Juan	West of Duckhorn	8410	85		15	2.5	1.5	45	75	
24	San Juan	Duckhorn to E. Commerce	13080	85		15	2.5	1.5	45	75	
25	San Juan	East of E. Commerce	32750	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	66.1	58.5	60.8	67.8
2	El Centro Rd	South of Arena	65.7	58.1	60.4	67.4
3	Duckhorn Dr	North of Arena	61.4	53.8	56.0	63.0
4	Duckhorn Dr	Arena to (future) Natomas Crossing	65.1	57.5	59.8	66.8
5	Duckhorn Dr	(future) Natomas Crossing to San Jua	64.8	57.3	59.5	66.5
6	E. Commerce	Del Paso to West Entrance	69.4	61.8	64.1	71.1
7	E. Commerce	West Entrance to Main Entrance	70.1	62.5	64.8	71.8
8	E. Commerce	Main Entrance to Arena Blvd	68.3	60.8	63.0	70.0
9	E. Commerce	Arena to Amelia Earhart	69.4	61.8	64.1	71.1
10	E. Commerce	Amelia Earhart to (future) Natomas C	69.3	61.7	64.0	71.0
11	E. Commerce	(future) Natomas Crossing to San Jua	68.3	60.7	62.9	69.9
12	Truxel	North of Arena	69.8	62.2	64.5	71.5
13	Truxel	Arena to Natomas Crossing	70.9	63.4	65.6	72.6
14	Truxel	South of Natomas Crossing	71.8	64.2	66.5	73.4
15	Snowy Egret	West of E. Commerce	64.9	57.3	59.6	66.6
16	Arena	El Centro to Duckhorn	65.2	57.6	59.8	66.8
17	Arena	Duckhorn to SB 5 Ramps	65.5	57.9	60.1	67.1
18	Arena	NB 5 Ramps to E. Commerce	70.5	62.9	65.2	72.2
19	Arena	E. Commerce to Truxel	70.7	63.1	65.4	72.4
20	Arena	East of Truxel	67.5	59.9	62.1	69.1
21	Natomas Crossing	West of E. Commerce	65.7	58.1	60.4	67.4
22	Natomas Crossing	East of E. Commerce	64.9	57.3	59.5	66.5
23	San Juan	West of Duckhorn	62.6	55.0	57.2	64.2
24	San Juan	Duckhorn to E. Commerce	64.5	56.9	59.2	66.1
25	San Juan	East of E. Commerce	68.5	60.9	63.1	70.1

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	25	53	115	247	533
2	El Centro Rd	South of Arena	23	50	108	233	502
3	Duckhorn Dr	North of Arena	12	26	55	119	257
4	Duckhorn Dr	Arena to (future) Natomas Crossing	21	46	99	213	458
5	Duckhorn Dr	(future) Natomas Crossing to San Ju	20	44	95	204	439
6	E. Commerce	Del Paso to West Entrance	41	89	191	411	885
7	E. Commerce	West Entrance to Main Entrance	46	99	212	457	985
8	E. Commerce	Main Entrance to Arena Blvd	35	75	162	349	752
9	E. Commerce	Arena to Amelia Earhart	41	88	190	410	882
10	E. Commerce	Amelia Earhart to (future) Natomas (	40	87	188	405	872
11	E. Commerce	(future) Natomas Crossing to San Ju	34	74	160	344	742
12	Truxel	North of Arena	44	94	202	436	939
13	Truxel	Arena to Natomas Crossing	52	112	241	520	1120
14	Truxel	South of Natomas Crossing	59	127	274	591	1273
15	Snowy Egret	West of E. Commerce	21	45	96	207	446
16	Arena	El Centro to Duckhorn	21	46	99	214	461
17	Arena	Duckhorn to SB 5 Ramps	22	48	104	224	483
18	Arena	NB 5 Ramps to E. Commerce	49	104	225	485	1045
19	Arena	E. Commerce to Truxel	50	108	232	500	1076
20	Arena	East of Truxel	30	66	141	305	656
21	Natomas Crossing	West of E. Commerce	23	50	108	233	502
22	Natomas Crossing	East of E. Commerce	20	44	95	204	440
23	San Juan	West of Duckhorn	14	31	67	143	309
24	San Juan	Duckhorn to E. Commerce	19	41	89	193	415
25	San Juan	East of E. Commerce	36	76	165	355	765

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Cumulative Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	9850	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	11100	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	2940	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	10580	85		15	2.5	1.5	45	75	
5	Duckhorn Dr	(future) Natomas Crossing to San Juan	5490	85		15	2.5	1.5	45	75	
6	E. Commerce	Del Paso to West Entrance	23120	85		15	2.5	1.5	45	75	
7	E. Commerce	West Entrance to Main Entrance	29510	85		15	2.5	1.5	45	75	
8	E. Commerce	Main Entrance to Arena Blvd	17800	85		15	2.5	1.5	45	75	
9	E. Commerce	Arena to Amelia Earhart	20390	85		15	2.5	1.5	45	75	
10	E. Commerce	Amelia Earhart to (future) Natomas Crossing	17820	85		15	2.5	1.5	45	75	
11	E. Commerce	(future) Natomas Crossing to San Juan	15610	85		15	2.5	1.5	45	75	
12	Truxel	North of Arena	28380	85		15	2.5	1.5	45	75	
13	Truxel	Arena to Natomas Crossing	39150	85		15	2.5	1.5	45	75	
14	Truxel	South of Natomas Crossing	49890	85		15	2.5	1.5	45	75	
15	Snowy Egret	West of E. Commerce	8450	85		15	2.5	1.5	45	75	
16	Arena	El Centro to Duckhorn	8680	85		15	2.5	1.5	45	75	
17	Arena	Duckhorn to SB 5 Ramps	17590	85		15	2.5	1.5	45	75	
18	Arena	NB 5 Ramps to E. Commerce	49240	85		15	2.5	1.5	45	75	
19	Arena	E. Commerce to Truxel	49460	85		15	2.5	1.5	45	75	
20	Arena	East of Truxel	11460	85		15	2.5	1.5	45	75	
21	Natomas Crossing	West of E. Commerce	10320	85		15	2.5	1.5	45	75	
22	Natomas Crossing	East of E. Commerce	7120	85		15	2.5	1.5	45	75	
23	San Juan	West of Duckhorn	3560	85		15	2.5	1.5	45	75	
24	San Juan	Duckhorn to E. Commerce	4760	85		15	2.5	1.5	45	75	
25	San Juan	East of E. Commerce	15770	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Cumulative Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	63.2	55.7	57.9	64.9
2	El Centro Rd	South of Arena	63.8	56.2	58.4	65.4
3	Duckhorn Dr	North of Arena	58.0	50.4	52.7	59.7
4	Duckhorn Dr	Arena to (future) Natomas Crossing	63.6	56.0	58.2	65.2
5	Duckhorn Dr	(future) Natomas Crossing to San Jua	60.7	53.1	55.4	62.4
6	E. Commerce	Del Paso to West Entrance	66.9	59.4	61.6	68.6
7	E. Commerce	West Entrance to Main Entrance	68.0	60.4	62.7	69.7
8	E. Commerce	Main Entrance to Arena Blvd	65.8	58.2	60.5	67.5
9	E. Commerce	Arena to Amelia Earhart	66.4	58.8	61.1	68.1
10	E. Commerce	Amelia Earhart to (future) Natomas C	65.8	58.2	60.5	67.5
11	E. Commerce	(future) Natomas Crossing to San Jua	65.2	57.6	59.9	66.9
12	Truxel	North of Arena	67.8	60.2	62.5	69.5
13	Truxel	Arena to Natomas Crossing	69.2	61.6	63.9	70.9
14	Truxel	South of Natomas Crossing	70.3	62.7	65.0	72.0
15	Snowy Egret	West of E. Commerce	62.6	55.0	57.3	64.2
16	Arena	El Centro to Duckhorn	62.7	55.1	57.4	64.4
17	Arena	Duckhorn to SB 5 Ramps	65.8	58.2	60.4	67.4
18	Arena	NB 5 Ramps to E. Commerce	70.2	62.6	64.9	71.9
19	Arena	E. Commerce to Truxel	70.3	62.7	64.9	71.9
20	Arena	East of Truxel	63.9	56.3	58.6	65.6
21	Natomas Crossing	West of E. Commerce	63.4	55.9	58.1	65.1
22	Natomas Crossing	East of E. Commerce	61.8	54.2	56.5	63.5
23	San Juan	West of Duckhorn	58.8	51.2	53.5	60.5
24	San Juan	Duckhorn to E. Commerce	60.1	52.5	54.8	61.8
25	San Juan	East of E. Commerce	65.3	57.7	60.0	67.0

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Cumulative Plus Existing Zoning
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	El Centro Rd	North of Arena	16	34	74	159	343
2	El Centro Rd	South of Arena	17	37	80	173	372
3	Duckhorn Dr	North of Arena	7	15	33	71	153
4	Duckhorn Dr	Arena to (future) Natomas Crossing	17	36	78	167	360
5	Duckhorn Dr	(future) Natomas Crossing to San Ju	11	23	50	108	233
6	E. Commerce	Del Paso to West Entrance	28	61	131	282	607
7	E. Commerce	West Entrance to Main Entrance	33	71	154	331	714
8	E. Commerce	Main Entrance to Arena Blvd	24	51	110	236	509
9	E. Commerce	Arena to Amelia Earhart	26	56	120	259	558
10	E. Commerce	Amelia Earhart to (future) Natomas (	24	51	110	237	510
11	E. Commerce	(future) Natomas Crossing to San Ju	22	47	101	217	467
12	Truxel	North of Arena	32	70	150	323	695
13	Truxel	Arena to Natomas Crossing	40	86	186	400	862
14	Truxel	South of Natomas Crossing	47	101	218	470	1013
15	Snowy Egret	West of E. Commerce	14	31	67	144	310
16	Arena	El Centro to Duckhorn	15	32	68	147	316
17	Arena	Duckhorn to SB 5 Ramps	23	51	109	235	505
18	Arena	NB 5 Ramps to E. Commerce	47	100	216	466	1004
19	Arena	E. Commerce to Truxel	47	101	217	467	1007
20	Arena	East of Truxel	18	38	82	176	380
21	Natomas Crossing	West of E. Commerce	16	35	76	164	354
22	Natomas Crossing	East of E. Commerce	13	28	60	128	277
23	San Juan	West of Duckhorn	8	17	38	81	174
24	San Juan	Duckhorn to E. Commerce	10	21	46	98	211
25	San Juan	East of E. Commerce	22	47	101	218	470

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Appendix B-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	El Centro Rd	North of Arena	9760	85		15	2.5	1.5	45	75	
2	El Centro Rd	South of Arena	11060	85		15	2.5	1.5	45	75	
3	Duckhorn Dr	North of Arena	4220	85		15	2.5	1.5	45	75	
4	Duckhorn Dr	Arena to (future) Natomas Crossing	10780	85		15	2.5	1.5	45	75	
5	Duckhorn Dr	(future) Natomas Crossing to San Juan	5830	85		15	2.5	1.5	45	75	
6	E. Commerce	Del Paso to West Entrance	29010	85		15	2.5	1.5	45	75	
7	E. Commerce	West Entrance to Main Entrance	35360	85		15	2.5	1.5	45	75	
8	E. Commerce	Main Entrance to Arena Blvd	25710	85		15	2.5	1.5	45	75	
9	E. Commerce	Arena to Amelia Earhart	32000	85		15	2.5	1.5	45	75	
10	E. Commerce	Amelia Earhart to (future) Natomas Crossing	28030	85		15	2.5	1.5	45	75	
11	E. Commerce	(future) Natomas Crossing to San Juan	18370	85		15	2.5	1.5	45	75	
12	Truxel	North of Arena	28720	85		15	2.5	1.5	45	75	
13	Truxel	Arena to Natomas Crossing	40040	85		15	2.5	1.5	45	75	
14	Truxel	South of Natomas Crossing	51570	85		15	2.5	1.5	45	75	
15	Snowy Egret	West of E. Commerce	9800	85		15	2.5	1.5	45	75	
16	Arena	El Centro to Duckhorn	8830	85		15	2.5	1.5	45	75	
17	Arena	Duckhorn to SB 5 Ramps	19010	85		15	2.5	1.5	45	75	
18	Arena	NB 5 Ramps to E. Commerce	53890	85		15	2.5	1.5	45	75	
19	Arena	E. Commerce to Truxel	52990	85		15	2.5	1.5	45	75	
20	Arena	East of Truxel	12550	85		15	2.5	1.5	45	75	
21	Natomas Crossing	West of E. Commerce	11300	85		15	2.5	1.5	45	75	
22	Natomas Crossing	East of E. Commerce	9820	85		15	2.5	1.5	45	75	
23	San Juan	West of Duckhorn	4130	85		15	2.5	1.5	45	75	
24	San Juan	Duckhorn to E. Commerce	5300	85		15	2.5	1.5	45	75	
25	San Juan	East of E. Commerce	19690	85		15	2.5	1.5	45	75	

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Appendix B-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	El Centro Rd	North of Arena	63.2	55.6	57.9	64.9
2	El Centro Rd	South of Arena	63.7	56.2	58.4	65.4
3	Duckhorn Dr	North of Arena	59.6	52.0	54.2	61.2
4	Duckhorn Dr	Arena to (future) Natomas Crossing	63.6	56.0	58.3	65.3
5	Duckhorn Dr	(future) Natomas Crossing to San Jua	61.0	53.4	55.7	62.6
6	E. Commerce	Del Paso to West Entrance	67.9	60.3	62.6	69.6
7	E. Commerce	West Entrance to Main Entrance	68.8	61.2	63.5	70.5
8	E. Commerce	Main Entrance to Arena Blvd	67.4	59.8	62.1	69.1
9	E. Commerce	Arena to Amelia Earhart	68.4	60.8	63.0	70.0
10	E. Commerce	Amelia Earhart to (future) Natomas C	67.8	60.2	62.5	69.5
11	E. Commerce	(future) Natomas Crossing to San Jua	66.0	58.4	60.6	67.6
12	Truxel	North of Arena	67.9	60.3	62.6	69.6
13	Truxel	Arena to Natomas Crossing	69.3	61.7	64.0	71.0
14	Truxel	South of Natomas Crossing	70.4	62.8	65.1	72.1
15	Snowy Egret	West of E. Commerce	63.2	55.6	57.9	64.9
16	Arena	El Centro to Duckhorn	62.8	55.2	57.5	64.4
17	Arena	Duckhorn to SB 5 Ramps	66.1	58.5	60.8	67.8
18	Arena	NB 5 Ramps to E. Commerce	70.6	63.0	65.3	72.3
19	Arena	E. Commerce to Truxel	70.6	63.0	65.2	72.2
20	Arena	East of Truxel	64.3	56.7	59.0	66.0
21	Natomas Crossing	West of E. Commerce	63.8	56.2	58.5	65.5
22	Natomas Crossing	East of E. Commerce	63.2	55.6	57.9	64.9
23	San Juan	West of Duckhorn	59.5	51.9	54.2	61.1
24	San Juan	Duckhorn to E. Commerce	60.6	53.0	55.2	62.2
25	San Juan	East of E. Commerce	66.3	58.7	60.9	67.9

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Appendix B-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2008-233 Natomas Crossing Revised
Description: Saturday Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	-------- Distances to Traffic Noise Contours --------				
			75	70	65	60	55
1	El Centro Rd	North of Arena	16	34	74	158	341
2	El Centro Rd	South of Arena	17	37	80	172	371
3	Duckhorn Dr	North of Arena	9	20	42	91	195
4	Duckhorn Dr	Arena to (future) Natomas Crossing	17	36	79	169	365
5	Duckhorn Dr	(future) Natomas Crossing to San Ju	11	24	52	112	242
6	E. Commerce	Del Paso to West Entrance	33	71	152	328	706
7	E. Commerce	West Entrance to Main Entrance	37	81	173	374	805
8	E. Commerce	Main Entrance to Arena Blvd	30	65	140	302	651
9	E. Commerce	Arena to Amelia Earhart	35	75	162	350	753
10	E. Commerce	Amelia Earhart to (future) Natomas (	32	69	149	320	690
11	E. Commerce	(future) Natomas Crossing to San Ju	24	52	112	242	520
12	Truxel	North of Arena	33	70	151	325	701
13	Truxel	Arena to Natomas Crossing	41	87	188	406	875
14	Truxel	South of Natomas Crossing	48	104	223	481	1035
15	Snowy Egret	West of E. Commerce	16	34	74	159	342
16	Arena	El Centro to Duckhorn	15	32	69	148	319
17	Arena	Duckhorn to SB 5 Ramps	25	53	115	247	532
18	Arena	NB 5 Ramps to E. Commerce	49	107	230	495	1066
19	Arena	E. Commerce to Truxel	49	105	227	489	1054
20	Arena	East of Truxel	19	40	87	187	404
21	Natomas Crossing	West of E. Commerce	17	38	81	175	376
22	Natomas Crossing	East of E. Commerce	16	34	74	159	343
23	San Juan	West of Duckhorn	9	19	41	89	192
24	San Juan	Duckhorn to E. Commerce	11	23	49	105	227
25	San Juan	East of E. Commerce	25	54	117	253	545

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Appendix C

Natomas Crossing
24hr Continuous Noise Monitoring, Site A
January 2-3, 2008

Hour	Leq	Lmax	L50	L90
11:00	54	70	51	50
12:00	55	72	52	50
13:00	56	75	51	49
14:00	55	71	50	49
15:00	52	70	48	47
16:00	55	70	53	50
17:00	57	77	55	54
18:00	56	71	55	53
19:00	57	72	55	54
20:00	57	71	55	53
21:00	56	69	55	53
22:00	56	70	54	52
23:00	53	60	53	50
0:00	52	58	51	49
1:00	51	57	50	48
2:00	50	57	50	48
3:00	52	59	51	49
4:00	55	60	54	52
5:00	55	61	55	53
6:00	56	64	56	54
7:00	60	74	59	58
8:00	62	74	61	58
9:00	59	72	57	54
10:00	56	70	54	52

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	61.8	52.4	57.2	56.3	50.4	53.7
Lmax (Maximum)	76.8	68.9	71.9	69.9	56.7	60.6
L50 (Median)	60.6	48.3	54.0	56.1	50.0	52.7
L90 (Background)	58.3	46.5	52.2	54.5	48.0	50.7

Computed Ldn, dB	60.8
% Daytime Energy	79%
% Nighttime Energy	21%

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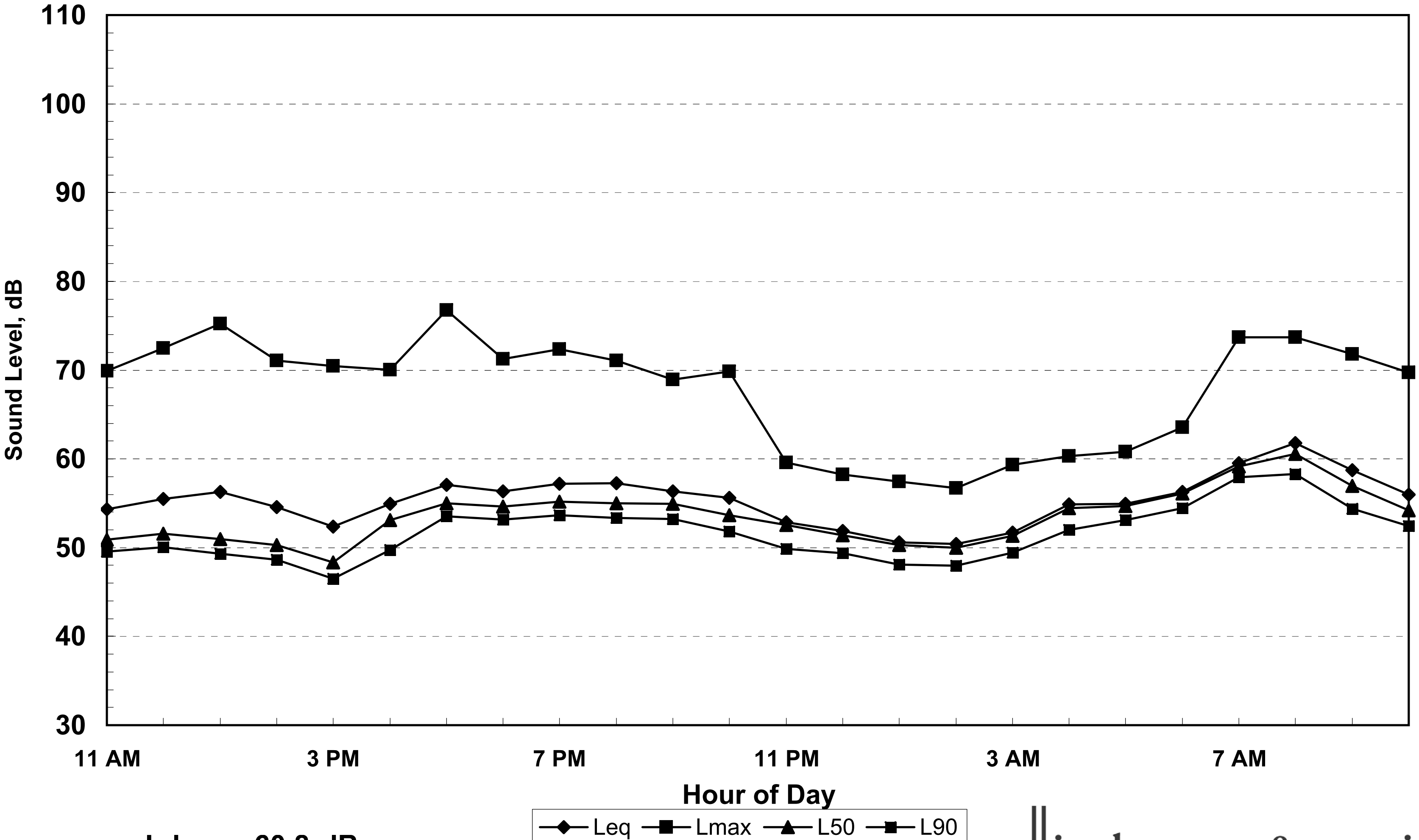
Appendix C
24hr Continuous Noise Monitoring, Site A
Natomas Crossing
January 2-3, 2008



Ldn = 60.8 dB

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Appendix C

2008-233 Natomas Crossing Revised

24hr Continuous Noise Monitoring, Site B

Tuesday, December 23, 2008

Hour	Leq	Lmax	L50	L90
0:00	57	75	52	49
1:00	55	75	50	46
2:00	52	73	49	45
3:00	53	77	49	46
4:00	56	79	52	49
5:00	58	79	52	50
6:00	62	82	55	51
7:00	64	82	59	54
8:00	64	82	59	54
9:00	63	79	56	46
10:00	62	76	53	43
11:00	63	78	56	45
12:00	64	77	59	50
13:00	64	82	59	52
14:00	64	76	58	52
15:00	64	75	58	51
16:00	64	77	59	53
17:00	65	76	60	52
18:00	65	79	60	51
19:00	63	80	57	50
20:00	62	78	56	49
21:00	61	75	54	50
22:00	61	76	53	50
23:00	61	78	54	50

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65.2	61.2	63.6	62.0	52.5	58.3
Lmax (Maximum)	82.1	74.9	78.1	81.9	73.5	77.1
L50 (Median)	59.9	53.4	57.5	54.8	48.6	51.6
L90 (Background)	54.5	43.4	50.1	51.3	45.5	48.4

Computed Ldn, dB	66.0
% Daytime Energy	85%
% Nighttime Energy	15%

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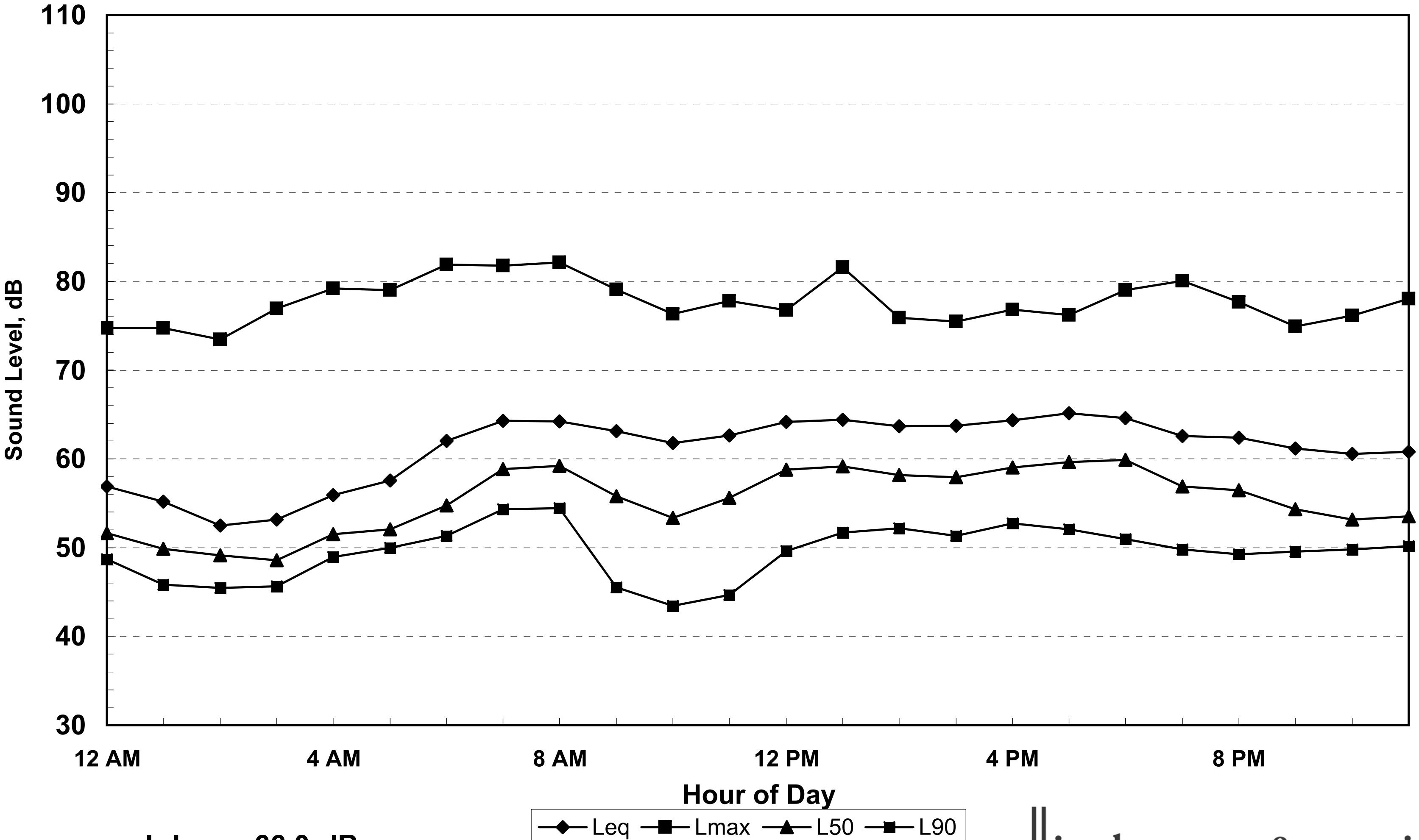
Appendix C
24hr Continuous Noise Monitoring, Site B
2008-233 Natomas Crossing Revised
Tuesday, December 23, 2008



Ldn = 66.0 dB

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