

**Table 3.6.4 Baseline/Existing (2007) and 2015 and 2035 No Build  
Peak-Hour Corridor Travel Time Summary**

Direction	Lanes	Baseline/Existing (2007)	2015 No Build	Design Year 2035 No Build
<b>AM Peak-Hour Travel Time (min)</b>				
Westbound	General Purpose	28.5	36.1	43.2
	HOV/Express	12.1	18.4	25.9
<b>AM Peak-Hour Travel Speed (mph)</b>				
Westbound	General Purpose	24.2	19.1	16.0
	HOV/Express	56.8	37.5	26.6
<b>PM Peak-Hour Travel Time (min)</b>				
Eastbound	General Purpose	44.0	79.1	86.4
	HOV/Express	30.0	39.7	47.0
<b>PM Peak-Hour Travel Speed (mph)</b>				
Eastbound	General Purpose	15.7	8.7	8.0
	HOV/Express	23.0	17.4	14.7

Source: Speed Surveys, RCTC Model (2010).

min = minutes

mph = miles per hour

HOV = high-occupancy vehicle

RCTC = Riverside County Transportation Commission

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Table 3.6.5 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Mainline Peak-Hour Levels of Service

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						Design Year 2035 No Build						
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	
State Route 91	Eastbound	SR-241 to Gypsum Canyon Road	General Purpose	20.7	C	-	25.4	C	-	21.1	C	-	39.1	E	-	21.1	C	-	> 45	F	1.21	
		Gypsum Canyon Road to Green River Road		25.4	C	-	43.5	E	-	22.4	C	-	> 45.0	F	1.05	20.1	C	-	> 45	F	1.30	
		Green River Road to SR-71		19.6	C	-	30.9	D	-	17.0	B	-	28.5	D	-	17.0	B	-	37.0	E	-	
		SR-71 to Auto Center Drive		25.9	C	-	> 45	F	1.04	27.9	D	-	> 45.0	F	1.28	26.2	D	-	> 45	F	1.53	
		Auto Center Drive to Maple Street		23.9	C	-	> 45	F	1.08	27.0	D	-	> 45.0	F	1.37	26.1	D	-	> 45	F	1.54	
		Maple Street to Lincoln Avenue		21.3	C	-	41.7	E	-	24.1	C	-	> 45.0	F	1.37	23.7	C	-	> 45	F	1.48	
		Lincoln Avenue to Grand Boulevard		22.4	C	-	40.6	E	-	27.0	D	-	> 45.0	F	1.23	28.6	D	-	> 45	F	1.47	
		Grand Boulevard to Main Street		21.3	C	-	36.1	E	-	24.6	C	-	> 45.0	F	1.14	27.0	D	-	> 45	F	1.38	
		Main Street to I-15		23.8	C	-	> 45	F	1.05	26.1	D	-	> 45.0	F	1.23	29.2	D	-	> 45	F	1.50	
		I-15 to McKinley Street		18.4	C	-	34.2	D	-	17.8	B	-	> 45.0	F	1.06	23.5	C	-	> 45	F	1.35	
		McKinley Street to Pierce Street		24.6	C	-	> 45	F	1.19	22.3	C	-	> 45.0	F	1.33	31.5	D	-	> 45	F	1.72	
		Pierce Street to Magnolia Avenue		23.6	C	-	> 45	F	1.03	20.6	C	-	> 45.0	F	1.15	28.8	D	-	> 45	F	1.55	
		SR-241 to Green River Road		Toll/HOV	6.0	A	-	27.5	D	-	8.3	A	-	37.4	E	-	14.2	B	-	29.6	D	-
		Green River Road to Auto Center Drive			13.9	B	-	33.7	D	-	15.6	B	-	> 45.0	F	1.26	24.2	C	-	> 45	F	1.57
	Auto Center Drive to Lincoln Avenue	15.6	B		-	27.7	D	-	17.3	B	-	35.3	E	-	24.2	C	-	38.3	E	-		
	Lincoln Avenue to Main Street	16.2	B		-	27.7	D	-	16.2	B	-	33.8	D	-	23.5	C	-	29.8	D	-		
	Main Street to I-15	13.9	B		-	18.9	B	-	13.9	B	-	32.7	D	-	17.3	B	-	28.6	D	-		
	I-15 to Pierce Street	13.7	B		-	18.3	B	-	17.3	B	-	30.5	D	-	22.5	C	-	35.3	E	-		
	Pierce Street to Magnolia Avenue	11.1	A	-	15.1	B	-	15.6	B	-	28.6	D	-	20.8	C	-	30.5	D	-			
	Westbound	General Purpose	SR-241 to Gypsum Canyon Road	> 45	F	1.10	27.1	D	-	> 45.0	F	1.28	27.5	D	-	> 45	F	1.41	25.2	C	-	
			Gypsum Canyon Road to Green River Road	> 45	F	1.31	23.8	C	-	> 45.0	F	1.24	25.9	C	-	> 45	F	1.36	23.5	C	-	
			Green River Road to SR-71	> 45	F	1.25	33.1	D	-	> 45.0	F	1.36	37.5	E	-	> 45	F	1.54	33.2	D	-	
			SR-71 to Auto Center Drive	> 45	F	1.23	30.2	D	-	> 45.0	F	1.37	36.8	E	-	> 45	F	1.57	32.2	D	-	
			Auto Center Drive to Maple Street	> 45	F	1.12	31.0	D	-	> 45.0	F	1.25	39.2	E	-	> 45	F	1.44	34.2	D	-	
			Maple Street to Lincoln Avenue	> 45	F	1.04	31.1	D	-	> 45.0	F	1.09	37.0	E	-	> 45	F	1.28	32.0	D	-	
			Lincoln Avenue to Grand Boulevard	44.3	E	-	31.7	D	-	> 45.0	F	1.06	37.9	E	-	> 45	F	1.24	32.4	D	-	
			Grand Boulevard to Main Street	39.6	E	-	29.3	D	-	43.8	E	-	32.2	D	-	> 45	F	1.18	29.1	D	-	
			Main Street to I-15	> 45	F	1.01	30.0	D	-	> 45.0	F	1.04	34.2	D	-	> 45	F	1.19	29.6	D	-	
I-15 to McKinley Street			43.0	E	-	23.2	C	-	43.7	E	-	24.4	C	-	> 45	F	1.19	22.9	C	-		
McKinley Street to Pierce Street			> 45	F	1.34	30.7	D	-	> 45.0	F	1.37	34.5	D	-	> 45	F	1.56	29.2	D	-		
Pierce Street to Magnolia Avenue			> 45	F	1.22	27.9	D	-	> 45.0	F	1.23	29.1	D	-	> 45	F	1.36	25.4	C	-		
SR-241 to Green River Road			Toll/HOV	19.6	C	-	8.9	A	-	23.4	C	-	12.5	B	-	29.6	D	-	16.7	B	-	
Green River Road to Auto Center Drive				31.6	D	-	19.6	C	-	35.3	E	-	22.5	C	-	> 45	F	1.09	29.6	D	-	
Auto Center Drive to Grand Boulevard	31.8	D		-	17.8	B	-	32.7	D	-	20.8	C	-	38.3	E	-	26.0	C	-			
Grand Boulevard to I-15	16.3	B		-	15.1	B	-	20.1	C	-	17.3	B	-	28.6	D	-	22.5	C	-			
I-15 to Pierce Street	15.4	B		-	13.5	B	-	18.5	B	-	15.6	B	-	23.5	C	-	20.8	C	-			
Pierce Street to Magnolia Avenue	13.3	B		-	11.6	B	-	16.8	B	-	15.6	B	-	26.9	D	-	19.0	B	-			
Interstate 15	Northbound	General Purpose	North of Hidden Valley Parkway	22.3	C	-	24.9	C	-	26.6	D	-	30.3	D	-	> 45	F	1.30	> 45	F	1.00	
			Hidden Valley Parkway to SR-91	21.3	C	-	23.8	C	-	26.9	D	-	30.2	D	-	> 45	F	1.17	43.9	E	-	
			SR-91 to Magnolia Avenue	21.9	C	-	26.7	D	-	28.3	D	-	35.4	E	-	> 45	F	1.11	> 45	F	1.03	
			Magnolia Avenue to Ontario Avenue	24.4	C	-	22.9	C	-	31.3	D	-	28.7	D	-	> 45	F	1.20	38.2	E	-	
			Ontario Avenue to El Cerrito Road	38.6	E	-	29.8	D	-	> 45.0	F	1.16	40.1	E	-	> 45	F	1.61	> 45	F	1.17	
			El Cerrito Road to Cajalco Road	35.4	E	-	29.1	D	-	> 45.0	F	1.12	35.6	E	-	> 45	F	1.79	> 45	F	1.18	
			South of Cajalco Road	30.0	D	-	35.5	E	-	39.5	E	-	33.9	D	-	> 45	F	1.07	44.9	E	-	
	North of Hidden Valley Parkway	Toll/HOV	-	-	-	-	-	-	-	-	-	-	-	-	15.3	B	-	4.8	A	-		
	El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	25.9	C	-	8.0	A	-		
	South of El Cerrito Road		-	-	-	-	-	-	-	-	-	-	-	-	10.1	A	-	2.3	A	-		

**Table 3.6.5 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Mainline Peak-Hour Levels of Service**

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						Design Year 2035 No Build					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
Interstate 15	Southbound	North of Hidden Valley Parkway	26.9	D	-	28.7	D	-	30.0	D	-	34.6	D	-	> 45	F	1.14	> 45	F	1.40	
		Hidden Valley Parkway to SR-91	24.2	C	-	27.2	D	-	27.6	D	-	34.2	D	-	> 45	F	1.05	> 45	F	1.29	
		SR-91 to Magnolia Avenue	27.7	D	-	31.8	D	-	36.1	E	-	42.5	E	-	> 45	F	1.02	> 45	F	1.31	
		Magnolia Avenue to Ontario Avenue	21.7	C	-	28.3	D	-	26.0	C	-	35.3	E	-	32.1	D	-	> 45	F	1.21	
		Ontario Avenue to El Cerrito Road	19.7	C	-	28.6	D	-	23.5	C	-	37.3	E	-	27.6	D	-	> 45	F	1.24	
		El Cerrito Road to Cajalco Road	26.1	D	-	> 45	F	1.03	33.4	D	-	> 45.0	F	1.24	> 45	F	1.04	> 45	F	1.80	
		South of Cajalco Road	24.0	C	-	> 45	F	1.06	26.2	D	-	> 45.0	F	1.17	27.9	D	-	> 45	F	1.21	
	North of Hidden Valley Parkway	-	-	-	-	-	-	-	-	-	-	-	-	4.8	A	-	14.5	B	-		
	El Cerrito Road to Hidden Valley Parkway	-	-	-	-	-	-	-	-	-	-	-	-	7.2	A	-	21.7	C	-		
	South of El Cerrito Road	-	-	-	-	-	-	-	-	-	-	-	-	2.3	A	-	9.3	A	-		

Source: Traffic Study Report (July 2010).

Note: A black box (F) represents a deficient segment.

Dir = Direction

Fwy = Freeway

HOV = high-occupancy vehicle

I-15 = Interstate 15

LOS = level of service

SR-241 = State Route 241

SR-71 = State Route 71

SR-91 = State Route 91

V/C = volume-to-capacity ratio

Table 3.6.6 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Ramp Peak-Hour Levels of Service

Baseline/Existing (2007)								2015 No Build								Design Year 2035 No Build							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
<b>Gypsum Canyon Road Interchange on SR-91</b>								<b>Gypsum Canyon Road Interchange on SR-91</b>								<b>Gypsum Canyon Road Interchange on SR-91</b>							
SR-91 EB loop on-ramp	Merge	3,690	190	B	6,960	280	D	SR-91 EB loop on-ramp	Merge	4,000	210	B	8,480	340	C	SR-91 EB loop on-ramp	Merge	3,590	250	B	10,710	550	F
SR-91 WB loop on-ramp	Merge	10,610	70	F	6,720	40	C	SR-91 WB loop on-ramp	Merge	12,390	120	F	7,010	50	D	SR-91 WB loop on-ramp	Merge	13,220	150	F	6,390	50	C
SR-91 EB on-ramp	Merge	5,630	190	C	7,990	290	D	SR-91 EB on-ramp	Merge	6,290	310	C	10,230	670	F	SR-91 EB on-ramp	Merge	5,770	330	C	12,090	1,410	F
SR-91 WB on-ramp	Merge	8,970	160	F	6,020	110	C	SR-91 WB on-ramp	Merge	10,440	180	F	6,080	120	C	SR-91 WB on-ramp	Merge	11,490	180	F	5,630	130	C
SR-91 EB off-ramp	Diverge	3,800	110	B	7,000	40	D	SR-91 EB off-ramp	Diverge	4,210	210	B	8,590	110	F	SR-91 EB off-ramp	Diverge	3,780	190	B	11,120	410	F
SR-91 WB off-ramp	Diverge	10,830	220	F	6,990	270	C	SR-91 WB off-ramp	Diverge	12,900	510	F	7,500	490	D	SR-91 WB off-ramp	Diverge	14,100	880	F	6,900	510	C
<b>Green River Road Interchange on SR-91</b>								<b>Green River Road Interchange on SR-91</b>								<b>Green River Road Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	5,640	250	B	6,950	200	C	SR-91 EB on-ramp	Merge	5,040	30	B	8,320	10	C	SR-91 EB on-ramp	Merge	5,030	40	B	9,720	30	D
SR-91 WB on-ramp	Merge	10,200	1,270	F	6,600	330	C	SR-91 WB on-ramp	Merge	10,990	2,810	F	6,890	810	C	SR-91 WB on-ramp	Merge	12,390	2,810	F	6,280	920	C
SR-91 EB off-ramp	Diverge	5,820	180	C	8,280	1,330	E	SR-91 EB off-ramp	Diverge	6,600	420	C	10,900	2,270	F	SR-91 EB off-ramp	Diverge	6,100	440	C	13,500	2,390	F
SR-91 WB off-ramp	Diverge	10,400	200	F	7,040	440	D	SR-91 WB off-ramp	Diverge	11,250	260	F	7,530	640	E	SR-91 WB off-ramp	Diverge	12,730	340	F	7,060	780	E
<b>Auto Center Drive Interchange on SR-91</b>								<b>Auto Center Drive Interchange on SR-91</b>								<b>Auto Center Drive Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	5,400	480	C	8,120	560	F	SR-91 EB on-ramp	Merge	5,540	580	C	10,060	730	F	SR-91 EB on-ramp	Merge	5,220	630	C	11,810	770	F
SR-91 WB on-ramp	Merge	9,090	1,080	F	6,320	560	D	SR-91 WB on-ramp	Merge	10,050	1,290	F	6,930	660	D	SR-91 WB on-ramp	Merge	11,560	1,490	F	6,360	710	D
SR-91 EB off-ramp	Diverge	5,980	580	D	8,631	510	F	SR-91 EB off-ramp	Diverge	6,320	780	D	10,650	590	F	SR-91 EB off-ramp	Diverge	6,020	800	D	12,720	910	F
SR-91 WB off-ramp	Diverge	9,300	210	F	6,680	360	D	SR-91 WB off-ramp	Diverge	10,360	310	F	7,630	700	E	SR-91 WB off-ramp	Diverge	11,920	360	F	7,110	750	E
<b>Maple Street Interchange on SR-91</b>								<b>Maple Street Interchange on SR-91</b>								<b>Maple Street Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,500	330	C	7,810	250	D	SR-91 EB on-ramp	Merge	5,070	370	C	10,020	420	F	SR-91 EB on-ramp	Merge	4,940	400	C	11,520	450	F
SR-91 WB loop on-ramp	Merge	8,440	1,130	F	6,310	590	D	SR-91 WB loop on-ramp	Merge	8,810	1,450	F	6,820	810	D	SR-91 WB loop on-ramp	Merge	10,410	1,510	F	6,210	1,000	D
SR-91 EB off-ramp	Diverge	5,390	890	D	8,970	1,160	F	SR-91 EB off-ramp	Diverge	6,020	950	D	11,390	1,370	F	SR-91 EB off-ramp	Diverge	5,850	910	D	12,780	1,260	F
SR-91 WB off-ramp	Diverge	8,640	200	F	6,690	380	D	SR-91 WB off-ramp	Diverge	9,030	220	F	7,420	600	E	SR-91 WB off-ramp	Diverge	10,650	240	F	6,820	610	D
<b>Lincoln Avenue Interchange on SR-91</b>								<b>Lincoln Avenue Interchange on SR-91</b>								<b>Lincoln Avenue Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,510	560	C	7,320	640	D	SR-91 EB on-ramp	Merge	4,880	1,030	D	9,220	840	F	SR-91 EB on-ramp	Merge	4,840	1,360	D	11,130	970	F
SR-91 WB on-ramp	Merge	7,900	880	F	6,170	390	D	SR-91 WB on-ramp	Merge	8,310	1,020	F	6,860	460	D	SR-91 WB on-ramp	Merge	9,800	1,050	F	6,170	550	D
SR-91 EB loop off-ramp	Diverge	4,810	300	C	8,090	770	E	SR-91 EB loop off-ramp	Diverge	5,440	560	C	10,340	1,120	F	SR-91 EB loop off-ramp	Diverge	5,340	500	C	12,270	1,140	F
SR-91 WB off-ramp	Diverge	8,290	390	E	6,780	610	D	SR-91 WB off-ramp	Diverge	8,760	450	F	7,510	650	E	SR-91 WB off-ramp	Diverge	10,270	470	F	6,870	700	D
<b>Grand Boulevard Interchange on SR-91</b>								<b>Grand Boulevard Interchange on SR-91</b>								<b>Grand Boulevard Interchange on SR-91</b>							
SR-91 WB on-ramp	Merge	7,905	510	D	6,420	400	D	SR-91 WB on-ramp	Merge	8,250	710	F	6,850	660	D	SR-91 WB on-ramp	Merge	9,750	720	F	6,380	690	D
SR-91 EB off-ramp	Diverge	5,070	250	C	8,000	430	E	SR-91 EB off-ramp	Diverge	6,010	480	D	10,160	710	F	SR-91 EB off-ramp	Diverge	6,300	280	D	12,200	740	F
<b>Main Street Interchange on SR-91</b>								<b>Main Street Interchange on SR-91</b>								<b>Main Street Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,530	740	C	7,250	1,010	D	SR-91 EB on-ramp	Merge	4,620	1,120	D	8,620	1,570	F	SR-91 EB on-ramp	Merge	4,890	1,200	D	10,580	1,820	F
SR-91 WB on-ramp	Merge	7,560	700	D	5,650	800	D	SR-91 WB on-ramp	Merge	7,540	910	E	5,970	1,080	D	SR-91 WB on-ramp	Merge	8,670	1,080	F	5,070	1,310	D
SR-91 EB off-ramp	Diverge	4,820	290	C	7,570	320	D	SR-91 EB off-ramp	Diverge	5,530	910	D	9,450	830	F	SR-91 EB off-ramp	Diverge	6,020	1,130	D	11,460	880	F
SR-91 WB off-ramp	Diverge	8,400	840	B	6,530	880	A	SR-91 WB off-ramp	Diverge	8,630	1,090	F	7,110	1,140	B	SR-91 WB off-ramp	Diverge	9,880	1,210	F	6,470	1,400	B
<b>McKinley Street Interchange on SR-91</b>								<b>McKinley Street Interchange on SR-91</b>								<b>McKinley Street Interchange on SR-91</b>							
SR-91 EB loop on-ramp	Merge	3,180	610	C	6,130	810	F	SR-91 EB loop on-ramp	Merge	2,800	660	C	7,250	820	F	SR-91 EB loop on-ramp	Merge	3,990	830	D	9,460	930	F
SR-91 EB on-ramp	Merge	3,780	380	C	6,790	590	F	SR-91 EB on-ramp	Merge	3,260	530	C	7,670	620	F	SR-91 EB on-ramp	Merge	4,520	550	D	9,990	680	F
SR-91 WB on-ramp	Merge	7,385	860	D	4,110	1,250	D	SR-91 WB on-ramp	Merge	7,140	1,160	E	4,230	1,370	D	SR-91 WB on-ramp	Merge	8,480	1,360	F	3,690	1,610	D
SR-91 EB off-ramp	Diverge	4,270	1,090	A	7,440	1,310	B	SR-91 EB off-ramp	Diverge	4,130	1,330	A	8,770	1,520	F	SR-91 EB off-ramp	Diverge	5,410	1,420	B	11,160	1,700	F
SR-91 WB loop off-ramp	Diverge	7,610	480	F	4,160	200	C	SR-91 WB loop off-ramp	Diverge	7,660	820	F	4,440	360	D	SR-91 WB loop off-ramp	Diverge	8,880	850	F	3,860	420	C
SR-91 WB off-ramp	Diverge	8,350	740	F	4,990	830	D	SR-91 WB off-ramp	Diverge	8,530	870	F	5,360	920	D	SR-91 WB off-ramp	Diverge	9,710	830	F	4,800	940	D
<b>Pierce Street Interchange on SR-91</b>								<b>Pierce Street Interchange on SR-91</b>								<b>Pierce Street Interchange on SR-91</b>							
SR-91 WB on-ramp	Merge	7,590	890	F	4,260	840	D	SR-91 WB on-ramp	Merge	7,660	970	F	4,440	920	D	SR-91 WB on-ramp	Merge	8,440	1,070	F	3,880	1,020	D
SR-91 EB off-ramp	Diverge	4,160	710	C	7,380	1,140	F	SR-91 EB off-ramp	Diverge	3,790	750	C	8,290	1,220	F	SR-91 EB off-ramp	Diverge	5,070	780	D	10,670	1,250	F
<b>Magnolia Avenue Interchange on SR-91</b>								<b>Magnolia Avenue Interchange on SR-91</b>								<b>Magnolia Avenue Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	3,440	590	C	6,240	760	F	SR-91 EB on-ramp	Merge	2,900	640	C	6,870	820	F	SR-91 EB on-ramp	Merge	4,140	760	D	9,300	890	F
SR-91 WB on-ramp	Merge	7,430	160	F	4,010	250	C	SR-91 WB on-ramp	Merge	7,360	300	F	4,080	360	C	SR-91 WB on-ramp	Merge	8,130	310	F	3,450	430	C
SR-91 EB loop off-ramp	Diverge	3,600	160	C	6,430	190	F	SR-91 EB loop off-ramp	Diverge	3,140	240	C	7,170	300	F	SR-91 EB loop off-ramp	Diverge	4,390	250	C	9,620	320	F
SR-91 WB loop off-ramp	Diverge	7,940	510	F	4,440	430	D	SR-91 WB loop off-ramp	Diverge	7,920	560	F	4,550	470	D	SR-91 WB loop off-ramp	Diverge	8,710	580	F	3,920	470	C
<b>Second Street Interchange on I-15</b>								<b>Second Street Interchange on I-15</b>								<b>Second Street Interchange on I-15</b>							
I-15 NB off-ramp	Diverge	4,780	1,090	C	5,310	640	C	I-15 NB off-ramp	Diverge	5,630	1,130	D	6,230	710	D	I-15 NB off-ramp	Diverge	10,220	1,220	F	7,890	870	F
I-15 SB on-ramp	Merge	5,250	430	C	5,360	630	D	I-15 SB on-ramp	Merge	5,680	510	D	6,070	710	D	I-15 SB on-ramp	Merge	8,160	770	F	10,100	950	F

Table 3.6.6 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Ramp Peak-Hour Levels of Service

Baseline/Existing (2007)								2015 No Build								Design Year 2035 No Build							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
<b>Hidden Valley Parkway Interchange on I-15</b>								<b>Hidden Valley Parkway Interchange on I-15</b>								<b>Hidden Valley Parkway Interchange on I-15</b>							
I-15 NB on-ramp	Merge	4,080	700	C	4,550	760	C	I-15 NB on-ramp	Merge	4,870	760	C	5,350	880	D	I-15 NB on-ramp	Merge	7,890	1,030	F	6,480	1,010	E
I-15 SB on-ramp	Merge	4,890	400	C	5,290	540	C	I-15 SB on-ramp	Merge	5,290	610	C	6,040	770	D	I-15 SB on-ramp	Merge	7,750	780	F	10,090	960	F
I-15 NB off-ramp	Diverge	4,680	600	C	5,210	660	C	I-15 NB off-ramp	Diverge	5,790	920	D	6,300	950	D	I-15 NB off-ramp	Diverge	9,210	1,320	F	7,650	1,170	E
I-15 SB off-ramp	Diverge	5,680	790	D	5,990	700	D	I-15 SB off-ramp	Diverge	6,190	900	D	6,780	740	E	I-15 SB off-ramp	Diverge	8,930	1,180	F	11,050	960	F
<b>Magnolia Avenue Interchange on I-15</b>								<b>Magnolia Avenue Interchange on I-15</b>								<b>Magnolia Avenue Interchange on I-15</b>							
I-15 NB on-ramp	Merge	4,440	580	C	4,750	1,280	D	I-15 NB on-ramp	Merge	6,090	230	C	6,920	430	D	I-15 NB on-ramp	Merge	9,020	330	F	8,020	640	F
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,430	660	C	5,880	1,040	D	I-15 NB loop on-ramp	Merge	8,320	700	D	6,940	1,080	E
I-15 SB on-ramp	Merge	4,610	480	C	5,550	880	D	I-15 SB on-ramp	Merge	5,480	520	C	6,240	1,160	D	I-15 SB on-ramp	Merge	6,200	800	D	9,020	1,180	F
I-15 NB off-ramp	Diverge	5,690	1,250	D	5,360	610	C	I-15 NB off-ramp	Diverge	6,900	1,470	E	6,500	620	D	I-15 NB off-ramp	Diverge	10,100	1,780	F	7,700	760	E
I-15 SB off-ramp	Diverge	6,220	1,610	E	6,890	1,340	E	I-15 SB off-ramp	Diverge	7,420	1,940	F	8,010	1,770	F	I-15 SB off-ramp	Diverge	8,560	2,360	F	10,980	1,960	F
<b>Ontario Avenue Interchange on I-15</b>								<b>Ontario Avenue Interchange on I-15</b>								<b>Ontario Avenue Interchange on I-15</b>							
I-15 NB on-ramp	Merge	4,930	760	C	5,560	800	D	I-15 NB on-ramp	Merge	6,110	790	D	5,480	1,020	D	I-15 NB on-ramp	Merge	9,050	1,050	F	6,460	1,240	E
I-15 SB on-ramp	Merge	3,970	530	C	5,540	840	D	I-15 SB on-ramp	Merge	4,780	600	C	6,470	1,080	D	I-15 SB on-ramp	Merge	6,570	630	D	9,290	1,130	F
I-15 NB off-ramp	Diverge	5,890	960	D	5,020	460	D	I-15 NB off-ramp	Diverge	7,290	1,180	F	6,000	520	D	I-15 NB off-ramp	Diverge	10,160	1,110	F	7,380	920	F
I-15 SB off-ramp	Diverge	5,090	1,120	C	6,430	890	D	I-15 SB off-ramp	Diverge	6,000	1,220	D	7,400	930	E	I-15 SB off-ramp	Diverge	7,000	1,430	E	10,200	910	F
<b>El Cerrito Road Interchange on I-15</b>								<b>El Cerrito Road Interchange on I-15</b>								<b>El Cerrito Road Interchange on I-15</b>							
I-15 NB on-ramp	Merge	5,370	520	D	4,700	320	D	I-15 NB on-ramp	Merge	6,650	640	F	5,410	590	E	I-15 NB on-ramp	Merge	11,260	800	F	7,420	660	F
I-15 SB on-ramp	Merge	4,280	220	C	5,800	690	F	I-15 SB on-ramp	Merge	5,140	300	D	6,910	910	F	I-15 SB on-ramp	NA	NA	NA	NA	NA	NA	NA
I-15 NB off-ramp	Diverge	5,630	260	D	4,940	240	D	I-15 NB off-ramp	Diverge	7,040	390	F	5,650	250	D	I-15 NB off-ramp	NA	NA	NA	NA	NA	NA	NA
I-15 SB off-ramp	Diverge	4,500	220	C	6,380	580	D	I-15 SB off-ramp	Diverge	5,380	240	C	7,550	640	E	I-15 SB off-ramp	Diverge	6,200	270	D	10,420	710	F
<b>Cajalco Road Interchange on I-15</b>								<b>Cajalco Road Interchange on I-15</b>								<b>Cajalco Road Interchange on I-15</b>							
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,150	620	D	4,340	480	D	I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA
I-15 NB on-ramp	Merge	4,840	790	D	4,280	660	D	I-15 NB on-ramp	Merge	5,770	1,270	F	4,820	830	D	I-15 NB loop on-ramp	Merge	9,820	1,440	F	6,410	1,010	F
I-15 SB loop on-ramp	Merge	4,020	140	C	5,870	790	F	I-15 SB loop on-ramp	Merge	4,360	150	C	6,200	1,140	F	I-15 SB on-ramp	Merge	5,530	450	D	9,720	870	F
I-15 NB off-ramp	Diverge	5,050	210	D	4,640	360	D	I-15 NB off-ramp	Diverge	5,960	810	D	5,490	1,150	D	I-15 NB off-ramp	Diverge	10,390	570	F	7,550	1,140	F
I-15 SB off-ramp	Diverge	4,500	480	C	6,490	610	F	I-15 SB off-ramp	Diverge	5,440	1,080	D	7,820	1,620	F	I-15 SB off-ramp	Diverge	6,530	1,000	F	11,310	1,590	F
<b>SR-91/SR-241 Connectors</b>								<b>SR-91/SR-241 Connectors</b>								<b>SR-91/SR-241 Connectors</b>							
SR-91 WB to SR-241 SB	Diverge	10,830	1,710	F	6,990	740	B	SR-91 WB to SR-241 SB	Diverge	12,900	2,070	F	7,500	980	C	SR-91 WB to SR-241 SB	Diverge	14,100	1,880	F	6,900	810	B
SR-241 NB to SR-91 EB	Merge	5,070	750	B	6,530	1,750	C	SR-241 NB to SR-91 EB	Merge	5,190	1,410	B	8,820	2,080	F	SR-241 NB to SR-91 EB	Merge	5,270	830	B	11,570	1,930	F
SR-91 WB Express to SR-241 SB Express	Diverge	NA	NA	NA	NA	NA	NA	SR-91 WB Express to SR-241 SB Express	Diverge	NA	NA	NA	NA	NA	NA	SR-91 WB Express to SR-241 SB Express	Diverge	3,600	2,300	C	2,000	1,100	A
SR-241 NB Express to SR-91 EB Express	Merge	NA	NA	NA	NA	NA	NA	SR-241 NB Express to SR-91 EB Express	Merge	NA	NA	NA	NA	NA	NA	SR-241 NB Express to SR-91 EB Express	Merge	900	800	B	1,400	2,200	C
<b>SR-91/SR-71 Connectors</b>								<b>SR-91/SR-71 Connectors</b>								<b>SR-91/SR-71 Connectors</b>							
SR-71 SB to SR-91 EB	Merge	4,900	670	B	7,300	1,520	F	SR-71 SB to SR-91 EB	Merge	5,070	1,250	C	8,330	1,920	D	SR-71 SB to SR-91 EB	Merge	5,070	1,050	B	9,750	1,670	F
SR-71 SB to SR-91 WB	Merge	8,990	1,210	F	5,930	1,210	D	SR-71 SB to SR-91 WB	Merge	9,480	1,770	F	5,960	1,570	D	SR-71 SB to SR-91 WB	Merge	10,950	1,780	F	7,060	1,610	D
SR-91 EB to SR-71 NB	Diverge	5,810	910	C	8,780	1,480	E	SR-91 EB to SR-71 NB	Diverge	6,180	1,620	D	8,630	1,940	F	SR-91 EB to SR-71 NB	Diverge	5,660	1,500	D	11,110	1,890	F
SR-91 WB to SR-71 NB	Diverge	10,180	1,260	C	6,880	950	B	SR-91 WB to SR-71 NB	Diverge	11,340	1,660	F	7,490	1,430	B	SR-91 WB to SR-71 NB	Diverge	13,050	1,700	F	6,970	1,420	B
<b>SR-91/I-15 Connectors</b>								<b>SR-91/I-15 Connectors</b>								<b>SR-91/I-15 Connectors</b>							
I-15 NB to SR-91 EB	Merge	2,740	1,530	D	6,110	1,330	F	I-15 NB to SR-91 EB	Merge	2,450	1,680	D	7,350	1,420	F	I-15 NB to SR-91 EB	Merge	3,730	1,680	E	9,700	1,460	F
I-15 NB to SR-91 WB	Merge	6,610	1,830	E	4,380	2,150	E	I-15 NB to SR-91 WB	Merge	6,360	2,270	F	4,620	2,490	E	I-15 NB to SR-91 WB	Merge	7,060	2,820	F	3,760	2,710	E
I-15 SB to SR-91 EB	Merge	1,810	910	B	4,915	1,010	E	I-15 SB to SR-91 EB	Merge	1,450	1,000	B	4,870	1,110	E	I-15 SB to SR-91 EB	Merge	2,120	1,610	C	7,670	1,930	F
I-15 SB to SR-91 WB	Merge	5,495	1,450	F	2,650	1,780	C	I-15 SB to SR-91 WB	Merge	5,110	1,650	F	2,830	2,040	D	I-15 SB to SR-91 WB	Merge	5,770	2,040	F	2,320	1,790	C
SR-91 EB to I-15 NB/SB	Diverge	5,370	3,560	F	8,715	3,560	F	SR-91 EB to I-15 NB/SB	Diverge	5,840	4,390	F	10,190	4,450	F	SR-91 EB to I-15 NB/SB	Diverge	6,390	4,270	F	12,400	4,730	F
SR-91 WB to I-15 NB/SB	Diverge	8,245	2,750	F	5,360	2,710	C	SR-91 WB to I-15 NB/SB	Diverge	8,300	3,190	D	5,600	2,770	C	SR-91 WB to I-15 NB/SB	Diverge	9,840	4,070	F	5,300	2,980	C

Source: Traffic Study Report (July 2010).  
 Note: A black box (F) represents a deficient segment.  
 EB = eastbound  
 I-15 = Interstate 15  
 LOS = level of service  
 NA = not applicable  
 NB = northbound  
 SB = southbound  
 SR-91 = State Route 91  
 WB = westbound

**Table 3.6.7 Baseline/Existing (2007) and 2015 and 2035 No Build Intersection Peak-Hour Levels of Service**

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				Design Year 2035 No Build			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Gypsum Canyon Road	Gypsum Canyon Road/SR-91 WB off-ramp	11.4	B	12.9	B	15.5	B	31.4	C	18.1	B	14.7	B
	Gypsum Canyon Road/SR-91 EB off-ramp	10.1	B	9.2	A	15.0	C	10.6	B	15.6	C	13.7	B
Green River Road	Green River Road/SR-91 WB ramps	172.1	F	12.3	B	62.6	E	25.8	C	85.0	F	31.2	C
	Green River Road/SR-91 EB ramps	12.1	B	14.6	B	29.7	C	96.6	F	42.6	D	158.4	F
Auto Center Drive	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	15.5	B	19.4	B	21.1	C	19.4	B
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	31.9	C	18.6	B	82.2	F	19.2	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	20.1	C	17.1	B	36.4	D	42.8	D
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	14.9	B	19.3	B	17.4	B	37.1	D
Maple Street	Maple Street/Pomona Road	9.3	A	9.6	A	33.4	C	41.4	D	79.1	E	49.8	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	21.9	C	30.0	C	21.0	C	31.3	C
	Maple Street/SR-91 EB ramps	21.9	C	137.4	F	23.9	C	87.0	F	27.2	C	94.8	F
	Paseo Grande Road/Maple Street	27.5	C	104.5	F	32.4	C	41.6	D	34.9	C	63	E
Lincoln Avenue	SR-91 WB ramps/Pomona Road	220.6	F	26.4	C	36.6	D	33.4	C	36.6	D	21.7	C
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	27.1	C	22.3	C	22.5	C	28.5	C
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	F	24.9	C	141.9	F	35.8	D	66.5	E
	Lincoln Avenue/D Street	14.1	B	18.7	B	20.2	C	24.9	C	30.2	C	46.6	D
West Grand Boulevard	Vicentia Avenue/SR-91 EB off-ramp	14.4	B	30.0	D	28.0	D	91.1	F	15.5	C	73.2	F
	West Grand Boulevard/Frontage Road	11.4	B	31.9	D	19.3	C	216.6	F	14.1	B	336	F
	West Grand Boulevard/Second Street	9.0	A	13.5	B	11.8	B	15.8	B	9.5	A	15.1	B
Main Street	Main Street/Grand Boulevard	-	-	-	-	32.3	C	71.7	E	36.9	D	97.6	F
	Main Street/SR-91 WB ramps	36.9	D	41.5	D	29.3	C	87.9	F	25.5	C	137.9	F
	Main Street/SR-91 EB ramps	10.2	B	18.0	B	14.5	B	20.0	B	20.7	C	25.3	C
	Main Street/Third Street	22.4	C	27.3	C	45.7	D	29.9	C	65.4	E	62.5	E
McKinley Street	McKinley Street/Griffin Way	36.0	D	174.9	F	26.6	C	48.4	D	29.3	C	63.7	E
	McKinley Street/SR-91 WB on-ramp	11.7	B	13.4	B	21.0	C	13.8	B	44.4	D	24.0	C
	McKinley Street/SR-91 EB off-ramp	18.0	B	24.2	C	16.2	B	21.7	C	20.0	B	36.4	D
	McKinley Street/Sampson Avenue	28.7	C	93.8	F	35.4	D	40.2	D	38.2	D	53.1	D
Pierce Street	Pierce Street/SR-91 WB on-ramp	14.4	B	14.7	B	14.6	B	12.1	B	18.5	B	16.5	B
	Pierce Street/SR-91 EB off-ramp	10.5	B	13.8	B	9.7	A	18.8	B	10.4	B	17.5	B
	Pierce Street/Magnolia Avenue	32.2	C	105.5	F	33.1	C	61.9	E	56.5	E	143.0	F
Second Street	Hamner Avenue/Second Street	49.6	D	73.6	E	34.0	C	30.4	C	52.7	D	73.9	E
	I-15 SB ramps/Second Street	11.5	B	10.9	B	12.4	B	8.8	A	15.8	B	23.0	C
	I-15 NB ramps/Second Street	77.6	E	175.7	F	35.5	D	38.9	D	51.2	D	51.0	D

**Table 3.6.7 Baseline/Existing (2007) and 2015 and 2035 No Build Intersection Peak-Hour Levels of Service**

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				Design Year 2035 No Build			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Hidden Valley Parkway	Hamner Avenue/Hidden Valley Parkway	63.5	E	145.3	F	39.3	D	85.5	F	257.1	F	184.0	F
	I-15 SB off-ramp/Hidden Valley Parkway	44.5	D	154.4	F	31.9	C	27.3	C	58.5	E	60.1	E
	I-15 SB on-ramp/Hidden Valley Parkway	2.4	A	7.7	A	4.7	A	7.6	A	4.7	A	30.7	C
	I-15 NB on-ramp/Hidden Valley Parkway	5.2	A	7.0	A	3.4	A	11.3	B	4.5	A	14.8	B
	I-15 NB off-ramp/Hidden Valley Parkway	59.5	E	18.1	B	26.8	C	23.6	C	92.0	F	32.3	C
	Garland Way/Hidden Valley Parkway	102.2	F	87.3	F	20.3	C	26.2	C	68.8	E	25.1	C
Magnolia Avenue	Rimpau Avenue/Magnolia Avenue	97.4	F	84.3	F	44.0	D	47.1	D	87.1	F	85.2	F
	El Sobrante Road/Magnolia Avenue	168.0	F	65.4	E	26.2	C	28.9	C	67.6	E	97.2	F
	I-15 SB ramps/Magnolia Avenue	63.9	E	64.3	E	31.2	C	54.9	D	87.4	F	104.1	F
	I-15 NB ramps/Magnolia Avenue	36.4	D	43.9	D	14.5	B	9.8	A	30.9	C	11.2	B
	Compton Avenue/El Camino Avenue/Magnolia Avenue	55.0	D	22.5	C	19.8	B	48.6	D	23.6	C	32.8	C
Ontario Avenue	Compton Avenue/Ontario Avenue	4.1	A	6.0	A	7.3	A	12.5	B	12.4	B	12.0	B
	I-15 SB ramps/Ontario Avenue	35.6	D	29.1	C	79.1	E	38.1	D	75.0	E	44.2	D
	I-15 NB ramps/Ontario Avenue	32.1	C	41.5	D	48.9	D	16.2	B	44.2	D	20.4	C
El Cerrito Road	Bedford Canyon Road/El Cerrito Road	13.3	B	53.2	D	16.5	B	29.6	C	16.6	B	38.4	D
	I-15 NB ramps/El Cerrito Road	14.2	B	10.7	B	19.9	B	23.2	C	10.3	B	6.3	A
	I-15 SB ramps/El Cerrito Road	7.3	A	11.7	B	8.8	A	11.1	B	NA	NA	NA	NA
Cajalco Road	Bedford Canyon Road/Cajalco Road	9.8	A	72.2	E	11.3	B	47.9	D	21.2	C	183.3	F
	I-15 SB ramps/Cajalco Road	14.3	B	243.2	F	15.4	B	23.6	C	24.2	C	24.7	C
	I-15 NB ramps/Cajalco Road	48.1	D	71.7	E	6.0	A	10.3	B	57.5	E	47.5	D
	Grand Oaks/Cajalco Road	13.6	B	112.9	F	21.9	C	16.6	B	20.3	C	13.7	B

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per the City of Corona *Traffic Impact Study Guidelines*, LOS E is permitted at several ramp intersections.

EB = eastbound

I-15 = Interstate 15

LOS = level of service

NA = not applicable

NB = northbound

SB = southbound

sec = seconds

SR-91 = State Route 91

WB = westbound

**Table 3.6.8 Existing Bicycle and Pedestrian Facilities**

Interchange and Jurisdiction	Existing Sidewalks	Existing ADA Access Ramps	Existing Bicycle Facilities	Relationship to Freeway
<b>Facilities Along SR-91 (West to East)</b>				
Santa Ana River Trail/Bike Lane in the Cities of Anaheim and Corona	None	None	Off-street paved 12 ft wide asphalt Trail/Bike Lane.	Does not cross SR-91
Existing Class II bikeway in the City of Anaheim	None	None	On-street (on the westbound side only) paved bikeway on the south side of SR-91 begins approximately 0.25 mi east of SR-241, and extends west towards and ends at Nohl Ranch Road in the City of Orange.	Does not cross SR-91
Gypsum Canyon Road in the City of Anaheim	None	None	No bicycle facilities.	Crosses under SR-91
Coal Canyon Road in the City of Anaheim	None	None	No bicycle facilities, unpaved road	Crosses under SR-91
Green River Road in the City of Corona	4 ft 10 in wide sidewalk on the west side only	Yes	7 ft 9 in wide bicycle lanes on the west and east sides	Crosses over SR-91
Existing Class II bikeway (on-street) in the City of Corona	None	None	Bikeway extends on Green River Road north of SR-91, crosses SR-91, and splits to continue on either Green River Road or Palisades Drive.	Crosses over SR-91 on Green River Road
Prado Road and the BNSF railroad tracks in the City of Corona	None	None	None	Cross under SR-91.  Prado Road is adjacent to CHSP.  The BNSF right-of-way is not open for use by pedestrians or bicyclists.
Auto Center Drive/Serfas Club Drive in the City of Corona	Sidewalk on the west side only, 4 ft 7 in wide	Yes	None	Crosses under SR-91.
Maple Street in the City of Corona	Sidewalks on the west and east sides, 5 ft wide	Yes	None	Crosses over SR-91
Smith Avenue in the City of Corona	Sidewalks on the west and east sides, 5 ft wide	Yes	None	Crosses over SR-91
Wardlow Road in the City of Corona	Sidewalk on north side only, 8 ft wide	Yes	None	Adjacent to the north side of SR-91 but does not cross SR-91
Frontage Road/Sixth Street in the City of Corona and unincorporated Riverside County	5 ft wide sidewalks vary throughout this area	Yes	None	Does not cross SR-91; but is included in the Maple Avenue improvements at SR-91.
Pomona Road in the City of Corona	None	None	None	Does not cross SR-91
Lincoln Avenue in the City of Corona	4 ft 10 in wide sidewalks on the west and east sides	Yes	None	Crosses over SR-91

**Table 3.6.8 Existing Bicycle and Pedestrian Facilities**

Interchange and Jurisdiction	Existing Sidewalks	Existing ADA Access Ramps	Existing Bicycle Facilities	Relationship to Freeway
Buena Vista Avenue in the City of Corona	4 ft wide sidewalks on west and east sides	Yes	None	Crosses under SR-91
West and East Grand Boulevard in the City of Corona	5 ft wide sidewalks on the west and east sides	Yes	None	Crosses under SR-91
Main Street in the City of Corona	9 ft 9 in wide sidewalks on the west and east sides	Yes	None	Crosses under SR-91
Promenade Avenue in the City of Corona	5 ft wide sidewalks on the west and east sides	Yes	5 ft wide bicycle lanes on the west and east sides.	Crosses over SR-91
McKinley Street in the City of Corona	4 ft wide sidewalk on the east side only	Yes	No bicycle facilities.	Crosses under SR-91
Existing primary equestrian, bicycle, and pedestrian trail in the City of Riverside	None	None	Trail begins just south of Fillmore Street on the south side of SR-91, travels southwest on Indiana Avenue, north along Buchanan Street, and crosses SR-91 on Buchanan Street, where it connects to other trails in Corona and Norco.	Crosses over SR-91
Existing Class I Bikeway (separate right-of-way) in the City of Riverside	None	None	Bikeway extends along Pierce Street to Indiana Avenue on the south side of SR-91, crosses SR-91, and terminates at Collett Avenue on the north side of SR-91.	Crosses under SR-91 at Pierce Street
Buchanan Street in the City of Riverside	5 ft wide sidewalks on west and east sides	Yes	None	Crosses over SR-91
Riverwalk Parkway/Pierce Street in the City of Riverside	5 ft wide sidewalks on the west and east sides	Yes	None	Crosses under SR-91
<b>Facilities Along I-15 (North to South)</b>				
Old Temescal Road in the City of Corona	No sidewalks	No	None	Crosses under I-15
Ontario Avenue in the City of Corona	5 ft wide sidewalk on the south side only	No	None	Crosses under I-15
El Cerrito Road in the Riverside County	5 ft wide sidewalks on the north and south sides	Yes	None	Crosses under I-15
Hidden Valley Parkway in the City of Norco	5 ft wide sidewalks on the north and south sides	Yes	No bicycle facilities but this newer bridge has approximately 30 ft wide shoulders on both sides	Crosses over I-15
Parkridge Avenue in the City of Corona	6 ft wide sidewalks on the north and south sides	Yes	5 ft wide bicycle facilities on the north and south side	Crosses under I-15
East Sixth Street in the City of Corona	5 ft wide sidewalks on the north and south sides	Yes	4 ft wide bicycle facilities on north and south side	Crosses under I-15

**Table 3.6.8 Existing Bicycle and Pedestrian Facilities**

Interchange and Jurisdiction	Existing Sidewalks	Existing ADA Access Ramps	Existing Bicycle Facilities	Relationship to Freeway
Magnolia Avenue in the City of Corona	4 ft 11 in wide sidewalk on the north side only; the south side is signed "No Pedestrian Crossing"	Yes, on north side sidewalk only	4 ft 8 in wide bicycle facilities on north and south sides	Crosses over I-15

Source: Riverside County Transportation Commission (2009 and 2011).

ADA = Americans with Disabilities Act

BNSF = Burlington Northern Santa Fe

CHSP – Chino Hills State Park

ft = feet

I-15 = Interstate 15

in = inches

mi = miles

SR-91 = State Route 91

SR-241 = State Route 241

**Table 3.6.9 Baseline/Existing (2007), 2015 No Build and 2015 Initial Phase of  
Alternative 2 Daily VMT, VHT, and VHD**

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
<b>SR-91 Corridor</b>						
Vehicle Miles Traveled	Baseline/Existing (2007)	352,459	6,593,112	526,828	3,530,753	11,003,152
	2015 No Build	771,324	8,029,911	677,873	4,191,980	13,671,088
	2015 Initial Phase of Alt 2	1,263,821	8,067,793	236,936	4,094,104	13,662,654
Vehicle Hours Traveled	Baseline/Existing (2007)	5,844	185,177	13,093	130,574	334,688
	2015 No Build	13,781	253,876	18,362	160,527	446,546
	2015 Initial Phase of Alt 2	26,458	247,961	5,035	153,698	433,152
Vehicle Hours of Delay	Baseline/Existing (2007)	209	79,689	5,002	15,823	100,723
	2015 No Build	1,918	116,853	7,949	21,864	148,584
	2015 Initial Phase of Alt 2	7,006	110,732	1,400	18,370	137,508
<b>Remainder of Region</b>						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,317,992	208,815,843	12,198,974	170,853,518	394,186,327
	2015 No Build	2,748,036	239,260,166	20,837,074	198,800,692	461,645,968
	2015 Initial Phase of Alt 2	2,754,044	239,234,728	20,913,238	198,626,447	461,528,417
Vehicle Hours Traveled	Baseline/Existing (2007)	41,781	5,213,597	254,996	6,736,555	12,246,929
	2015 No Build	48,564	6,333,621	511,405	8,046,826	14,940,416
	2015 Initial Phase of Alt 2	48,769	6,357,619	508,752	8,036,683	14,951,823
Vehicle Hours of Delay	Baseline/Existing (2007)	4,498	1,832,605	67,773	641,528	2,546,404
	2015 No Build	4,215	2,473,536	192,994	1,022,059	3,692,804
	2015 Initial Phase of Alt 2	4,314	2,497,390	189,230	1,017,573	3,708,507
<b>Region</b>						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,670,451	215,408,955	12,725,802	174,384,271	405,189,479
	2015 No Build	3,519,360	247,290,077	21,514,947	202,992,672	475,317,065
	2015 Initial Phase of Alt 2	4,017,825	247,302,521	21,150,174	202,720,551	475,191,071
Vehicle Hours Traveled	Baseline/Existing (2007)	47,625	5,398,774	268,089	6,867,129	12,581,617
	2015 No Build	62,345	6,587,497	529,767	8,207,353	15,386,962
	2015 Initial Phase of Alt 2	75,227	6,605,580	513,787	8,190,381	15,384,975
Vehicle Hours of Delay	Baseline/Existing (2007)	4,707	1,912,294	72,775	657,351	2,647,127
	2015 No Build	6,133	2,590,389	200,943	1,043,923	3,841,388
	2015 Initial Phase of Alt 2	11,320	2,608,122	190,630	1,035,943	3,846,015

Source: RCTC Model (2010) as presented in the *Traffic Study Report* (July 2010).

Alt = Alternative

HOV = high-occupancy vehicle

RCTC = Riverside County Transportation Commission

SR-91 = State Route 91

VHD = vehicle hours of delay

VHT = vehicle hours traveled

VMT = vehicle miles traveled

**Table 3.6.10 Baseline/Existing (2007), 2015 No Build, and 2015 Initial Phase of Alternative 2 Peak-Hour Corridor Travel Time Summary**

Direction	Lanes	Baseline/Existing (2007)	2015 No Build	2015 Initial Phase of Alt 2
<b>AM Peak-Hour Travel Time (min)</b>				
Westbound	General Purpose	28.5	36.1	32.6
	HOV/Express	12.1	18.4	12.0
<b>AM Peak-Hour Travel Speed (mph)</b>				
Westbound	General Purpose	24.2	19.1	21.2
	HOV/Express	56.8	37.5	57.3
<b>PM Peak-Hour Travel Time (min)</b>				
Eastbound	General Purpose	44.0	79.1	70.6
	HOV/Express	30.0	39.7	12.5
<b>PM Peak-Hour Travel Speed (mph)</b>				
Eastbound	General Purpose	15.7	8.7	9.8
	HOV/Express	23.0	17.4	55.0

Source: Speed Surveys, RCTC Model (2010).

Alt = Alternative

min = minutes

mph = miles per hour

HOV = high-occupancy vehicle

RCTC = Riverside County Transportation Commission

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Table 3.6.11 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						2015 Initial Phase of Alternative 2						
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	
State Route 91	Eastbound	SR-241 to Gypsum Canyon Road	General Purpose	20.7	C	-	25.4	C	-	21.1	C	-	39.1	E	-	14.1	B	-	26.9	D	-	
		Gypsum Canyon Road to Green River Road		25.4	C	-	43.5	E	-	22.4	C	-	> 45.0	F	1.05	20.3	C	-	> 45.0	F	1.06	
		Green River Road to SR-71		19.6	C	-	30.9	D	-	17.0	B	-	28.5	D	-	18.6	C	-	25.9	C	-	
		SR-71 to Auto Center Drive		25.9	C	-	> 45	-	1.04	27.9	D	-	> 45.0	F	1.28	18.6	C	-	35	D	-	
		Auto Center Drive to Maple Street		23.9	C	-	> 45	-	1.08	27.0	D	-	> 45.0	F	1.37	18.6	C	-	36	E	-	
		Maple Street to Lincoln Avenue		21.3	C	-	41.7	E	-	24.1	C	-	> 45.0	F	1.37	16.6	B	-	30.4	D	-	
		Lincoln Avenue to Grand Boulevard		22.4	C	-	40.6	E	-	27.0	D	-	> 45.0	F	1.23	17.6	B	-	28.2	D	-	
		Grand Boulevard to Main Street		21.3	C	-	36.1	E	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Main Street to I-15		23.8	C	-	> 45	-	1.05	26.1	D	-	> 45.0	F	1.23	13.7	B	-	22.1	C	-	
		I-15 to McKinley Street		18.4	C	-	34.2	D	-	17.8	B	-	> 45.0	F	1.06	16.2	B	-	27.9	D	-	
		McKinley Street to Pierce Street		24.6	C	-	> 45	-	1.19	22.3	C	-	> 45.0	F	1.33	19.1	C	-	32.5	D	-	
		Pierce Street to Magnolia Avenue		23.6	C	-	> 45	-	1.03	20.6	C	-	> 45.0	F	1.15	24.2	C	-	42.2	E	-	
		SR-241 to Green River Road		Toll/HOV	6.0	A	-	27.5	D	-	8.3	A	-	37.4	E	-	8.0	A	-	34.9	D	-
		Green River Road to Auto Center Drive			13.9	B	-	33.7	D	-	-	-	-	-	-	-	-	-	-	-	-	
		Auto Center Drive to Lincoln Avenue			15.6	B	-	27.7	D	-	-	-	-	-	-	-	-	-	-	-	-	
		Lincoln Avenue to Main Street			16.2	B	-	27.7	D	-	-	-	-	-	-	-	-	-	-	-	-	
		Main Street to I-15			13.9	B	-	18.9	B	-	-	-	-	-	-	-	-	-	-	-	-	
		I-15 to Pierce Street			13.7	B	-	18.3	B	-	-	-	-	-	-	-	-	-	-	-	-	
	Pierce Street to Magnolia Avenue	11.1	A		-	15.1	B	-	-	-	-	-	-	-	-	-	-	-	-			
	Green River Road to Main Street	-	-		-	-	-	-	-	-	-	-	-	-	12.1	B	-	36.4	E	-		
	Main Street to McKinley Street	-	-		-	-	-	-	-	-	-	-	-	-	14.8	B	-	18.0	B	-		
	McKinley Street to Pierce Street	-	-		-	-	-	-	-	-	-	-	-	-	16.4	B	-	27.3	D	-		
	SR-241 to Gypsum Canyon Road	General Purpose	> 45	-	1.10	27.1	D	-	> 45.0	F	1.28	27.5	D	-	> 45.0	F	1.08	21.7	C	-		
	Gypsum Canyon Road to Green River Road		> 45	-	1.31	23.8	C	-	> 45.0	F	1.24	25.9	C	-	> 45.0	F	1.32	26.8	D	-		
	Green River Road to SR-71		> 45	-	1.25	33.1	D	-	> 45.0	F	1.36	37.5	E	-	42.3	E	-	24.4	C	-		
	SR-71 to Auto Center Drive		> 45	-	1.23	30.2	D	-	> 45.0	F	1.37	36.8	E	-	42.4	E	-	23.6	C	-		
	Auto Center Drive to Maple Street		> 45	-	1.12	31.0	D	-	> 45.0	F	1.25	39.2	E	-	25.4	C	-	18.8	C	-		
	Maple Street to Lincoln Avenue		> 45	-	1.04	31.1	D	-	> 45.0	F	1.09	37.0	E	-	27.3	D	-	23.3	C	-		
	Lincoln Avenue to Grand Boulevard		44.3	E	-	31.7	D	-	> 45.0	F	1.06	37.9	E	-	23.9	C	-	23.5	C	-		
	Grand Boulevard to Main Street		39.6	E	-	29.3	D	-	-	-	-	-	-	-	-	-	-	-	-			
	Main Street to I-15		> 45	-	1.01	30.0	D	-	> 45.0	F	1.04	34.2	D	-	19.0	C	-	18.4	C	-		
	I-15 to McKinley Street		43.0	E	-	23.2	C	-	43.7	E	-	24.4	C	-	25.5	C	-	18.1	C	-		
	McKinley Street to Pierce Street	> 45	-	1.34	30.7	D	-	> 45.0	F	1.37	34.5	D	-	39.6	E	-	21.3	C	-			
	Pierce Street to Magnolia Avenue	> 45	-	1.22	27.9	D	-	> 45.0	F	1.23	29.1	D	-	> 45.0	F	1.09	26.3	D	-			
	SR-241 to Green River Road	Toll/HOV	19.6	C	-	8.9	A	-	23.4	C	-	12.5	B	-	23.4	C	-	11.2	B	-		
	Green River Road to Auto Center Drive		31.6	D	-	19.6	C	-	-	-	-	-	-	-	-	-	-	-	-			
Auto Center Drive to Grand Boulevard	31.8		D	-	17.8	B	-	-	-	-	-	-	-	-	-	-	-	-				
Grand Boulevard to I-15	16.3		B	-	15.1	B	-	-	-	-	-	-	-	-	-	-	-	-				
I-15 to Pierce Street	15.4		B	-	13.5	B	-	-	-	-	-	-	-	-	-	-	-	-				
Pierce Street to Magnolia Avenue	13.3		B	-	11.6	B	-	16.8	B	-	15.6	B	-	15.9	B	-	19.7	C	-			
Green River Road to Main Street	-		-	-	-	-	-	-	-	-	-	-	-	32.1	D	-	16.1	B	-			
Main Street to Pierce Street	-		-	-	-	-	-	-	-	-	-	-	-	9.9	A	-	18.1	C	-			

Table 3.6.11 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						2015 Initial Phase of Alternative 2						
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	
Interstate 15	Northbound	North of Hidden Valley Parkway	General Purpose	22.3	C	-	24.9	C	-	26.6	D	-	30.3	D	-	31.0	D	-	27.1	D	-	
		Hidden Valley Parkway to SR-91		21.3	C	-	23.8	C	-	26.9	D	-	30.2	D	-	31.6	D	-	26.9	D	-	
		SR-91 to Magnolia Avenue		21.9	C	-	26.7	D	-	28.3	D	-	35.4	E	-	26.1	D	-	30.0	D	-	
		Magnolia Avenue to Ontario Avenue		24.4	C	-	22.9	C	-	31.3	D	-	28.7	D	-	28.7	D	-	24.9	C	-	
		Ontario Avenue to El Cerrito Road		38.6	E	-	29.8	D	-	> 45.0	F	1.16	40.1	E	-	> 45.0	F	1.38	36.0	E	-	
		El Cerrito Road to Cajalco Road		35.4	E	-	29.1	D	-	> 45.0	F	1.12	35.6	E	-	> 45.0	F	1.33	32.6	D	-	
		South of Cajalco Road		30.0	D	-	35.5	E	-	39.5	E	-	33.9	D	-	> 45.0	F	1.16	31.0	D	-	
		North of Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		South of El Cerrito Road		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ontario Avenue to SR-91	-	-	-	-	-	-	-	-	-	-	-	-	40.6	E	-	7.1	A	-	-		
	Southbound	North of Hidden Valley Parkway	General Purpose	26.9	D	-	28.7	D	-	30.0	D	-	34.6	D	-	33.2	D	-	28.1	D	-	
		Hidden Valley Parkway to SR-91		24.2	C	-	27.2	D	-	27.6	D	-	34.2	D	-	30.5	D	-	27.8	D	-	
		SR-91 to Magnolia Avenue		27.7	D	-	31.8	D	-	36.1	E	-	42.5	E	-	28.2	D	-	28.2	D	-	
		Magnolia Avenue to Ontario Avenue		21.7	C	-	28.3	D	-	26.0	C	-	35.3	E	-	20.9	C	-	24.5	C	-	
		Ontario Avenue to El Cerrito Road		19.7	C	-	28.6	D	-	23.5	C	-	37.3	E	-	19.4	C	-	39.6	E	-	
		El Cerrito Road to Cajalco Road		26.1	D	-	> 45	-	1.03	33.4	D	-	> 45.0	F	1.24	26.2	D	-	> 45.0	F	1.28	
		South of Cajalco Road		24.0	C	-	> 45	-	1.06	26.2	D	-	> 45.0	F	1.17	20.9	C	-	> 45.0	F	1.20	
		North of Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South of El Cerrito Road		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ontario Avenue to SR-91	-	-	-	-	-	-	-	-	-	-	-	-	4.8	A	-	35.8	E	-	-			

Source: Traffic Study Report (July 2010).  
 Note: A black box (F) represents a deficient segment.  
 Dir = Direction  
 Fwy = Freeway  
 HOV = high-occupancy vehicle  
 I-15 = Interstate 15  
 LOS = level of service  
 SR-71 = State Route 71  
 SR-91 = State Route 91  
 SR-241 = State Route 241  
 V/C = volume-to-capacity ratio

Table 3.6.12 Freeway Ramp Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Baseline/Existing (2007)								2015 No Build								2015 Initial Phase of Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
<b>Gypsum Canyon Road Interchange on SR-91</b>								<b>Gypsum Canyon Road Interchange on SR-91</b>								<b>Gypsum Canyon Road Interchange on SR-91</b>							
SR-91 EB loop on-ramp	Merge	3,690	190	B	6,960	280	D	SR-91 EB loop on-ramp	Merge	4,000	210	B	8,480	340	C	SR-91 EB loop on-ramp	Merge	3,380	210	B	8,450	350	C
SR-91 WB loop on-ramp	Merge	10,610	70	F	6,720	40	C	SR-91 WB loop on-ramp	Merge	12,390	120	F	7,010	50	D	SR-91 WB loop on-ramp	Merge	13,090	120	F	7,210	50	C
SR-91 EB on-ramp	Merge	5,630	190	C	7,990	290	D	SR-91 EB on-ramp	Merge	6,290	310	C	10,230	670	F	SR-91 EB on-ramp	Merge	5,690	310	B	10,310	690	F
SR-91 WB on-ramp	Merge	8,970	160	F	6,020	110	C	SR-91 WB on-ramp	Merge	10,440	180	F	6,080	120	C	SR-91 WB on-ramp	Merge	13,210	180	F	7,260	130	C
SR-91 EB off-ramp	Diverge	3,800	110	B	7,000	40	D	SR-91 EB off-ramp	Diverge	4,210	210	B	8,590	110	F	SR-91 EB off-ramp	Diverge	3,590	210	B	8,550	100	D
SR-91 WB off-ramp	Diverge	10,830	220	F	6,990	270	C	SR-91 WB off-ramp	Diverge	12,900	510	F	7,500	490	D	SR-91 WB off-ramp	Diverge	13,700	610	F	7,700	490	D
<b>Green River Road Interchange on SR-91</b>								<b>Green River Road Interchange on SR-91</b>								<b>Green River Road Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	5,640	250	B	6,950	200	C	SR-91 EB on-ramp	Merge	5,040	30	B	8,320	10	C	SR-91 EB on-ramp	Merge	5,560	440	C	8,670	260	C
SR-91 WB on-ramp	Merge	10,200	1,270	F	6,600	330	C	SR-91 WB on-ramp	Merge	10,990	2,810	F	6,890	810	C	SR-91 WB on-ramp	Merge	10,080	2,720	F	6,310	790	C
SR-91 EB off-ramp	Diverge	5,820	180	C	8,280	1,330	E	SR-91 EB off-ramp	Diverge	6,600	420	C	10,900	2,270	F	SR-91 EB off-ramp	Diverge	6,000	440	C	11,000	2,330	F
SR-91 WB off-ramp	Diverge	10,400	200	F	7,040	440	D	SR-91 WB off-ramp	Diverge	11,250	260	F	7,530	640	E	SR-91 WB off-ramp	Diverge	10,310	230	E	7,120	810	D
<b>Auto Center Drive Interchange on SR-91</b>								<b>Auto Center Drive Interchange on SR-91</b>								<b>Auto Center Drive Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	5,400	480	C	8,120	560	F	SR-91 EB on-ramp	Merge	5,540	580	C	10,060	730	F	SR-91 EB on-ramp	Merge	4,770	600	B	8,910	680	D
SR-91 WB on-ramp	Merge	9,090	1,080	F	6,320	560	D	SR-91 WB on-ramp	Merge	10,050	1,290	F	6,930	660	D	SR-91 WB on-ramp	Merge	9,000	1,360	E	6,290	700	C
SR-91 EB off-ramp	Diverge	5,980	580	D	8,631	510	F	SR-91 EB off-ramp	Diverge	6,320	780	D	10,650	590	F	SR-91 EB off-ramp	Diverge	5,570	800	C	9,490	580	E
SR-91 WB off-ramp	Diverge	9,300	210	F	6,680	360	D	SR-91 WB off-ramp	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Maple Street Interchange on SR-91</b>								<b>Maple Street Interchange on SR-91</b>								<b>Maple Street Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,500	330	C	7,810	250	D	SR-91 EB on-ramp	Merge	5,070	370	C	10,020	420	F	SR-91 EB on-ramp	Merge	4,420	380	B	8,160	430	C
SR-91 WB loop on-ramp	Merge	8,440	1,130	F	6,310	590	D	SR-91 WB loop on-ramp	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
SR-91 WB on-ramp	Merge	NA	NA	NA	NA	NA	NA	SR-91 WB on-ramp	Merge	8,810	1,450	F	6,820	810	D	SR-91 WB on-ramp	Merge	7,490	1,510	D	5,430	860	C
SR-91 EB off-ramp	Diverge	5,390	890	D	8,970	1,160	F	SR-91 EB off-ramp	Diverge	6,020	950	D	11,390	1,370	F	SR-91 EB off-ramp	Diverge	5,370	950	C	9,590	1,430	E
SR-91 WB off-ramp	Diverge	8,640	200	F	6,690	380	D	SR-91 WB off-ramp	Diverge	9,030	220	F	7,420	600	E	SR-91 WB off-ramp	Diverge	7,940	450	D	6,710	1,280	D
<b>Lincoln Avenue Interchange on SR-91</b>								<b>Lincoln Avenue Interchange on SR-91</b>								<b>Lincoln Avenue Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,510	560	C	7,320	640	D	SR-91 EB on-ramp	Merge	4,880	1,030	D	9,220	840	F	SR-91 EB on-ramp	Merge	4,040	1,050	C	7,220	930	D
SR-91 WB on-ramp	Merge	7,900	880	F	6,170	390	D	SR-91 WB on-ramp	Merge	8,310	1,020	F	6,860	460	D	SR-91 WB on-ramp	Merge	6,640	1,300	D	6,000	710	C
SR-91 EB loop off-ramp	Diverge	4,810	300	C	8,090	770	E	SR-91 EB loop off-ramp	Diverge	5,440	560	C	10,340	1,120	F	SR-91 EB loop off-ramp	Diverge	4,800	760	C	8,590	1,370	E
SR-91 WB off-ramp	Diverge	8,290	390	E	6,780	610	D	SR-91 WB off-ramp	Diverge	8,760	450	F	7,510	650	E	SR-91 WB off-ramp	Diverge	7,090	450	C	6,770	770	C
<b>Grand Boulevard Interchange on SR-91</b>								<b>Grand Boulevard Interchange on SR-91</b>								<b>Grand Boulevard Interchange on SR-91</b>							
SR-91 WB on-ramp	Merge	7,905	510	D	6,420	400	D	SR-91 WB on-ramp	Merge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
SR-91 EB off-ramp	Diverge	5,070	250	C	8,000	430	E	SR-91 EB off-ramp	Diverge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<b>Main Street Interchange on SR-91</b>								<b>Main Street Interchange on SR-91</b>								<b>Main Street Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,530	740	C	7,250	1,010	D	SR-91 EB on-ramp	Merge	4,620	1,120	D	8,620	1,570	F	SR-91 EB on-ramp	Merge	5,670	1,420	D	5,300	1,470	D
SR-91 WB on-ramp	Merge	7,560	700	D	5,650	800	D	SR-91 WB on-ramp	Merge	7,540	910	E	5,970	1,080	D	SR-91 WB on-ramp	Merge	5,090	1,120	C	6,590	1,560	D
SR-91 EB off-ramp	Diverge	4,820	290	C	7,570	320	D	SR-91 EB off-ramp	Diverge	5,530	910	D	9,450	830	F	SR-91 EB off-ramp	Diverge	1,510	920	B	3,900	1,160	C
SR-91 WB off-ramp	Diverge	8,400	840	B	6,530	880	A	SR-91 WB off-ramp	Diverge	8,630	1,090	F	7,110	1,140	B	SR-91 WB off-ramp	Diverge	4,410	680	C	2,130	660	B
<b>McKinley Street Interchange on SR-91</b>								<b>McKinley Street Interchange on SR-91</b>								<b>McKinley Street Interchange on SR-91</b>							
SR-91 EB loop on-ramp	Merge	3,180	610	C	6,130	810	F	SR-91 EB loop on-ramp	Merge	2,800	660	C	7,250	820	F	SR-91 EB loop on-ramp	Merge	3,270	690	C	6,210	890	D
SR-91 EB on-ramp	Merge	3,780	380	C	6,790	590	F	SR-91 EB on-ramp	Merge	3,260	530	C	7,670	620	F	SR-91 EB on-ramp	Merge	3,860	570	C	6,530	660	D
SR-91 WB on-ramp	Merge	7,385	860	D	4,110	1,250	D	SR-91 WB on-ramp	Merge	7,140	1,160	E	4,230	1,370	D	SR-91 WB on-ramp	Merge	6,340	1,290	D	3,760	1,590	C
SR-91 EB off-ramp	Diverge	4,270	1,090	A	7,440	1,310	B	SR-91 EB off-ramp	Diverge	4,130	1,330	A	8,770	1,520	F	SR-91 EB off-ramp	Diverge	4,790	1,520	A	8,190	1,980	B
SR-91 WB loop off-ramp	Diverge	7,610	480	F	4,160	200	C	SR-91 WB loop off-ramp	Diverge	7,660	820	F	4,440	360	D	SR-91 WB loop off-ramp	Diverge	7,090	850	D	4,040	380	B
SR-91 WB off-ramp	Diverge	8,350	740	F	4,990	830	D	SR-91 WB off-ramp	Diverge	8,530	870	F	5,360	920	D	SR-91 WB off-ramp	Diverge	7,970	880	E	4,920	880	C
<b>Pierce Street Interchange on SR-91</b>								<b>Pierce Street Interchange on SR-91</b>								<b>Pierce Street Interchange on SR-91</b>							
SR-91 WB on-ramp	Merge	7,590	890	F	4,260	840	D	SR-91 WB on-ramp	Merge	7,660	970	F	4,440	920	D	SR-91 WB on-ramp	Merge	6,770	920	F	4,202	900	D
SR-91 EB off-ramp	Diverge	4,160	710	C	7,380	1,140	F	SR-91 EB off-ramp	Diverge	3,790	750	C	8,290	1,220	F	SR-91 EB off-ramp	Diverge	4,430	740	C	7,190	1,280	E
<b>Magnolia Avenue Interchange on SR-91</b>								<b>Magnolia Avenue Interchange on SR-91</b>								<b>Magnolia Avenue Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	3,440	590	C	6,240	760	F	SR-91 EB on-ramp	Merge	2,900	640	C	6,870	820	F	SR-91 EB on-ramp	Merge	3,340	650	C	5,520	840	F
SR-91 WB on-ramp	Merge	7,430	160	F	4,010	250	C	SR-91 WB on-ramp	Merge	7,360	300	F	4,080	360	C	SR-91 WB on-ramp	Merge	6,450	320	F	3,590	430	C
SR-91 EB loop off-ramp	Diverge	3,600	160	C	6,430	190	F	SR-91 EB loop off-ramp	Diverge	3,140	240	C	7,170	300	F	SR-91 EB loop off-ramp	Diverge	3,690	350	C	5,910	390	D
SR-91 WB loop off-ramp	Diverge	7,940	510	F	4,440	430	D	SR-91 WB loop off-ramp	Diverge	7,920	560	F	4,550	470	D	SR-91 WB loop off-ramp	Diverge	7,010	560	F	4,060	470	C
<b>Second Street Interchange on I-15</b>								<b>Second Street Interchange on I-15</b>								<b>Second Street Interchange on I-15</b>							
I-15 NB off-ramp	Diverge	4,780	1,090	C	5,310	640	C	I-15 NB off-ramp	Diverge	5,630	1,130	D	6,230	710	D	I-15 NB off-ramp	Diverge	6,340	1,130	E	5,730	710	D
I-15 SB on-ramp	Merge	5,250	430	C	5,360	630	D	I-15 SB on-ramp	Merge	5,680	510	D	6,070	710	D	I-15 SB on-ramp	Merge	6,120	510	D	5,190	710	C

Table 3.6.12 Freeway Ramp Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Baseline/Existing (2007)								2015 No Build								2015 Initial Phase of Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
<b>Hidden Valley Parkway Interchange on I-15</b>								<b>Hidden Valley Parkway Interchange on I-15</b>								<b>Hidden Valley Parkway Interchange on I-15</b>							
I-15 NB on-ramp	Merge	4,080	700	C	4,550	760	C	I-15 NB on-ramp	Merge	4,870	760	C	5,350	880	D	I-15 NB on-ramp	Merge	5,580	760	D	4,840	890	D
I-15 SB on-ramp	Merge	4,890	400	C	5,290	540	C	I-15 SB on-ramp	Merge	5,290	610	C	6,040	770	D	I-15 SB on-ramp	Merge	5,730	610	C	5,160	780	D
I-15 NB off-ramp	Diverge	4,680	600	C	5,210	660	C	I-15 NB off-ramp	Diverge	5,790	920	D	6,300	950	D	I-15 NB off-ramp	Diverge	6,500	920	D	5,790	950	D
I-15 SB off-ramp	Diverge	5,680	790	D	5,990	700	C	I-15 SB off-ramp	Diverge	6,190	900	D	6,780	740	E	I-15 SB off-ramp	Diverge	6,630	900	E	5,900	740	D
<b>Magnolia Avenue Interchange on I-15</b>								<b>Magnolia Avenue Interchange on I-15</b>								<b>Magnolia Avenue Interchange on I-15</b>							
I-15 NB on-ramp	Merge	4,440	580	C	4,750	1,280	D	I-15 NB on-ramp	Merge	6,090	230	C	6,920	430	D	I-15 NB on-ramp	Merge	5,690	240	C	6,180	430	D
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,430	660	C	5,880	1,040	D	I-15 NB loop on-ramp	Merge	5,030	660	C	5,140	1,040	D
I-15 SB on-ramp	Merge	4,610	480	C	5,550	880	D	I-15 SB on-ramp	Merge	5,480	520	C	6,240	1,160	D	I-15 SB on-ramp	Merge	4,370	530	C	4,530	1,170	D
I-15 NB off-ramp	Diverge	5,690	1,250	D	5,360	610	C	I-15 NB off-ramp	Diverge	6,900	1,470	E	6,500	620	D	I-15 NB off-ramp	Diverge	6,500	1,470	E	5,800	660	D
I-15 SB off-ramp	Diverge	6,220	1,610	E	6,890	1,340	E	I-15 SB off-ramp	Diverge	7,420	1,940	F	8,010	1,770	F	I-15 SB off-ramp	Diverge	6,310	1,940	F	6,310	1,780	F
<b>Ontario Avenue Interchange on I-15</b>								<b>Ontario Avenue Interchange on I-15</b>								<b>Ontario Avenue Interchange on I-15</b>							
I-15 NB on-ramp	Merge	4,930	760	C	5,560	800	D	I-15 NB on-ramp	Merge	6,110	790	D	5,480	1,020	D	I-15 NB on-ramp	Merge	7,530	1,100	F	5,160	1,070	D
I-15 SB on-ramp	Merge	3,970	530	C	5,540	840	D	I-15 SB on-ramp	Merge	4,780	600	C	6,470	1,080	D	I-15 SB on-ramp	Merge	3,540	610	C	4,670	1,100	D
I-15 NB off-ramp	Diverge	5,890	960	D	5,020	460	D	I-15 NB off-ramp	Diverge	7,290	1,180	F	6,000	520	D	I-15 NB off-ramp	Diverge	8,700	1,170	F	5,680	520	D
I-15 SB off-ramp	Diverge	5,090	1,120	C	6,430	890	D	I-15 SB off-ramp	Diverge	6,000	1,220	D	7,400	930	E	I-15 SB off-ramp	Diverge	4,900	1,360	D	5,700	1,030	D
<b>EI Cerrito Road Interchange on I-15</b>								<b>EI Cerrito Road Interchange on I-15</b>								<b>EI Cerrito Road Interchange on I-15</b>							
I-15 NB on-ramp	Merge	5,370	520	D	4,700	320	D	I-15 NB on-ramp	Merge	6,650	640	F	5,410	590	E	I-15 NB on-ramp	Merge	8,000	700	F	5,120	560	D
I-15 SB on-ramp	Merge	4,280	220	C	5,800	690	F	I-15 SB on-ramp	Merge	5,140	300	D	6,910	910	F	I-15 SB on-ramp	Merge	4,210	310	C	7,170	910	F
I-15 NB off-ramp	Diverge	5,630	260	D	4,940	240	D	I-15 NB off-ramp	Diverge	7,040	390	F	5,650	250	D	I-15 NB off-ramp	Diverge	8,410	410	F	5,360	240	D
I-15 SB off-ramp	Diverge	4,500	220	C	6,380	580	D	I-15 SB off-ramp	Diverge	5,380	240	C	7,550	640	E	I-15 SB off-ramp	Diverge	4,440	230	C	7,770	600	E
<b>Cajalco Road Interchange on I-15</b>								<b>Cajalco Road Interchange on I-15</b>								<b>Cajalco Road Interchange on I-15</b>							
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,150	620	D	4,340	480	D	I-15 NB loop on-ramp	Merge	6,520	630	F	4,050	490	C
I-15 NB on-ramp	Merge	4,840	790	D	4,280	660	D	I-15 NB on-ramp	Merge	5,770	1,270	F	4,820	830	D	I-15 NB on-ramp	Merge	7,300	1,260	F	4,540	820	D
I-15 SB loop on-ramp	Merge	4,020	140	C	5,870	790	F	I-15 SB loop on-ramp	Merge	4,360	150	C	6,200	1,140	F	I-15 SB loop on-ramp	Merge	3,450	160	C	6,470	1,120	F
I-15 NB off-ramp	Diverge	5,050	210	D	4,640	360	D	I-15 NB off-ramp	Diverge	5,960	810	D	5,490	1,150	D	I-15 NB off-ramp	Diverge	7,300	780	F	5,170	1,120	D
I-15 SB off-ramp	Diverge	4,500	480	C	6,490	610	F	I-15 SB off-ramp	Diverge	5,440	1,080	D	7,820	1,620	F	I-15 SB off-ramp	Diverge	4,520	1,070	D	8,080	1,610	F
<b>SR-91/SR-241 Connectors</b>								<b>SR-91/SR-241 Connectors</b>								<b>SR-91/SR-241 Connectors</b>							
SR-91 WB to SR-241 SB	Diverge	10,830	1,710	F	6,990	740	B	SR-91 WB to SR-241 SB	Diverge	12,900	2,070	F	7,500	980	C	SR-91 WB to SR-241 SB	Diverge	13,700	2,220	F	7,700	980	C
SR-241 NB to SR-91 EB	Merge	5,070	750	B	6,530	1,750	C	SR-241 NB to SR-91 EB	Merge	5,190	1,410	B	8,820	2,080	F	SR-241 NB to SR-91 EB	Merge	4,490	1,510	C	8,900	2,100	F
<b>SR-91/SR-71 Connectors</b>								<b>SR-91/SR-71 Connectors</b>								<b>SR-91/SR-71 Connectors</b>							
SR-71 SB to SR-91 EB	Merge	4,900	670	B	7,300	1,520	F	SR-71 SB to SR-91 EB	Merge	5,070	1,250	C	8,330	1,920	D	SR-71 SB to SR-91 EB	Merge	4,300	1,270	B	7,450	2,040	D
SR-71 SB to SR-91 WB	Merge	8,990	1,210	F	5,930	1,210	D	SR-71 SB to SR-91 WB	Merge	9,480	1,770	F	5,960	1,570	D	SR-71 SB to SR-91 WB	Merge	8,610	1,700	E	5,580	1,540	D
SR-91 EB to SR-71 NB	Diverge	5,810	910	C	8,780	1,480	E	SR-91 EB to SR-71 NB	Diverge	6,180	1,620	D	8,630	1,940	F	SR-91 EB to SR-71 NB	Diverge	3,100	1,200	C	6,070	1,380	D
SR-91 WB to SR-71 NB	Diverge	10,180	1,260	C	6,880	950	B	SR-91 WB to SR-71 NB	Diverge	11,340	1,660	F	7,490	1,430	B	SR-91 WB to SR-71 NB	Diverge	10,360	1,750	C	6,990	1,410	B
<b>SR-91/I-15 Connectors</b>								<b>SR-91/I-15 Connectors</b>								<b>SR-91/I-15 Connectors</b>							
I-15 NB to SR-91 EB	Merge	2,740	1,530	D	6,110	1,330	F	I-15 NB to SR-91 EB	Merge	2,450	1,680	D	7,350	1,420	F	I-15 NB to SR-91 EB	Merge	2,990	2,680	D	1,500	3,800	D
I-15 NB to SR-91 WB	Merge	6,610	1,830	E	4,380	2,150	E	I-15 NB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA	I-15 NB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA
I-15 SB to SR-91 EB	Merge	1,810	910	B	4,915	1,010	E	I-15 SB to SR-91 EB	Merge	NA	NA	NA	NA	NA	NA	I-15 SB to SR-91 EB	Merge	NA	NA	NA	NA	NA	NA
I-15 SB to SR-91 WB	Merge	5,495	1,450	F	2,650	1,780	C	I-15 SB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA	I-15 SB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA
I-15 NB/SB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA	I-15 NB/SB to SR-91 WB	Merge	6,360	2,270	F	4,620	2,490	E	I-15 NB/SB to SR-91 WB	Merge	4,060	1,630	D	7,830	1,490	F
I-15 SB to SR-91 EB	Merge	NA	NA	NA	NA	NA	NA	I-15 SB to SR-91 EB	Merge	1,450	1,000	B	4,870	1,110	E	I-15 SB to SR-91 EB	Merge	3,060	1,000	C	6,720	1,110	E
SR-91 EB to I-15 NB/SB	Diverge	5,370	3,560	F	8,715	3,560	F	SR-91 EB to I-15 NB/SB	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB to I-15 NB/SB	Diverge	3,970	2,460	B	6,590	2,690	C
SR-91 WB to I-15 NB/SB	Diverge	8,245	2,750	F	5,360	2,710	C	SR-91 WB to I-15 NB/SB	Diverge	NA	NA	NA	NA	NA	NA	SR-91 WB to I-15 NB/SB	Diverge	7,630	3,220	D	5,350	3,220	C
I-15 NB Toll to SR-91 WB Toll	Merge	NA	NA	NA	NA	NA	NA	I-15 NB Toll to SR-91 WB Toll	Merge	NA	NA	NA	NA	NA	NA	I-15 NB Toll to SR-91 WB Toll	Merge	1,770	2,130	F	1,570	430	D
SR-91 EB Toll to I-15 SB Toll	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB Toll to I-15 SB Toll	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB Toll to I-15 SB Toll	Diverge	1,500	290	B	4,200	2,000	F

Source: Traffic Study Report (July 2010).  
 Note: A black box (F) represents a deficient segment.  
 EB = eastbound SR-241 = State Route 241  
 I-15 = Interstate 15 SR-71 = State Route 71  
 LOS = levels of service SR-91 = State Route 91  
 NB = northbound WB = westbound  
 SB = southbound

**Table 3.6.13 Intersection Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2**

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				2015 Initial Phase of Alternative 2			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Gypsum Canyon Road	Gypsum Canyon Road/SR-91 WB off-ramp	11.4	B	12.9	B	15.5	B	31.4	C	22.6	C	28.9	C
	Gypsum Canyon Road/SR-91 EB off-ramp	10.1	B	9.2	A	15.0	C	10.6	B	14.9	C	10.6	B
Green River Road	Green River Road/SR-91 WB ramps	172.1	<b>F</b>	12.3	B	62.6	<b>E</b>	25.8	C	68.9	<b>E</b>	31.8	C
	Green River Road/SR-91 EB ramps	12.1	B	14.6	B	29.7	C	96.6	<b>F</b>	29.5	C	114.9	<b>F</b>
Auto Center Drive <sup>1</sup>	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	15.5	B	19.4	B	17.2	B	20.7	C
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	31.9	C	18.6	B	30.2	C	16.6	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	20.1	C	17.1	B	22.4	C	14.5	B
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	14.9	B	19.3	B	17.0	B	18.9	B
Maple Street <sup>1</sup>	Maple Street/Pomona Road	9.3	A	9.6	A	33.4	C	41.4	D	46.0	D	39.4	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	21.9	C	30.0	C	17.6	B	15.8	B
	Maple Street/SR-91 EB ramps	21.9	C	137.4	<b>F</b>	23.9	C	87.0	<b>F</b>	21.6	C	37.4	D
	Paseo Grande Road/Maple Street	27.5	C	104.5	<b>F</b>	32.4	C	41.6	D	29.1	C	47.1	D
Lincoln Avenue <sup>2</sup>	SR-91 WB ramps/Pomona Road	220.6	<b>F</b>	26.4	C	-	-	-	-	-	-	-	-
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	27.1	C	22.3	C	70.3	<b>E</b>	24.3	C
	Lincoln Avenue/SR-91 WB ramps	-	-	-	-	36.6	D	34.4	C	18.5	B	14.2	B
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	<b>F</b>	24.9	C	141.9	<b>F</b>	93.5	<b>F</b>	104.3	<b>F</b>
	Lincoln Avenue/Hotel Access	-	-	-	-	-	-	-	-	12.8	B	17.8	B
Main Street <sup>3</sup>	Lincoln Avenue/D Street	14.1	B	18.7	B	20.2	C	24.9	C	21.1	C	23.2	C
	Main Street/Grand Boulevard	-	-	-	-	32.3	C	71.7	<b>E</b>	30.9	C	74.3	<b>E</b>
	Main Street/SR-91 WB ramps	36.9	D	41.5	D	29.3	C	87.9	<b>F</b>	24.4	C	73.5	<b>E</b>
	Main Street/SR-91 EB ramps	10.2	B	18.0	B	14.5	B	20.0	B	16.9	B	33.7	C
McKinley Street	Main Street/Third Street	22.4	C	27.3	C	45.7	D	29.9	C	60.5	<b>E</b>	41.0	D
	McKinley Street/Griffin Way	36.0	D	174.9	<b>F</b>	26.6	C	48.4	D	29.1	C	53.2	D
	McKinley Street/SR-91 WB on-ramp	11.7	B	13.4	B	21.0	C	13.8	B	28.2	C	13.3	B
	McKinley Street/SR-91 EB off-ramp	18.0	B	24.2	C	16.2	B	21.7	C	12.9	B	21.9	C
Pierce Street	McKinley Street/Sampson Avenue	28.7	C	93.8	<b>F</b>	35.4	D	40.2	D	25.3	C	39.2	D
	Pierce Street/SR-91 WB on-ramp	14.4	B	14.7	B	14.6	B	12.1	B	13.3	B	11.3	B
	Pierce Street/SR-91 EB off-ramp	10.5	B	13.8	B	9.7	A	18.8	B	9.4	A	17.3	B
Second Street	Pierce Street/Magnolia Avenue	32.2	C	105.5	<b>F</b>	33.1	C	61.9	<b>E</b>	31.1	C	57.1	<b>E</b>
	Hamner Avenue/Second Street	49.6	D	73.6	E	34.0	C	30.4	C	34.0	C	30.4	C
	I-15 SB ramps/Second Street	11.5	B	10.9	B	12.4	B	8.8	A	12.6	B	8.8	A
Hidden Valley Parkway	I-15 NB ramps/Second Street	77.6	E	175.7	<b>F</b>	35.5	D	38.9	D	35.7	D	38.9	D
	Hamner Avenue/Hidden Valley Parkway	63.5	E	145.3	<b>F</b>	39.3	D	85.5	<b>F</b>	40.8	D	90.6	<b>F</b>
	I-15 SB off-ramp/Hidden Valley Parkway	44.5	D	154.4	<b>F</b>	31.9	C	27.3	C	27.9	C	28.2	C
	I-15 SB on-ramp/Hidden Valley Parkway	2.4	A	7.7	A	4.7	A	7.6	A	5.0	A	9.0	A
	I-15 NB on-ramp/Hidden Valley Parkway	5.2	A	7.0	A	3.4	A	11.3	B	5.6	A	11.2	B
Magnolia Avenue	I-15 NB off-ramp/Hidden Valley Parkway	59.5	E	18.1	B	26.8	C	23.6	C	22.2	C	25.5	C
	Garland Way/Hidden Valley Parkway	102.2	<b>F</b>	87.3	<b>F</b>	20.3	C	26.2	C	19.3	B	24.1	C
	Rimpau Avenue/Magnolia Avenue	97.4	<b>F</b>	84.3	<b>F</b>	44.0	D	47.1	D	39.5	D	44.1	D
	El Sobrante Road/Magnolia Avenue	168.0	<b>F</b>	65.4	E	26.2	C	28.9	C	20.4	C	29.5	C
	I-15 SB ramps/Magnolia Avenue	63.9	E	64.3	E	31.2	C	54.9	D	34.8	C	53.0	D
Compton Avenue/El Camino Avenue/Magnolia Avenue	I-15 NB ramps/Magnolia Avenue	36.4	D	43.9	D	14.5	B	9.8	A	16.8	B	8.0	A
	Compton Avenue/El Camino Avenue/Magnolia Avenue	55.0	D	22.5	C	19.8	B	48.6	D	24.1	C	23.5	C

**Table 3.6.13 Intersection Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2**

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				2015 Initial Phase of Alternative 2			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Ontario Avenue	Compton Avenue/Ontario Avenue	4.1	A	6.0	A	7.3	A	12.5	B	8.9	A	13.0	B
	I-15 SB ramps/Ontario Avenue	35.6	D	29.1	C	79.1	<b>E</b>	38.1	D	81.7	<b>F</b>	47.2	D
	I-15 NB ramps/Ontario Avenue	32.1	C	41.5	D	48.9	D	16.2	B	48.1	D	16.0	B
El Cerrito Road	Bedford Canyon Road/El Cerrito Road	13.3	B	53.2	D	16.5	B	29.6	C	16.0	B	30.7	C
	I-15 NB ramps/El Cerrito Road	14.2	B	10.7	B	19.9	B	23.2	C	20.1	C	24.3	C
	I-15 SB ramps/El Cerrito Road	7.3	A	11.7	B	8.8	A	11.1	B	9.1	A	12.0	B
Cajalco Road	Bedford Canyon Road/Cajalco Road	9.8	A	72.2	E	11.3	B	47.9	D	13.7	B	45.0	D
	I-15 SB ramps/Cajalco Road	14.3	B	243.2	<b>F</b>	15.4	B	23.6	C	18.4	B	26.6	C
	I-15 NB ramps/Cajalco Road	48.1	D	71.7	E	6.0	A	10.3	B	6.4	A	8.5	A
	Grand Oaks/Cajalco Road	13.6	B	112.9	<b>F</b>	21.9	C	16.6	B	20.3	C	18.8	B

Source: Traffic Study Report (July 2010).

Note 1: A black box (**F**) represents a deficient segment.

Note 2: Per the City of Corona Traffic Impact Study Guidelines, LOS E is permitted at several ramp intersections.

<sup>1</sup> Geometric assumptions represent EB braids and WB split-diamond configuration.

<sup>2</sup> Geometric assumptions represent diamond configuration.

<sup>3</sup> Geometric assumptions represent the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 for vehicles exiting at Main Street.

EB = eastbound

I-15 = Interstate 15

LOS = levels of service

NB = northbound

SB = southbound

sec = seconds

SR-91 = State Route 91

WB = westbound

**Table 3.6.14 Auto Center Drive/Maple Street Design Variation 2015 Intersection Analysis**

Arterial	Intersection	Baseline/Existing (2007)				2015 Base Condition (Diamond)				2015 Design Variation (Connector)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Auto Center Drive	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	18.1	B	20.7	C	17.5	B	19.0	B
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	36.4	D	16.2	B	40.0	D	17.6	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	25.2	C	14.4	B	24.5	C	14.6	B
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	16.9	B	18.6	B	16.3	B	19.0	B
Maple Street	Maple Street/Pomona Road	9.3	A	9.6	A	46.3	D	37.2	D	41.3	D	36.9	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	11.2	B	25.8	C	8.4	A	32.8	C
	Maple Street/SR-91 EB ramps (and WB on-ramp)	21.9	C	137.4	<b>F</b>	22.5	C	37.4	D	28.0	C	82.7	<b>F</b>
	Paseo Grande (SR-91 EB on-ramp)/Maple Street	27.5	C	104.5	<b>F</b>	29.3	C	49.8	D	26.5	C	49.3	D

Source: *Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

EB = eastbound

SR-91 = State Route 91

LOS = level of service

WB = westbound

sec = seconds

**Table 3.6.15 Lincoln Avenue Design Variation 2015 Intersection Analysis**

Arterial	Intersection	Baseline/Existing (2007)				2015 Base Condition (Diamond)				2015 Design Variation (Hook)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Lincoln Avenue	SR-91 WB ramps/Pomona Road	220.6	<b>F</b>	26.4	C	NA				NA			
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	18.9	B	13.5	B	20.9	C	14.6	B
	Lincoln Avenue/SR-91 WB ramps	NA				70.0	E	28.0	C	60.1	E	29.6	C
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	<b>F</b>	92.6	<b>F</b>	105.5	<b>F</b>	NA			
	Lincoln Avenue/Hotel Access	NA				12.8	B	17.9	C	9.7	A	11.3	B
	Lincoln Avenue/D Street	14.1	B	18.7	B	23.1	C	28.0	C	83.5	<b>F</b>	206.3	<b>F</b>
	SR-91 EB ramps/D Street	NA				NA				23.1	C	88.0	<b>F</b>

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (**F**) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

sec = seconds

LOS = level of service

SR-91 = State Route 91

NA = not applicable

WB = westbound

**Table 3.6.16 2015 Alternative 2 Mid-City Access Design Variation with  
Base Assumptions at Maple  
Street and Lincoln Avenue Intersection Analysis**

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	46.3	D	37.2	D	41.2	D	37.3	D
	Maple Street/SR-91 WB ramps	11.2	B	25.8	C	11.8	B	25.6	C
	Maple Street/SR-91 EB ramps	22.5	C	37.4	D	19.3	B	37.2	D
	Sixth Street/Paseo Grande	30.7	C	49.8	D	27.6	C	51.1	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	A	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	F	59.8	E	84.8	F
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.9	B	13.5	B	19.2	B	13.9	B
	Lincoln Avenue/SR-91 WB ramps	70.0	E	28.0	C	56.3	E	24.8	C
	Lincoln Avenue/SR-91 EB ramps	92.6	F	105.5	F	79.9	E	88.5	F
	Lincoln Avenue/Hotel Access	12.8	B	17.9	C	12.8	B	17.0	C
	Lincoln Avenue/D Street	23.1	C	28.0	C	21.9	C	22.5	C

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

sec = seconds

LOS = level of service

SR-91 = State Route 91

NA = not applicable

WB = westbound

**Table 3.6.17 2015 Alternative 2 Mid-City Access Design Variation with  
Maple Street Design Variation and  
Base Assumptions at Lincoln Avenue Intersection Analysis**

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	41.1	D	36.9	D	37.9	D	36.8	D
	Maple Street/SR-91 WB ramps	8.4	A	32.8	C	8.1	B	31.5	C
	Maple Street/SR-91 EB ramps	28.2	C	82.7	F	23.1	C	67.2	E
	Sixth Street/Paseo Grande	27.0	C	49.3	D	24.6	C	49.0	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	B	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	F	59.8	E	84.8	F
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.9	B	13.5	B	19.2	B	13.9	B
	Lincoln Avenue/SR-91 WB ramps	70.0	E	28.0	C	56.3	E	24.8	C
	Lincoln Avenue/SR-91 EB ramps	92.6	F	105.5	F	79.9	E	88.5	F
	Lincoln Avenue/Hotel Access	12.8	B	17.9	C	12.8	B	17.0	C
	Lincoln Avenue/D Street	23.1	C	28.0	C	21.9	C	22.5	C

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

sec = seconds

LOS = level of service

SR-91 = State Route 91

NA = not applicable

WB = westbound

**Table 3.6.18 2015 Alternative 2 Mid-City Access Design Variation with  
Base Assumption at Maple Street  
and Lincoln Avenue Design Variation Intersection Analysis**

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	46.3	D	37.2	D	41.2	D	37.3	D
	Maple Street/SR-91 WB ramps	11.2	B	25.8	C	11.8	B	25.6	C
	Maple Street/SR-91 EB ramps	22.5	C	37.4	D	19.3	B	37.2	D
	Sixth Street/Paseo Grande	29.3	C	49.8	D	27.6	C	51.1	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	B	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	F	59.8	E	84.8	F
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.9	C	14.6	B	21.3	C	13.6	B
	Lincoln Avenue/SR-91 WB ramps	60.1	E	29.6	C	48.1	D	28.6	C
	Lincoln Avenue/Hotel Access	9.7	A	11.3	A	9.7	A	11.0	B
	Lincoln Avenue/D Street	83.5	F	206.3	F	37.2	D	188.4	F
	SR-91 EB ramps/D Street	23.1	C	93.1	F	23.1	C	75.7	E

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

sec = seconds

LOS = level of service

SR-91 = State Route 91

NA = not applicable

WB = westbound

**Table 3.6.19 2015 Alternative 2 Mid-City Access Design Variation with  
Maple Street and Lincoln  
Avenue Design Variation Intersection Analysis**

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	41.1	D	36.9	D	37.9	D	36.8	D
	Maple Street/SR-91 WB ramps	8.4	A	32.8	C	8.1	B	31.5	C
	Maple Street/SR-91 EB ramps	28.2	C	82.7	F	23.1	C	67.2	E
	Sixth Street/Paseo Grande	27.0	C	49.3	D	24.6	C	49.0	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	B	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	F	59.8	E	84.8	F
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.9	C	14.6	B	21.3	C	13.6	B
	Lincoln Avenue/SR-91 WB ramps	60.1	E	29.6	C	48.1	D	28.6	C
	Lincoln Avenue/Hotel Access	9.7	A	11.3	A	9.7	A	11.0	A
	Lincoln Avenue/D Street	83.5	F	206.3	F	37.2	D	188.4	F
	SR-91 EB ramps/D Street	23.1	C	93.1	F	23.1	C	75.7	E

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

sec = seconds

LOS = level of service

SR-91 = State Route 91

NA = not applicable

WB = westbound

**Table 3.6.20 Baseline/Existing (2007), 2035 No Build, and 2035 Alternative 1 and 2  
Daily VMT, VHT, and VHD**

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
<b>SR-91 Corridor</b>						
Vehicle Miles Traveled	Baseline/Existing (2007)	352,459	6,593,112	526,828	3,530,753	11,003,152
	Design Year 2035 No Build	2,268,016	8,791,080	809,551	4,955,412	16,824,059
	Design Year 2035 Alt 1	2,254,001	8,984,463	800,456	4,889,419	16,928,339
	Design Year 2035 Alt 2	2,841,632	9,080,879	206,531	4,855,904	16,984,946
Vehicle Hours Traveled	Baseline/Existing (2007)	5,844	185,177	13,093	130,574	334,688
	Design Year 2035 No Build	59,412	301,707	24,448	198,378	583,945
	Design Year 2035 Alt 1	57,327	300,277	22,233	192,082	571,919
	Design Year 2035 Alt 2	70,315	299,697	4,286	188,497	562,795
Vehicle Hours of Delay	Baseline/Existing (2007)	209	79,689	5,002	15,823	100,723
	Design Year 2035 No Build	24,527	152,424	12,005	35,135	224,091
	Design Year 2035 Alt 1	22,669	147,098	9,935	31,143	210,845
	Design Year 2035 Alt 2	26,610	144,976	1,130	28,702	201,418
<b>Remainder of Region</b>						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,317,992	208,815,843	12,198,974	170,853,518	394,186,327
	Design Year 2035 No Build	4,530,720	272,409,609	30,710,949	234,000,304	541,651,597
	Design Year 2035 Alt 1	4,574,690	272,221,085	30,729,835	233,745,301	541,270,911
	Design Year 2035 Alt 2	4,594,468	272,257,932	30,786,381	233,785,857	541,424,638
Vehicle Hours Traveled	Baseline/Existing (2007)	41,781	5,213,597	254,996	6,736,555	12,246,929
	Design Year 2035 No Build	81,186	8,268,888	904,155	10,152,197	19,406,426
	Design Year 2035 Alt 1	81,694	8,257,049	909,831	10,084,771	19,333,345
	Design Year 2035 Alt 2	82,153	8,229,504	916,211	10,113,773	19,341,641
Vehicle Hours of Delay	Baseline/Existing (2007)	4,498	1,832,605	67,773	641,528	2,546,404
	Design Year 2035 No Build	9,366	3,887,982	435,322	1,917,861	6,250,531
	Design Year 2035 Alt 1	9,203	3,879,373	440,758	1,861,539	6,190,873
	Design Year 2035 Alt 2	9,356	3,851,243	446,300	1,887,601	6,194,500
<b>Region</b>						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,670,451	215,408,955	12,725,802	174,384,271	405,189,479
	Design Year 2035 No Build	6,798,745	281,200,689	31,520,500	238,955,716	558,475,650
	Design Year 2035 Alt 1	6,828,691	281,205,548	31,530,291	238,634,720	558,199,250
	Design Year 2035 Alt 2	7,436,100	281,338,811	30,992,912	238,641,761	558,409,584
Vehicle Hours Traveled	Baseline/Existing (2007)	47,625	5,398,774	268,089	6,867,129	12,581,617
	Design Year 2035 No Build	140,598	8,570,595	928,603	10,350,575	19,990,371
	Design Year 2035 Alt 1	139,021	8,557,326	932,064	10,276,853	19,905,264
	Design Year 2035 Alt 2	152,468	8,529,201	920,497	10,302,270	19,904,436

**Table 3.6.20 Baseline/Existing (2007), 2035 No Build, and 2035 Alternative 1 and 2  
Daily VMT, VHT, and VHD**

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
Vehicle Hours of Delay	Baseline/Existing (2007)	4,707	1,912,294	72,775	657,351	2,647,127
	Design Year 2035 No Build	33,893	4,040,406	447,327	1,952,996	6,474,622
	Design Year 2035 Alt 1	31,872	4,026,471	450,693	1,892,682	6,401,718
	Design Year 2035 Alt 2	35,966	3,996,219	447,430	1,916,303	6,395,918

Source: RCTC Model (2010) as presented in the *Traffic Study Report* (July 2010).

Alt = Alternative

HOV = high-occupancy vehicle

RCTC = Riverside County Transportation Commission

SR-91 = State Route 91

VHD = vehicle hours of delay

VHT = vehicle hours traveled

VMT = vehicle miles traveled

**Table 3.6.21 Baseline/Existing (2007), 2035 No Build, and 2035  
Alternative 1 and 2 Peak-Hour Corridor Travel Time Summary**

Direction	Lanes	Baseline/ Existing (2007)	Design Year 2035 No Build	Design Year 2035 Alt 1	Design Year 2035 Alt 2
<b>AM Peak-Hour Travel Time (min)</b>					
Westbound	General Purpose	28.5	43.2	36.6	37.3
	HOV/Express	12.1	25.9	23.5	12.6
<b>AM Peak-Hour Travel Speed (mph)</b>					
Westbound	General Purpose	24.2	16.0	18.9	18.5
	HOV/Express	56.8	26.6	29.4	55.0
<b>PM Peak-Hour Travel Time (min)</b>					
Eastbound	General Purpose	44.0	86.4	73.3	73.7
	HOV/Express	30.0	47.0	48.1	13.8
<b>PM Peak-Hour Travel Speed (mph)</b>					
Eastbound	General Purpose	15.7	8.0	9.4	9.4
	HOV/Express	23.0	14.7	14.4	50.0

Source: Speed Surveys, RCTC Model (2010).

Alt = Alternative

min = minutes

mph = miles per hour

HOV = high-occupancy vehicle

RCTC = Riverside County Transportation Commission

Table 3.6.22 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2035 No Build, and Design Year 2035 with Alternatives 1 and 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						Design Year 2035 No Build						Design Year 2035 with Alternative 1						Design Year 2035 with Alternative 2					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
State Route 91	Eastbound	SR-241 to Gypsum Canyon Road	20.7	C	-	25.4	C	-	21.1	C	-	> 45	F	1.21	17.2	B	-	> 45	F	1.02	19.0	C	-	> 45	F	1.16	
		Gypsum Canyon Road to Green River Road	25.4	C	-	43.5	E	-	20.1	C	-	> 45	F	1.30	17.8	B	-	> 45	F	1.13	19.2	C	-	> 45	F	1.13	
		Green River Road to SR-71	19.6	C	-	30.9	D	-	17.0	B	-	37.0	E	-	16.9	B	-	42.3	E	-	17.3	B	-	41.7	E	-	
		SR-71 to Auto Center Drive	25.9	C	-	> 45	F	1.04	26.2	D	-	> 45	F	1.53	20.1	C	-	> 45	F	1.30	20.8	C	-	> 45	F	1.15	
		Auto Center Drive to Maple Street	23.9	C	-	> 45	F	1.08	26.1	D	-	> 45	F	1.54	20.5	C	-	> 45	F	1.29	21.0	C	-	> 45	F	1.13	
		Maple Street to Lincoln Avenue	21.3	C	-	41.7	E	-	23.7	C	-	> 45	F	1.48	18.9	C	-	> 45	F	1.22	19.1	C	-	> 45	F	1.05	
		Lincoln Avenue to Grand Boulevard	22.4	C	-	40.6	E	-	28.6	D	-	> 45	F	1.47	21.8	C	-	> 45	F	1.21	21.6	C	-	> 45	F	1.02	
		<b>Grand Boulevard to Main Street</b>	21.3	C	-	36.1	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Main Street to I-15	23.8	C	-	> 45	F	1.05	29.2	D	-	> 45	F	1.50	17.8	B	-	> 45	F	1.08	17.4	B	-	32.7	D	-	
		I-15 to McKinley Street	18.4	C	-	34.2	D	-	23.5	C	-	> 45	F	1.35	18.1	C	-	> 45	F	1.06	21.9	C	-	> 45	F	1.11	
		McKinley Street to Pierce Street	24.6	C	-	> 45	F	1.19	31.5	D	-	> 45	F	1.72	21.0	C	-	> 45	F	1.26	23.2	C	-	> 45	F	1.30	
		Pierce Street to Magnolia Avenue	23.6	C	-	> 45	F	1.03	28.8	D	-	> 45	F	1.55	19.8	C	-	> 45	F	1.11	21.7	C	-	> 45	F	1.15	
		SR-241 to Green River Road	6.0	A	-	27.5	D	-	14.2	B	-	29.6	D	-	12.9	B	-	27.7	D	-	-	-	-	-	-	-	
		Green River Road to Auto Center Drive	13.9	B	-	33.7	D	-	24.2	C	-	> 45	F	1.57	23.0	C	-	> 45	F	1.52	-	-	-	-	-	-	
		Auto Center Drive to Lincoln Avenue	15.6	B	-	27.7	D	-	24.2	C	-	38.3	E	-	23.0	C	-	31.4	D	-	-	-	-	-	-	-	
		Lincoln Avenue to Main Street	16.2	B	-	27.7	D	-	23.5	C	-	29.8	D	-	18.8	B	-	28.3	D	-	-	-	-	-	-	-	
		Main Street to I-15	13.9	B	-	18.9	B	-	17.3	B	-	28.6	D	-	16.4	B	-	25.6	C	-	-	-	-	-	-	-	
		I-15 to Pierce Street	13.7	B	-	18.3	B	-	22.5	C	-	35.3	E	-	23.0	C	-	25.6	C	-	-	-	-	-	-	-	
	Pierce Street to Magnolia Avenue	11.1	A	-	15.1	B	-	20.8	C	-	30.5	D	-	21.4	C	-	25.6	C	-	-	-	-	-	-	-		
	SR-241 to Green River Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.9	B	-	26.8	D	-		
	Green River Road to Main Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.7	B	-	30.9	D	-		
	Main Street to McKinley Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	A	-	6.4	A	-		
	McKinley Street to Pierce Street	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4	A	-	12.5	B	-		
	Westbound	General Purpose	SR-241 to Gypsum Canyon Road	> 45	F	1.10	27.1	D	-	> 45	F	1.41	25.2	C	-	> 45	F	1.24	21.3	C	-	> 45	F	1.28	22.7	C	-
			Gypsum Canyon Road to Green River Road	> 45	F	1.31	23.8	C	-	> 45	F	1.36	23.5	C	-	> 45	F	1.23	21.2	C	-	> 45	F	1.27	22.3	C	-
			Green River Road to SR-71	> 45	F	1.25	33.1	D	-	> 45	F	1.54	33.2	D	-	> 45	F	1.41	25.7	C	-	> 45	F	1.24	26.4	D	-
			SR-71 to Auto Center Drive	> 45	F	1.23	30.2	D	-	> 45	F	1.57	32.2	D	-	> 45	F	1.44	25.5	C	-	> 45	F	1.27	25.5	C	-
			Auto Center Drive to Maple Street	> 45	F	1.12	31.0	D	-	> 45	F	1.44	34.2	D	-	> 45	F	1.32	26.8	D	-	> 45	F	1.06	20.2	C	-
			Maple Street to Lincoln Avenue	> 45	F	1.04	31.1	D	-	> 45	F	1.28	32.0	D	-	> 45	F	1.20	25.3	C	-	> 45	F	1.03	25.3	C	-
			Lincoln Avenue to Grand Boulevard	44.3	E	-	31.7	D	-	> 45	F	1.24	32.4	D	-	> 45	F	1.15	26.1	C	-	39.1	E	-	26.1	D	-
			<b>Grand Boulevard to Main Street</b>	39.6	E	-	29.3	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Main Street to I-15	> 45	F	1.01	30.0	D	-	> 45	F	1.19	29.6	D	-	42.4	E	-	20.1	C	-	29.0	D	-	20.1	C	-
		I-15 to McKinley Street	43.0	E	-	23.2	C	-	> 45	F	1.19	22.9	C	-	32.6	D	-	16.1	B	-	37.7	E	-	19.2	C	-	
		McKinley Street to Pierce Street	> 45	F	1.34	30.7	D	-	> 45	F	1.56	29.2	D	-	> 45	F	1.05	18.6	C	-	> 45	F	1.20	23.4	C	-	
		Pierce Street to Magnolia Avenue	> 45	F	1.22	27.9	D	-	> 45	F	1.36	25.4	C	-	36.7	E	-	16.1	B	-	39.7	E	-	19.5	C	-	
		Alt. 1 Toll/HOV	SR-241 to Green River Road	19.6	C	-	8.9	A	-	23.4	D	-	16.7	B	-	30.9	D	-	15.3	B	-	-	-	-	-	-	
Green River Road to Auto Center Drive			31.6	D	-	19.6	C	-	35.3	F	1.09	29.6	D	-	37.0	E	-	30.5	D	-	-	-	-	-			
Auto Center Drive to Grand Boulevard			31.8	D	-	17.8	B	-	32.7	E	-	26.0	C	-	37.0	E	-	24.7	C	-	-	-	-	-			
Grand Boulevard to I-15			16.3	B	-	15.1	B	-	20.1	D	-	22.5	C	-	27.3	D	-	21.4	C	-	-	-	-	-			
I-15 to Pierce Street			15.4	B	-	13.5	B	-	18.5	C	-	20.8	C	-	27.3	D	-	24.7	C	-	-	-	-	-			
Pierce Street to Magnolia Avenue			13.3	B	-	11.6	B	-	16.8	D	-	19.0	B	-	31.4	D	-	23.0	C	-	-	-	-	-			
SR-241 to Green River Road	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.7	D	-	16.9	B	-			
Green River Road to Main Street	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36.4	E	-	18.5	B	-			
Main Street to Pierce Street	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	A	-	7.2	A	-			
Pierce Street to Magnolia Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.0	B	-	9.6	A	-				
Interstate 15	General Purpose	North of Hidden Valley Parkway	22.3	C	-	24.9	C	-	> 45	F	1.30	> 45	F	1.00	> 45	F	1.42	> 45	F	1.00	> 45	F	1.36	42.5	E	-	
		Hidden Valley Parkway to SR-91	21.3	C	-	23.8	C	-	> 45	F	1.17	43.9	E	-	> 45	F	1.32	43.1	E	-	> 45	F	1.32	34.9	D	-	
		SR-91 to Magnolia Avenue	21.9	C	-	26.7	D	-	> 45	F	1.11	> 45	F	1.03	> 45	F	1.16	> 45	F	1.06	> 45	F	1.16	> 45	F	1.04	
		Magnolia Avenue to Ontario Avenue	24.4	C	-	22.9	C	-	> 45	F	1.20	38.2	E	-	> 45	F	1.25	40.4	E	-	> 45	F	1.24	38.2	E	-	
		Ontario Avenue to El Cerrito Road	38.6	E	-	29.8	D	-	> 45	F	1.61	> 45	F	1.17	> 45	F	1.68	> 45	F	1.19	> 45	F	1.67	> 45	F	1.16	
		El Cerrito Road to Cajalco Road	35.4	E	-	29.1	D	-	> 45	F	1.79	> 45	F	1.18	> 45	F	1.93	> 45	F	1.27	> 45	F	1.93	> 45	F	1.26	
		South of Cajalco Road	30.0	D	-	35.5	E	-	> 45	F	1.07	44.9	E	-	> 45	F	1.19	> 45	F	1.08	> 45	F	1.20	> 45	F	1.08	
	Toll/HOV	North of Hidden Valley Parkway	-	-	-	-	-	15.3	B	-	4.8	A	-	12.9	B	-	4.8	A	-	17.7	B	-	10.4	A	-		
		El Cerrito Road to Hidden Valley Parkway	-	-	-	-	-	25.9	C	-	8.0	A	-	33.7	D	-	8.8	A	-	35.3	E	-	11.2	B	-		
		South of El Cerrito Road	-	-	-	-	-	10.1	A	-	2.3	A	-	11.7	B	-	2.3	A	-	11.7	B	-	0.8	A	-		
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

**Table 3.6.22 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2035 No Build, and Design Year 2035 with Alternatives 1 and 2**

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						Design Year 2035 No Build						Design Year 2035 with Alternative 1						Design Year 2035 with Alternative 2					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
Interstate 15	Southbound	North of Hidden Valley Parkway	26.9	D	-	28.7	D	-	> 45	F	1.14	> 45	F	1.40	> 45	F	1.23	> 45	F	1.40	> 45	F	1.19	> 45	F	1.44	
		Hidden Valley Parkway to SR-91	24.2	C	-	27.2	D	-	> 45	F	1.05	> 45	F	1.29	> 45	F	1.15	> 45	F	1.34	> 45	F	1.06	> 45	F	1.40	
		SR-91 to Magnolia Avenue	27.7	D	-	31.8	D	-	> 45	F	1.02	> 45	F	1.31	42.8	E	-	> 45	F	1.30	41.9	E	-	> 45	F	1.26	
		Magnolia Avenue to Ontario Avenue	21.7	C	-	28.3	D	-	32.1	D	-	> 45	F	1.21	29.4	D	-	> 45	F	1.20	28.7	D	-	> 45	F	1.18	
		Ontario Avenue to El Cerrito Road	19.7	C	-	28.6	D	-	27.6	D	-	> 45	F	1.24	25.7	C	-	> 45	F	1.23	25.3	C	-	> 45	F	1.19	
		El Cerrito Road to Cajalco Road	26.1	D	-	> 45	F	1.03	> 45	F	1.04	> 45	F	1.80	> 45	F	1.03	> 45	F	1.86	> 45	F	1.03	> 45	F	1.90	
		South of Cajalco Road	24.0	C	-	> 45	F	1.06	27.9	D	-	> 45	F	1.21	28.4	D	-	> 45	F	1.21	28.2	D	-	> 45	F	1.24	
		North of Hidden Valley Parkway	-	-	-	-	-	-	4.8	A	-	14.5	B	-	4.8	A	-	12.9	B	-	9.6	A	-	19.3	C	-	
		El Cerrito Road to Hidden Valley Parkway	-	-	-	-	-	-	7.2	A	-	21.7	C	-	8.8	A	-	25.0	C	-	9.6	A	-	32.4	D	-	
		South of El Cerrito Road	-	-	-	-	-	-	2.3	A	-	9.3	A	-	1.6	A	-	10.1	A	-	1.6	A	-	10.1	A	-	

Source: Traffic Study Report (July 2010).

Note: A black box (F) represents a deficient segment.

Dir = Direction

Fwy = Freeway

HOV = high-occupancy vehicle

I-15 = Interstate 15

LOS = level of service

SR-241 = State Route 241

SR-71 = State Route 71

SR-91 = State Route 91

V/C = volume-to-capacity ratio

Table 3.6.23 Freeway Ramp Peak-Hour Levels of Service for Design Year 2035 No Build and Design Year 2035 with Alternatives 1 and 2

Design Year 2035 No Build								Design Year 2035 with Alternative 1								Design Year 2035 with Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
<b>Gypsum Canyon Road Interchange on SR-91</b>								<b>Gypsum Canyon Road Interchange on SR-91</b>								<b>Gypsum Canyon Road Interchange on SR-91</b>							
SR-91 EB loop on-ramp	Merge	3,590	250	B	10,710	550	F	SR-91 EB loop on-ramp	Merge	3,820	220	B	11,230	590	F	SR-91 EB loop on-ramp	Merge	4,320	220	B	10,860	560	F
SR-91 WB loop on-ramp	Merge	13,220	150	F	6,390	50	C	SR-91 WB loop on-ramp	Merge	14,350	160	F	6,930	50	C	SR-91 WB loop on-ramp	Merge	14,780	150	F	7,330	50	C
SR-91 EB on-ramp	Merge	5,770	330	C	12,090	1,410	F	SR-91 EB on-ramp	Merge	5,970	330	C	12,650	1,450	F	SR-91 EB on-ramp	Merge	6,470	330	C	13,150	1,250	F
SR-91 WB on-ramp	Merge	11,490	180	F	5,630	130	C	SR-91 WB on-ramp	Merge	12,630	170	F	6,170	120	B	SR-91 WB on-ramp	Merge	13,050	170	F	6,570	120	C
SR-91 EB off-ramp	Diverge	3,780	190	B	11,120	410	F	SR-91 EB off-ramp	Diverge	4,000	180	B	11,670	440	F	SR-91 EB off-ramp	Diverge	4,510	190	B	11,310	450	F
SR-91 WB off-ramp	Diverge	14,100	880	F	6,900	510	C	SR-91 WB off-ramp	Diverge	15,300	950	F	7,500	570	D	SR-91 WB off-ramp	Diverge	15,800	1,020	F	7,900	570	D
<b>Green River Road Interchange on SR-91</b>								<b>Green River Road Interchange on SR-91</b>								<b>Green River Road Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	5,030	40	B	9,720	30	D	SR-91 EB on-ramp	Merge	5,010	40	B	10,310	30	D	SR-91 EB on-ramp	Merge	5,110	40	B	10,250	30	D
SR-91 WB on-ramp	Merge	12,390	2,810	F	6,280	920	C	SR-91 WB on-ramp	Merge	14,280	2,720	F	6,670	930	C	SR-91 WB on-ramp	Merge	12,450	2,750	F	6,740	880	C
SR-91 EB off-ramp	Diverge	6,100	440	C	13,500	2,390	F	SR-91 EB off-ramp	Diverge	6,300	470	C	14,100	2,420	F	SR-91 EB off-ramp	Diverge	6,800	470	C	14,400	2,310	F
SR-91 WB off-ramp	Diverge	12,730	340	F	7,060	780	E	SR-91 WB off-ramp	Diverge	14,660	380	F	7,460	790	D	SR-91 WB off-ramp	Diverge	12,850	400	F	7,620	800	D
<b>Auto Center Drive Interchange on SR-91</b>								<b>Auto Center Drive Interchange on SR-91</b>								<b>Auto Center Drive Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	5,220	630	C	11,810	770	F	SR-91 EB on-ramp	Merge	5,270	640	C	12,530	780	F	SR-91 EB on-ramp	Merge	5,420	640	C	10,950	810	F
SR-91 WB on-ramp	Merge	11,560	1,490	F	6,360	710	D	SR-91 WB on-ramp	Merge	13,360	1,450	F	6,810	750	C	SR-91 WB on-ramp	Merge	11,700	1,420	F	6,800	660	C
SR-91 EB off-ramp	Diverge	6,020	800	D	12,720	910	F	SR-91 EB off-ramp	Diverge	6,010	740	C	13,510	980	F	SR-91 EB off-ramp	Diverge	6,220	800	C	11,950	1,000	F
<b>Maple Street Interchange on SR-91</b>								<b>Maple Street Interchange on SR-91</b>								<b>Maple Street Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,940	400	C	11,520	450	F	SR-91 EB on-ramp	Merge	4,950	410	B	12,180	480	F	SR-91 EB on-ramp	Merge	4,940	410	B	10,450	480	F
SR-91 WB loop on-ramp	Merge	10,410	1,510	F	6,210	1,000	D	SR-91 WB loop on-ramp	Merge	11,760	1,600	F	5,760	1,050	D	SR-91 WB loop on-ramp	Merge	10,150	1,550	F	5,840	960	C
SR-91 EB off-ramp	Diverge	5,850	910	D	12,780	1,260	F	SR-91 EB off-ramp	Diverge	5,910	960	C	13,410	1,230	F	SR-91 EB off-ramp	Diverge	6,060	950	C	11,760	1,310	F
SR-91 WB off-ramp	Diverge	10,650	240	F	6,820	610	D	SR-91 WB off-ramp	Diverge	12,410	550	F	7,230	1,370	D	SR-91 WB off-ramp	Diverge	10,700	550	F	7,240	1,400	D
<b>Lincoln Avenue Interchange on SR-91</b>								<b>Lincoln Avenue Interchange on SR-91</b>								<b>Lincoln Avenue Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,840	1,360	D	11,130	970	F	SR-91 EB on-ramp	Merge	4,630	1,460	D	11,330	1,040	F	SR-91 EB on-ramp	Merge	4,720	1,510	D	9,510	1,060	E
SR-91 WB on-ramp	Merge	9,800	1,050	F	6,170	550	D	SR-91 WB on-ramp	Merge	11,410	1,300	F	6,580	750	C	SR-91 WB on-ramp	Merge	9,430	1,270	F	6,550	690	C
SR-91 EB loop off-ramp	Diverge	5,340	500	C	12,270	1,140	F	SR-91 EB loop off-ramp	Diverge	5,460	830	C	12,660	1,330	F	SR-91 EB loop off-ramp	Diverge	5,520	800	C	10,930	1,420	F
SR-91 WB off-ramp	Diverge	10,270	470	F	6,870	700	D	SR-91 WB off-ramp	Diverge	11,910	500	F	7,430	850	D	SR-91 WB off-ramp	Diverge	9,900	470	E	7,420	870	D
<b>Main Street Interchange on SR-91</b>								<b>Main Street Interchange on SR-91</b>								<b>Main Street Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,890	1,200	D	10,580	1,820	F	SR-91 EB on-ramp	Merge	1,920	1,000	B	8,230	1,260	F	SR-91 EB on-ramp	Merge	2,870	980	C	7,640	1,250	F
SR-91 WB on-ramp	Merge	8,670	1,080	F	5,070	1,310	D	SR-91 WB on-ramp	Merge	10,250	1,660	F	5,810	1,620	D	SR-91 WB on-ramp	Merge	9,560	1,240	C	7,230	1,420	B
SR-91 EB off-ramp	Diverge	6,020	1,130	D	11,460	880	F	SR-91 EB off-ramp	Diverge	6,290	1,250	D	12,570	1,500	F	SR-91 EB off-ramp	Diverge	6,230	1,200	D	10,570	1,560	E
SR-91 WB off-ramp	Diverge	9,880	1,210	F	6,470	1,400	B	SR-91 WB off-ramp	Diverge	5,000	730	C	1,780	790	B	SR-91 WB off-ramp	Diverge	5,660	780	D	2,720	800	B
<b>McKinley Street Interchange on SR-91</b>								<b>McKinley Street Interchange on SR-91</b>								<b>McKinley Street Interchange on SR-91</b>							
SR-91 EB loop on-ramp	Merge	3,990	830	D	9,460	930	F	SR-91 EB loop on-ramp	Merge	3,860	920	C	9,140	990	F	SR-91 EB loop on-ramp	Merge	4,970	930	D	9,710	1,060	F
SR-91 EB on-ramp	Merge	4,520	550	D	9,990	680	F	SR-91 EB on-ramp	Merge	4,280	570	C	9,730	740	F	SR-91 EB on-ramp	Merge	4,770	580	C	9,990	770	F
SR-91 WB on-ramp	Merge	8,480	1,360	F	3,690	1,610	D	SR-91 WB on-ramp	Merge	7,580	1,510	D	3,060	1,700	C	SR-91 WB on-ramp	Merge	8,270	1,540	E	3,940	1,740	D
SR-91 EB off-ramp	Diverge	5,410	1,420	B	11,160	1,700	F	SR-91 EB off-ramp	Diverge	5,360	1,500	B	10,960	1,820	F	SR-91 EB off-ramp	Diverge	6,460	1,490	B	11,540	1,830	F
SR-91 WB loop off-ramp	Diverge	8,880	850	F	3,860	420	C	SR-91 WB loop off-ramp	Diverge	7,940	860	E	3,250	490	B	SR-91 WB loop off-ramp	Diverge	9,140	870	F	4,430	490	C
SR-91 WB off-ramp	Diverge	9,710	830	F	4,800	940	D	SR-91 WB off-ramp	Diverge	8,690	750	F	4,310	1,060	C	SR-91 WB off-ramp	Diverge	9,950	810	F	5,400	970	D
<b>Pierce Street Interchange on SR-91</b>								<b>Pierce Street Interchange on SR-91</b>								<b>Pierce Street Interchange on SR-91</b>							
SR-91 WB on-ramp	Merge	8,440	1,070	F	3,880	1,020	D	SR-91 WB on-ramp	Merge	7,390	1,100	F	3,370	1,040	C	SR-91 WB on-ramp	Merge	7,720	1,110	F	4,080	1,020	C
SR-91 EB off-ramp	Diverge	5,070	780	D	10,670	1,250	F	SR-91 EB off-ramp	Diverge	4,850	810	C	10,470	1,250	F	SR-91 EB off-ramp	Diverge	5,350	810	C	10,760	1,250	F
<b>Magnolia Avenue Interchange on SR-91</b>								<b>Magnolia Avenue Interchange on SR-91</b>								<b>Magnolia Avenue Interchange on SR-91</b>							
SR-91 EB on-ramp	Merge	4,140	760	D	9,300	890	F	SR-91 EB on-ramp	Merge	3,720	780	C	8,730	900	F	SR-91 EB on-ramp	Merge	4,130	730	C	9,050	960	F
SR-91 WB on-ramp	Merge	8,130	310	F	3,450	430	C	SR-91 WB on-ramp	Merge	6,940	450	D	2,820	550	B	SR-91 WB on-ramp	Merge	7,320	400	D	3,540	540	B
SR-91 EB loop off-ramp	Diverge	4,390	250	C	9,620	320	F	SR-91 EB loop off-ramp	Diverge	4,140	420	C	9,220	490	F	SR-91 EB loop off-ramp	Diverge	4,540	410	C	9,510	460	F
SR-91 WB loop off-ramp	Diverge	8,710	580	F	3,920	470	C	SR-91 WB loop off-ramp	Diverge	7,500	560	D	3,290	470	B	SR-91 WB loop off-ramp	Diverge	7,880	560	E	4,010	470	B
<b>Second Street Interchange on I-15</b>								<b>Second Street Interchange on I-15</b>								<b>Second Street Interchange on I-15</b>							
I-15 NB off-ramp	Diverge	10,220	1,220	F	7,890	870	F	I-15 NB off-ramp	Diverge	11,190	1,220	F	7,880	870	F	I-15 NB off-ramp	Diverge	10,710	1,270	F	7,500	900	E
I-15 SB on-ramp	Merge	8,160	770	F	10,100	950	F	I-15 SB on-ramp	Merge	8,930	770	F	10,010	950	F	I-15 SB on-ramp	Merge	8,470	890	F	10,320	1,010	F
<b>Hidden Valley Parkway Interchange on I-15</b>								<b>Hidden Valley Parkway Interchange on I-15</b>								<b>Hidden Valley Parkway Interchange on I-15</b>							
I-15 NB on-ramp	Merge	7,890	1,030	F	6,480	1,010	E	I-15 NB on-ramp	Merge	9,050	1,060	F	6,420	1,070	E	I-15 NB on-ramp	Merge	9,080	1,080	F	5,740	1,060	D
I-15 SB on-ramp	Merge	7,750	780	F	10,090	960	F	I-15 SB on-ramp	Merge	8,640	760	F	10,080	950	F	I-15 SB on-ramp	Merge	8,290	790	F	10,420	980	F
I-15 NB off-ramp	Diverge	9,210	1,320	F	7,650	1,170	E	I-15 NB off-ramp	Diverge	10,350	1,300	F	7,590	1,170	E	I-15 NB off-ramp	Diverge	10,380	1,300	F	6,890	1,150	E
I-15 SB off-ramp	Diverge	8,930	1,180	F	11,050	960	F	I-15 SB off-ramp	Diverge	9,700	1,060	F	10,980	900	F	I-15 SB off-ramp	Diverge	9,360	1,070	F	11,330	910	F
<b>Magnolia Avenue Interchange on I-15</b>								<b>Magnolia Avenue Interchange on I-15</b>								<b>Magnolia Avenue Interchange on I-15</b>							
I-15 NB on-ramp	Merge	9,020	330	F	8,020	640	F	I-15 NB on-ramp	Merge	9,470	300	F	8,230	670	F	I-15 NB on-ramp	Merge	9,400	340	F	8,060	670	F
I-15 NB loop on-ramp	Merge	8,320	700	F	6,940	1,080	E	I-15 NB loop on-ramp	Merge	8,710	760	F	7,180	1,050	E	I-15 NB loop on-ramp	Merge	8,600	800	F	6,980	1,080	E

Table 3.6.23 Freeway Ramp Peak-Hour Levels of Service for Design Year 2035 No Build and Design Year 2035 with Alternatives 1 and 2

Design Year 2035 No Build								Design Year 2035 with Alternative 1								Design Year 2035 with Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
I-15 SB on-ramp	Merge	6,200	800	D	9,020	1,180	F	I-15 SB on-ramp	Merge	5,700	900	D	8,990	1,110	F	I-15 SB on-ramp	Merge	5,650	850	D	8,700	1,200	F
I-15 NB off-ramp	Diverge	10,100	1,780	F	7,700	760	E	I-15 NB off-ramp	Diverge	10,500	1,790	F	7,900	720	E	I-15 NB off-ramp	Diverge	10,400	1,800	F	7,700	720	E
I-15 SB off-ramp	Diverge	8,560	2,360	F	10,980	1,960	F	I-15 SB off-ramp	Diverge	8,030	2,330	F	10,880	1,890	F	I-15 SB off-ramp	Diverge	7,960	2,310	F	10,600	1,900	F
<b>Ontario Avenue Interchange on I-15</b>								<b>Ontario Avenue Interchange on I-15</b>								<b>Ontario Avenue Interchange on I-15</b>							
I-15 NB on-ramp	Merge	9,050	1,050	F	6,460	1,240	E	I-15 NB on-ramp	Merge	9,500	1,000	F	6,620	1,280	D	I-15 NB on-ramp	Merge	9,410	990	F	6,420	1,280	D
I-15 SB on-ramp	Merge	6,570	630	D	9,290	1,130	F	I-15 SB on-ramp	Merge	5,200	650	C	9,210	1,100	F	I-15 SB on-ramp	Merge	5,110	640	C	9,010	1,020	F
I-15 NB off-ramp	Diverge	10,160	1,110	F	7,380	920	F	I-15 NB off-ramp	Diverge	10,570	1,070	F	7,520	900	F	I-15 NB off-ramp	Diverge	10,500	1,090	F	7,300	880	F
I-15 SB off-ramp	Diverge	7,000	1,430	E	10,200	910	F	I-15 SB off-ramp	Diverge	6,600	1,400	E	10,100	890	F	I-15 SB off-ramp	Diverge	6,500	1,390	E	9,900	890	F
<b>El Cerrito Road Interchange on I-15</b>								<b>El Cerrito Road Interchange on I-15</b>								<b>El Cerrito Road Interchange on I-15</b>							
I-15 NB on-ramp	Merge	11,260	800	F	7,420	660	F	I-15 NB on-ramp	Merge	12,130	840	F	7,980	340	F	I-15 NB on-ramp	Merge	12,170	830	F	7,930	670	F
I-15 SB off-ramp	Diverge	6,200	270	D	10,420	710	F	I-15 SB off-ramp	Diverge	5,850	240	C	10,310	420	F	I-15 SB off-ramp	Diverge	5,750	260	C	10,030	540	F
<b>Cajalco Road Interchange on I-15</b>								<b>Cajalco Road Interchange on I-15</b>								<b>Cajalco Road Interchange on I-15</b>							
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	10,660	1,470	F	6,940	1,040	F	I-15 NB loop on-ramp	Merge	10,710	1,460	F	6,990	960	F
I-15 SB on-ramp	Merge	5,530	450	D	9,720	870	F	I-15 SB on-ramp	Merge	5,460	510	D	9,950	920	F	I-15 SB on-ramp	Merge	5,430	520	D	10,410	880	F
I-15 NB off-ramp	Diverge	10,390	570	F	7,550	1,140	F	I-15 NB off-ramp	Diverge	11,260	600	F	8,080	1,140	F	I-15 NB off-ramp	Diverge	11,300	590	F	8,110	1,140	F
I-15 SB off-ramp	Diverge	6,530	1,000	F	11,310	1,590	F	I-15 SB off-ramp	Diverge	6,510	1,050	F	11,690	1,740	F	I-15 SB off-ramp	Diverge	6,490	1,060	F	11,990	1,580	F
<b>SR-91/SR-241 Connectors</b>								<b>SR-91/SR-241 Connectors</b>								<b>SR-91/SR-241 Connectors</b>							
SR-91 WB to SR-241 SB	Diverge	14,100	1,880	F	6,900	810	B	SR-91 WB to SR-241 SB	Diverge	15,300	1,880	F	7,500	810	C	SR-91 WB to SR-241 SB	Diverge	15,800	1,880	F	7,900	810	C
SR-241 NB to SR-91 EB	Merge	5,270	830	B	11,570	1,930	F	SR-241 NB to SR-91 EB	Merge	5,470	830	B	12,170	1,930	F	SR-241 NB to SR-91 EB	Merge	5,970	830	B	11,570	1,930	F
SR-91 WB Express to SR-241 SB Express	Diverge	3,600	2,300	C	2,000	1,100	A	SR-91 WB Express to SR-241 SB Express	Diverge	3,800	2,400	C	1,900	700	A	SR-91 WB Express to SR-241 SB Express	Diverge	3,600	1,900	B	2,100	800	A
SR-241 NB Express to SR-91 EB Express	Merge	900	800	B	1,400	2,200	C	SR-241 NB Express to SR-91 EB Express	Merge	1,000	600	B	1,400	2,100	C	SR-241 NB Express to SR-91 EB Express	Merge	700	900	B	1,700	1,700	C
<b>SR-91/SR-71 Connectors</b>								<b>SR-91/SR-71 Connectors</b>								<b>SR-91/SR-71 Connectors</b>							
SR-71 SB to SR-91 EB	Merge	5,070	1,050	B	9,750	1,670	F	SR-71 SB to SR-91 EB	Merge	5,050	1,060	B	10,340	1,670	F	SR-71 SB to SR-91 EB	Merge	5,150	1,070	B	10,280	1,670	F
SR-71 SB to SR-91 WB	Merge	10,950	1,780	F	7,060	1,610	D	SR-71 SB to SR-91 WB	Merge	13,190	1,570	F	5,850	1,610	D	SR-71 SB to SR-91 WB	Merge	11,360	1,490	F	5,990	1,630	D
SR-91 EB to SR-71 NB	Diverge	5,660	1,500	D	11,110	1,890	F	SR-91 EB to SR-71 NB	Diverge	5,830	1,620	D	11,680	1,860	F	SR-91 EB to SR-71 NB	Diverge	6,330	1,640	D	12,090	1,930	F
SR-91 WB to SR-71 NB	Diverge	13,050	1,700	F	6,970	1,420	B	SR-91 WB to SR-71 NB	Diverge	14,910	1,720	F	7,560	1,410	B	SR-91 WB to SR-71 NB	Diverge	13,120	1,760	F	7,460	1,470	B
<b>SR-91/I-15 Connectors</b>								<b>SR-91/I-15 Connectors</b>								<b>SR-91/I-15 Connectors</b>							
I-15 NB to SR-91 EB	Merge	3,730	1,680	E	9,700	1,460	F	I-15 NB to SR-91 EB	Merge	3,680	1,680	D	9,520	1,440	F	I-15 NB to SR-91 EB	Merge	4,780	1,680	D	10,080	1,460	F
I-15 NB/SB to SR-91 WB	-	-	-	-	-	-	-	I-15 NB/SB to SR-91 WB	Merge	5,460	4,790	F	1,620	4,190	E	I-15 NB/SB to SR-91 WB	Merge	5,340	2,980	E	2,540	3,270	D
I-15 SB to SR-91 EB	Merge	2,120	1,610	C	7,670	1,930	F	I-15 SB to SR-91 EB	Merge	2,190	1,490	C	8,250	1,270	F	I-15 SB to SR-91 EB	Merge	3,190	1,590	C	3,190	1,800	D
SR-91 EB to I-15 NB/SB	Diverge	6,390	4,270	F	12,400	4,730	F	SR-91 EB to I-15 NB/SB	Diverge	5,140	3,220	C	11,170	2,940	F	SR-91 EB to I-15 NB/SB	Diverge	5,030	2,160	B	9,010	1,370	B
SR-91 WB to I-15 NB/SB	Diverge	9,840	4,070	F	5,300	2,980	C	SR-91 WB to I-15 NB/SB	Diverge	9,090	4,090	F	4,760	2,980	C	SR-91 WB to I-15 NB/SB	Diverge	9,810	4,150	F	5,680	2,960	C
I-15 NB Express to SR-91 WB HOV	Merge	-	-	-	-	-	-	I-15 NB Express to SR-91 WB HOV	Merge	480	1,220	C	1,190	110	C	I-15 NB Toll to SR-91 WB Toll	Merge	680	3,520	F	900	1,400	C
SR-91 EB HOV to I-15 SB Express	Diverge	-	-	-	-	-	-	SR-91 EB HOV to I-15 SB Express	Diverge	1,000	110	A	1,600	1,000	B	SR-91 EB Toll to I-15 SB Toll	Diverge	1,700	1,530	B	3,800	2,980	F

Source: Traffic Study Report (July 2010).

Note: A black box (F) represents a deficient segment.

<sup>1</sup> Refer to Table 3.6.6 for Baseline/Existing (2007) freeway ramp peak-hour information.

- EB = eastbound
- HOV = high-occupancy vehicle
- I-15 = Interstate 15
- LOS = level of service
- NA = not applicable
- NB = northbound
- SB = southbound
- SR-91 = State Route 91
- SR-241 = State Route 241
- WB = westbound

Table 3.6.24 Intersection Peak-Hour Levels of Service for Design Year 2035 No Build and Design Year 2035 with Alternatives 1 and 2<sup>1</sup>

Design Year 2035 No Build						Design Year 2035 with Alternative 1						Design Year 2035 with Alternative 2					
Arterial	Intersection	AM Peak		PM Peak		Arterial	Intersection	AM Peak		PM Peak		Arterial	Intersection	AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS			Delay (sec)	LOS	Delay (sec)	LOS			Delay (sec)	LOS	Delay (sec)	LOS
Gypsum Canyon Rd	Gypsum Canyon Rd/SR-91 WB off-ramp	18.1	B	14.7	B	Gypsum Canyon Rd	Gypsum Canyon Rd/SR-91 WB off-ramp	19.3	B	16.1	B	Gypsum Canyon Rd	Gypsum Canyon Rd/SR-91 WB off-ramp	20.1	C	16.1	B
	Gypsum Canyon Rd/SR-91 EB off-ramp	15.6	C	13.7	B		Gypsum Canyon Rd/SR-91 EB off-ramp	22.4	C	15.4	C		Gypsum Canyon Rd/SR-91 EB off-ramp	28.7	D	16.7	C
Green River Rd	Green River Rd/SR-91 WB ramps	85.0	F	31.2	C	Green River Rd	Green River Rd/SR-91 WB ramps	73.8	E	31.7	C	Green River Rd	Green River Rd/SR-91 WB ramps	79.1	E	33.3	C
	Green River Rd/SR-91 EB ramps	42.6	D	158.4	F		Green River Rd/SR-91 EB ramps	38.7	D	163.1	F		Green River Rd/SR-91 EB ramps	41.3	D	144.2	F
Auto Center Dr	Auto Center Dr/Wardlow Rd	21.1	C	19.4	B	Auto Center Dr	Auto Center Dr/Wardlow Rd	21.4	C	22.7	C	Auto Center Dr	Auto Center Dr/Wardlow Rd	21.9	C	18.2	B
	Auto Center Dr/SR-91 WB ramps	82.2	F	19.2	B		Auto Center Dr/SR-91 WB ramps	63.6	E	14	B		Auto Center Dr/SR-91 WB ramps	59.3	E	13.6	B
	Auto Center Dr/SR-91 EB ramps	36.4	D	42.8	D		Auto Center Dr/SR-91 EB ramps	29.1	C	36.3	D		Auto Center Dr/SR-91 EB ramps	45.2	D	37.5	D
	Auto Center Dr/Frontage Rd	17.4	B	37.1	D		Auto Center Dr/Frontage Rd	16.8	B	47.2	D		Auto Center Dr/Frontage Rd	16.3	B	50.9	D
Maple St	Maple St/Pomona Rd	79.1	E	49.8	D	Maple St	Maple St/Pomona Rd	76.0	E	50.9	D	Maple St	Maple St/Pomona Rd	70.6	E	46.7	D
	Maple St/SR-91 WB ramps	21.0	C	31.3	C		Maple St/SR-91 WB ramps	12.6	B	29.1	C		Maple St/SR-91 WB ramps	12.7	B	23.4	C
	Maple St/SR-91 EB ramps	27.2	C	94.8	F		Maple St/SR-91 EB ramps	27.8	C	39.4	D		Maple St/SR-91 EB ramps	23.3	C	39.1	D
	Paseo Grande Rd/Maple St	34.9	C	63	E		Paseo Grande Rd/Maple St	37.7	D	42.6	D		Paseo Grande Rd/Maple St	36.0	D	52.9	D
Lincoln Ave	SR-91 WB ramps/Pomona Rd	36.6	D	21.7	C	Lincoln Ave	SR-91 WB ramps/Pomona Rd	17.9	B	14	B	Lincoln Ave	SR-91 WB ramps/Pomona Rd	18.1	B	13.4	B
	Lincoln Ave/Pomona Rd	22.5	C	28.5	C		Lincoln Ave/SR-91 WB ramps	96.6	F	33.7	C		Lincoln Ave/Pomona Rd	82.4	F	32.9	C
	Lincoln Ave/SR-91 EB ramps	35.8	D	66.5	E		Lincoln Ave/SR-91 EB ramps	183.1	F	123.2	F		Lincoln Ave/SR-91 EB ramps	168.3	F	135.0	F
	Lincoln Ave/Hotel Access	-	-	-	-		Lincoln Ave/Hotel Access	12.7	B	18.7	C		Lincoln Ave/Hotel Access	12.7	B	28.0	D
Main St	Lincoln Ave/D St	30.2	C	46.6	D	Main St	Lincoln Ave/D St	27.6	C	29.8	C	Main St	Lincoln Ave/D St	25.9	C	32.6	C
	Main St/Grand Blvd	36.9	D	97.6	F		Main St/Grand Blvd	42.0	D	81.0	F		Main St/Grand Blvd	39.5	D	79.0	E
	Main St/SR-91 WB ramps	25.5	C	137.9	F		Main St/SR-91 WB ramps	43.0	D	119.1	F		Main St/SR-91 WB ramps	27.9	C	107.7	F
	Main St/SR-91 EB ramps	20.7	C	25.3	C		Main St/SR-91 EB ramps	44.9	D	38.4	D		Main St/SR-91 EB ramps	22.8	C	51.6	D
McKinley St	Main St/Third St	65.4	E	62.5	E	McKinley St	Main St/Third St	76.6	E	61.9	E	McKinley St	Main St/Third St	108.1	F	54.9	D
	McKinley St/Griffin Way	29.3	C	63.7	E		McKinley St/Griffin Way	31.1	C	69.0	E		McKinley St/Griffin Way	30.9	C	68.0	E
	McKinley St/SR-91 WB on-ramp	44.4	D	24.0	C		McKinley St/SR-91 WB on-ramp	36.5	D	23.4	C		McKinley St/SR-91 WB on-ramp	41.5	D	21.8	C
	McKinley St/SR-91 EB off-ramp	20.0	B	36.4	D		McKinley St/SR-91 EB off-ramp	17.7	B	25.1	C		McKinley St/SR-91 EB off-ramp	15.7	B	26.7	C
Pierce St	McKinley St/Sampson Ave	38.2	D	53.1	D	Pierce St	McKinley St/Sampson Ave	40.3	D	56.5	E	Pierce St	McKinley St/Sampson Ave	36.3	D	57.2	E
	Pierce St/SR-91 WB on-ramp	18.5	B	16.5	B		Pierce St/SR-91 WB on-ramp	16.6	B	16.6	B		Pierce St/SR-91 WB on-ramp	16.5	B	16.2	B
	Pierce St/SR-91 EB off-ramp	10.4	B	17.5	B		Pierce St/SR-91 EB off-ramp	10.3	B	19.4	B		Pierce St/SR-91 EB off-ramp	10.2	B	19.3	B
Second St	Pierce St/Magnolia Ave	56.5	E	143.0	F	Second St	Pierce St/Magnolia Ave	46.6	D	116.4	F	Second St	Pierce St/Magnolia Ave	49.7	D	114.4	F
	Hamner Ave/Second St	52.7	D	73.9	E		Hamner Ave/Second St	54.3	D	73.9	E		Hamner Ave/Second St	58.7	E	74.1	E
	I-15 SB ramps/Second St	15.8	B	23.0	C		I-15 SB ramps/Second St	16.9	B	19.6	B		I-15 SB ramps/Second St	17.4	B	20.8	C
Hidden Valley Pkwy	I-15 NB ramps/Second St	51.2	D	51.0	D	Hidden Valley Pkwy	I-15 NB ramps/Second St	51.6	D	50.8	D	Hidden Valley Pkwy	I-15 NB ramps/Second St	54.9	D	54.0	D
	Hamner Ave/Hidden Valley Pkwy	257.1	F	184.0	F		Hamner Ave/Hidden Valley Pkwy	225.6	F	181.4	F		Hamner Ave/Hidden Valley Pkwy	229.7	F	178.5	F
	I-15 SB off-ramp/Hidden Valley Pkwy	58.5	E	60.1	E		I-15 SB off-ramp/Hidden Valley Pkwy	45.1	D	58.7	E		I-15 SB off-ramp/Hidden Valley Pkwy	44.6	D	54.6	D
	I-15 SB on-ramp/Hidden Valley Pkwy	4.7	A	30.7	C		I-15 SB on-ramp/Hidden Valley Pkwy	4.9	A	33.0	C		I-15 SB on-ramp/Hidden Valley Pkwy	5.0	A	37.1	D
	I-15 NB on-ramp/Hidden Valley Pkwy	4.5	A	14.8	B		I-15 NB on-ramp/Hidden Valley Pkwy	6.1	A	15.0	B		I-15 NB on-ramp/Hidden Valley Pkwy	6.1	A	14.2	B
Magnolia Ave	I-15 NB off-ramp/Hidden Valley Pkwy	92.0	F	32.3	C	Magnolia Ave	I-15 NB off-ramp/Hidden Valley Pkwy	88.9	F	34.0	C	Magnolia Ave	I-15 NB off-ramp/Hidden Valley Pkwy	91.4	F	35.3	D
	Garland Way/Hidden Valley Pkwy	68.8	E	25.1	C		Garland Way/Hidden Valley Pkwy	50.0	D	24.7	C		Garland Way/Hidden Valley Pkwy	54.7	D	24.0	C
	Rimpau Ave/Magnolia Ave	87.1	F	85.2	F		Rimpau Ave/Magnolia Ave	84.6	F	83.1	F		Rimpau Ave/Magnolia Ave	85.3	F	80.5	F
	El Sobrante Rd/Magnolia Ave	67.6	E	97.2	F		El Sobrante Rd/Magnolia Ave	58.6	E	68.7	E		El Sobrante Rd/Magnolia Ave	55.6	E	78.9	E
	I-15 SB ramps/Magnolia Ave	87.4	F	104.1	F		I-15 SB ramps/Magnolia Ave	81.3	F	93.1	F		I-15 SB ramps/Magnolia Ave	74.6	E	90.3	F
Ontario Ave	I-15 NB ramps/Magnolia Ave	30.9	C	11.2	B	Ontario Ave	I-15 NB ramps/Magnolia Ave	30.2	C	11.2	B	Ontario Ave	I-15 NB ramps/Magnolia Ave	29.9	C	11.4	B
	Compton Ave/El Camino Ave/Magnolia Ave	23.6	C	32.8	C		Compton Ave/El Camino Ave/Magnolia Ave	26.1	C	31.1	C		Compton Ave/El Camino Ave/Magnolia Ave	26.6	C	30.8	C
	Compton Ave/Ontario Ave	12.4	B	12.0	B		Compton Ave/Ontario Ave	6.5	A	13.9	B		Compton Ave/Ontario Ave	7.6	A	14.6	B
El Cerrito Rd	I-15 SB ramps/Ontario Ave	75.0	E	44.2	D	El Cerrito Rd	I-15 SB ramps/Ontario Ave	62.2	E	37.4	D	El Cerrito Rd	I-15 SB ramps/Ontario Ave	60.2	E	31.5	C
	I-15 NB ramps/Ontario Ave	44.2	D	20.4	C		I-15 NB ramps/Ontario Ave	51.6	D	23.3	C		I-15 NB ramps/Ontario Ave	41.6	D	24.2	C
	Bedford Canyon Rd/El Cerrito Rd	16.6	B	38.4	D		Bedford Canyon Rd/El Cerrito Rd	16.3	B	20.7	C		Bedford Canyon Rd/El Cerrito Rd	17.0	B	37.7	D
Cajalco Rd	I-15 NB ramps/El Cerrito Rd	10.3	B	6.3	A	Cajalco Rd	I-15 NB ramps/El Cerrito Rd	10.4	B	5.3	A	Cajalco Rd	I-15 NB ramps/El Cerrito Rd	10.1	B	6.7	A
	Bedford Canyon Rd/Cajalco Rd	21.2	C	183.3	F		Bedford Canyon Rd/Cajalco Rd	27.5	C	185.3	F		Bedford Canyon Rd/Cajalco Rd	23.7	C	191.0	F
	I-15 SB ramps/Cajalco Rd	24.2	C	24.7	C		I-15 SB ramps/Cajalco Rd	22.6	C	27.2	C		I-15 SB ramps/Cajalco Rd	25.2	C	24.8	C
	I-15 NB ramps/Cajalco Rd	57.5	E	47.5	D		I-15 NB ramps/Cajalco Rd	59.6	E	46.9	D		I-15 NB ramps/Cajalco Rd	59.7	E	45.2	D
	Grand Oaks/Cajalco Rd	20.3	C	13.7	B		Grand Oaks/Cajalco Rd	23.3	C	14.3	B		Grand Oaks/Cajalco Rd	20.3	C	14.2	B

Source: Traffic Study Report (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per the City of Corona Traffic Impact Study Guidelines, LOS E is permitted at several ramp intersections.

<sup>1</sup> Refer to Table 3.6.7 for Baseline/Existing (2007) intersection peak-hour information.

EB = eastbound SB = southbound  
 I-15 = Interstate 15 sec = seconds  
 LOS = level of service SR-91 = State Route 91  
 NB = northbound WB = westbound

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**Table 3.6.25 Auto Center Drive/Maple Street Design Variation 2035 Intersection Analysis**

Arterial	Intersection	Baseline/Existing (2007)				2035 Base Condition (Diamond)				2035 Design Variation (Connector)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Auto Center Drive	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	21.9	C	18.2	B	21.5	C	21.6	C
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	59.3	E	13.6	B	59.3	E	13.2	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	45.2	D	37.5	D	45.4	D	36.2	D
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	16.3	B	50.9	D	16.2	B	51.5	D
Maple Street	Maple Street/Pomona Road	9.3	A	9.6	A	70.6	E	46.7	D	77.2	E	45.0	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	12.7	B	23.4	C	8.5	A	23.1	C
	Maple Street/SR-91 EB ramps (and WB on-ramp)	21.9	C	137.4	F	23.3	C	39.1	D	38.8	D	91.3	F
	Paseo Grande (SR-91 EB on-ramp)/Sixth Street	27.5	C	104.5	F	36.0	D	52.9	D	25.8	C	63.7	E

Source: *Traffic Study Report* (July 2010).

Note: A black box (F) represents a deficient segment.

EB = eastbound SR-91 = State Route 91

LOS = level of service WB = westbound

sec = seconds

**Table 3.6.26 Lincoln Avenue Design Variation 2035 Intersection Analysis**

Arterial	Intersection	Baseline/Existing (2007)				2035 Base Condition (Diamond)				2035 Design Variation (Hook)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Lincoln Avenue	SR-91 WB ramps/Pomona Road	220.6	F	26.4	C	NA				NA			
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	18.1	B	13.4	B	20.2	C	15.3	B
	Lincoln Avenue/SR-91 WB ramps	NA				82.4	F	32.9	C	69.7	E	33.0	C
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	F	168.3	F	135.0	F	NA			
	Lincoln Avenue/Hotel Access	NA				12.7	B	28.0	D	10.1	B	12.2	B
	Lincoln Avenue/D Street	14.1	B	18.7	B	25.9	C	32.6	C	121.8	F	255.3	F
	SR-91 EB ramps/D Street	NA				NA				43.5	D	118.1	F

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound sec = seconds

LOS = level of service SR-91 = State Route 91

NA = not applicable WB = westbound

**Table 3.6.27 2035 Alternative 2 Mid-City Access Design Variation with  
Base Assumptions at Maple  
Street and Lincoln Avenue Intersection Analysis**

Arterial	Intersection	2035 Alternative 2							
		No Smith Avenue Access				With Smith Avenue Access			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	70.6	E	46.7	D	83.2	F	46.4	D
	Maple Street/SR-91 WB ramps	12.7	B	23.4	C	11.9	B	24.0	C
	Maple Street/SR-91 EB ramps	23.3	C	39.1	D	18.5	B	39.4	D
	Sixth Street/Paseo Grande	36.0	D	52.9	D	30.7	C	45.7	D
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	E	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	E	106.6	F	83.5	F	88.5	F
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.1	B	13.4	B	19.0	B	12.8	B
	Lincoln Avenue/SR-91 WB ramps	82.4	F	32.9	C	67.8	E	30.1	C
	Lincoln Avenue/SR-91 EB ramps	168.3	F	135.0	F	153.0	F	120.9	F
	Lincoln Avenue/Hotel Access	12.7	B	28.0	C	12.7	B	18.6	C
	Lincoln Avenue/D Street	25.9	C	32.6	C	27.0	C	26.5	C

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

NA = not applicable

SR-91 = State Route 91

LOS = level of service

sec = seconds

WB = westbound

**Table 3.6.28 2035 Alternative 2 Mid-City Access Design  
Variation with Maple Street Design Variation and  
Base Assumptions at Lincoln Avenue Intersection Analysis**

Arterial	Intersection	2035 Alternative 2							
		No Smith Avenue Access				With Smith Avenue Access			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	77.2	E	45.0	D	82.6	F	42.3	D
	Maple Street/SR-91 WB ramps	8.5	A	23.1	C	7.7	A	23.6	C
	Maple Street/SR-91 EB off-ramp and WB on-ramp	38.8	D	91.3	F	26.6	C	70.5	E
	Sixth Street/SR-91 EB on-ramp	25.8	C	63.7	E	24.9	C	64.8	E
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	E	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	E	106.6	F	83.5	F	88.5	F
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.1	B	13.4	B	19.0	B	12.8	B
	Lincoln Avenue/SR-91 WB ramps	82.4	F	32.9	C	67.8	E	30.1	C
	Lincoln Avenue/SR-91 EB ramps	168.3	F	135.0	F	153.0	F	120.9	F
	Lincoln Avenue/Hotel Access	12.7	B	28.0	C	12.7	B	18.6	C
	Lincoln Avenue/D Street	25.9	C	32.6	C	27.0	C	26.5	C

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

NA = not applicable

SR-91 = State Route 91

LOS = level of service

sec = seconds

WB = westbound

**Table 3.6.29 2035 Alternative 2 Mid-City Access Design Variation with  
Base Assumption at Maple Street and Lincoln Avenue Design  
Variation Intersection Analysis**

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	70.6	E	46.7	D	83.2	F	46.4	D
	Maple Street/SR-91 WB ramps	12.7	B	23.4	C	11.9	B	24.0	C
	Maple Street/SR-91 EB ramps	23.3	C	39.1	D	18.5	B	39.4	D
	Sixth Street/Paseo Grande	36.0	D	52.9	D	30.7	C	45.7	D
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	E	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	E	106.6	F	83.5	F	88.5	F
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.2	C	15.3	B	19.6	B	14.0	B
	Lincoln Avenue/SR-91 WB ramps	69.7	E	33.0	C	60.3	E	32.7	C
	Lincoln Avenue/Hotel Access	10.1	B	12.2	B	10.0	B	12.0	B
	Lincoln Avenue/D Street	121.8	F	255.3	F	112.0	F	239.8	F
	SR-91 EB ramps/D Street	43.5	D	118.1	F	43.3	D	108.2	F

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

NA = not applicable

SR-91 = State Route 91

LOS = level of service

sec = seconds

WB = westbound

**Table 3.6.30 2035 Alternative 2 Mid-City Access Design  
Variation with Maple Street and Lincoln Avenue  
Design Variation Intersection Analysis**

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	77.2	E	45.0	D	82.6	F	42.3	D
	Maple Street/SR-91 WB ramps	8.5	A	23.1	C	7.7	A	23.6	C
	Maple Street/SR-91 EB ramps	38.8	D	91.3	F	26.6	C	64.8	E
	Sixth Street/Paseo Grande	25.8	C	63.7	E	24.9	C	65.1	E
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	E	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	E	106.6	F	83.5	F	88.5	F
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.2	C	15.3	B	19.6	B	14.0	B
	Lincoln Avenue/SR-91 WB ramps	69.7	E	33.0	C	60.3	E	32.7	C
	Lincoln Avenue/Hotel Access	10.1	B	12.2	B	10.0	B	12.0	B
	Lincoln Avenue/D Street	121.8	F	255.3	F	112.0	F	239.8	F
	SR-91 EB ramps/D Street	43.5	D	118.1	F	43.3	D	108.2	F

Source: *Traffic Study Report* (July 2010).

Note 1: A black box (F) represents a deficient segment.

Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.

EB = eastbound

NA = not applicable

SR-91 = State Route 91

LOS = level of service

sec = seconds

WB = westbound

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
<b>Facilities Along SR-91</b>		
Santa Ana River Trail/Bike Lane in the Cities of Anaheim and Corona (does not cross SR-91)	None; the Trail/Bike Lane does not cross SR-91.	A segment of the Trail/Bike Lane would be shifted north and farther from SR-91, and would be reconstructed (with paved asphalt) approximately 12 ft wide in the Initial Phases of Alternatives 1 and 2. No further changes to the Trail/Bike Lane would occur under Alternatives 1 and 2. Shifting the Trail/Bike Lane farther away from SR-91 would improve the experience for bicyclists and pedestrians.
Existing Class II bikeway in the City of Anaheim (does not cross SR-91)	None; this bikeway does not cross SR-91.	Alternatives 1 and 2 would not affect this bikeway because it is southwest of the easternmost project limits on SR-91 and does not cross SR-91.
Gypsum Canyon Road in the City of Anaheim (crosses under SR-91)	None; there would be no improvements at the Gypsum Canyon Road undercrossing at SR-91 under Alternatives 1 and 2.	A realignment project by others would add a 13 ft wide sidewalk on the west side of Gypsum Canyon Road and an 8 ft sidewalk on the east side.  Alternatives 1 and 2 would not result in any improvements at the Gypsum Canyon Road undercrossing or any changes to the sidewalks provided by others.
Coal Canyon Road in the City of Anaheim (crosses under SR-91)	The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Coal Canyon Road is 166 ft.  Alternative 1 would widen the westbound bridge by 24 ft and the eastbound bridge by 30 ft, for a total width of 220 ft for the combined bridge structures on SR-91 above Coal Canyon Road.  Alternative 2 would widen the westbound bridge by 40 ft and the eastbound bridge 38 ft, for a total width of 244 ft for the combined bridge structures on SR-91 above Coal Canyon Road.	The widening of these bridges under Alternatives 1 and 2 would increase the width of the combined undercrossings at the westbound and eastbound bridges under SR-91 on Coal Canyon Road. As a result, the total length of the undercrossing and the time that pedestrians and bicyclists would be in the undercrossing structure as they cross under SR-91 at Coal Canyon Road would increase.  Coal Canyon Road is now an unpaved wildlife crossing and provides access across SR-91 for CHSP employees and visitors. Because this crossing is primarily intended as a wildlife crossing and it is not extensively used by pedestrians and bicyclists, the lengthened undercrossings would not result in an adverse impact on pedestrians and bicyclists.  Any lighting provided in the new part of the undercrossing would need to be coordinated with CHSP to minimize adverse impacts to wildlife using this crossing.

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
Green River Road in the City of Corona (crosses over SR-91)	None; there would be no improvements at the Green River Road overcrossing at SR-91 under Alternatives 1 and 2.	The existing sidewalks and bicycle lanes on Green River Road would not be changed under Alternatives 1 and 2.
Existing Class II bikeway in the City of Corona; this bikeway crosses SR-91 on Green River Road (crosses over SR-91)	None; there would be no improvements at the Green River Road overcrossing at SR-91 under Alternatives 1 and 2.	The existing bikeway on Green River Road would not be changed under Alternatives 1 and 2.
Prado Road and the BNSF railroad tracks in the City of Corona (cross under SR-91)	<p>The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Prado Road and the BNSF is 210 ft.</p> <p>Alternative 1 would widen the westbound bridge by 16 ft for total width of 226 ft for the combined bridge structures on SR-91 above this undercrossing.</p> <p>Alternative 2 would widen the westbound bridge by 30 ft for a total width of 240 ft for the combined bridge structures on SR-91 above this undercrossing.</p> <p>Under Alternatives 1 and 2, the existing westbound off-ramp would be removed and converted to westbound through lanes. A new 50 ft wide bridge for the westbound off-ramp would be constructed in this area under Alternatives 1 and 2.</p>	<p>Alternatives 1 and 2 would result in only minor changes in the width of the existing undercrossing under SR-91 at Prado Road and the BNSF railroad tracks. They would also include a new 50 ft wide bridge on the north side of SR-91 for the westbound off-ramp. This bridge widening under Alternatives 1 and 2 would not result in a substantial impact on pedestrians or bicyclists.</p> <p>The BNSF right-of-way is not open for use by pedestrians or bicyclists and, therefore, any changes to the overhead structures would not impact pedestrians or bicyclists.</p>
Auto Center Drive/Serfas Club Drive in the City of Corona (crosses under SR-91)	<p>The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Auto Center Drive/Serfas Club Drive is 165 ft.</p> <p>Alternative 1 would widen both the westbound and eastern bridges by 28 ft each for a total width of 221 ft for the combined westbound and eastbound bridge structures on SR-91 above this undercrossing.</p> <p>Alternative 2 would widen the westbound and eastbound bridges by 40 ft each for a total width of 245 ft for the combined westbound and eastbound structures on SR-91 above this undercrossing.</p>	<p>The widening of these bridges under Alternatives 1 and 2 would increase the widths of the undercrossings under SR-91 at the westbound and eastbound bridges on SR-91 above Auto Center Drive/Serfas Club Drive. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 on Auto Center Drive/Serfas Club Drive would increase.</p> <p>Alternatives 1 and 2 would provide 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides of Auto Center Drive/Serfas Club Drive, respectively.</p>

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
<p>Maple Street in the City of Corona (crosses over SR-91)</p>	<p>The length of the existing bridge structure on Maple Street at its crossing over SR-91 is 75 ft.</p> <p>The length of the existing Frontage Road at its crossing of SR-91 is 35 ft.</p> <p>Alternatives 1 and 2 with DV 1 would widen the west side of the Maple Street bridge (southbound traffic) by 18 ft for a total width of 93 ft for the Maple Street bridge structure.</p> <p>A new 35 ft wide bridge structure at Frontage Road would be added under Alternative 2 with DVs 1 and 2.</p> <p>Alternative 1 with DV 3 would not change the existing bridge at Maple Street but would add a new 35 ft wide bridge structure at Frontage Road.</p> <p>Alternative 2 with DV 2 would widen the west side (southbound traffic) of the bridge by 20 ft for a total width of 95 ft for the Maple Street bridge structure.</p> <p>Alternative 2 with DV 3 would not change the existing bridge at Maple Street but would add a new 35 ft wide bridge structure at Frontage Road and a new 35 ft wide bridge structure across SR-91 for westbound access.</p> <p>Alternative 2 with DV 4 would completely realign the existing bridge at Maple Street, would provide a new 86 ft wide bridge structure at Maple Street, and would add a new 35 ft wide bridge structure at Frontage Road and a new 35 ft wide bridge structure across SR-91 for westbound access.</p>	<p>The widening of the bridges and the addition of a new bridge over the Frontage Road under Alternatives 1 and 2 would increase the widths of the overcrossings on Maple Street, and Frontage Road/Sixth Street. As a result, the total length of time that pedestrians and bicyclists would be on the overcrossing structure as it crosses over SR-91 at Maple Street would increase.</p> <p>Alternatives 1 and 2 with DVs 1<sup>2</sup> and 2<sup>3</sup> would provide a 7 ft wide sidewalk on the west side Maple Street only.</p> <p>Alternatives 1 and 2 with DVs 3<sup>4</sup> and 4<sup>5</sup> would result in no change from the existing 5 ft wide sidewalks on the west and east sides of Maple Street.</p> <p>Alternatives 1 and 2 with all DVs would provide 5 ft wide bicycle lanes on the west and east sides of Maple Street.</p> <p>Alternatives 1 and 2 would provide 5 ft wide sidewalks on the west and east sides of the realigned Frontage Road and would retain the existing sidewalks on Sixth Street.</p> <p>Alternatives 1 and 2 would provide 5 ft wide bicycle lanes on the east and west sides of Sixth Street.</p>

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
Frontage Road/Sixth Street in the City of Corona and unincorporated Riverside County (does not cross SR-91)	The Frontage Road/Sixth Street improvements are included in the description of the Maple Street improvements provided above.	The effects of Alternatives 1 and 2 at Frontage Road/ Sixth Street are included in the description of the project effects at Maple Street provided above.
Smith Avenue in the City of Corona (crosses over SR-91)	<p>The length of the existing bridge structure on Smith Avenue at its crossing over SR-91 is 75 ft.</p> <p>Alternatives 1 and 2 with DVs 1 and 3 would result in no change in the width of the bridge structure and no change from the existing 5 ft wide sidewalks on Smith Avenue.</p> <p>Alternative 2 with DVs 2 and 4 would widen the west side (southbound traffic) of the Smith Avenue bridge by 26 ft and the east side of the Smith Avenue bridge by 16 ft for a total length of 117 ft for the combined bridge structures crossing over SR-91.</p> <p>In addition, Alternative 2 with DVs 2 and 4 would add a new 75 ft wide structure for drop ramps.</p>	<p>Alternatives 1 and 2 with DVs 1 and 3 would result in no change in the width of the overcrossing or in the existing 5 ft wide sidewalks on Smith Avenue.</p> <p>Alternative 2 with DVs 2 and 4 would result in a wider overcrossing and the addition of overhead drop ramps.</p> <p>Alternative 2 with DVs 2 and 4 would provide an 8 ft sidewalk on the east side of Smith Avenue, and 5 ft wide bicycle lanes on the west and east sides of Smith Avenue.</p>
Wardlow Road in the City of Corona (does not cross SR-91)	None; Wardlow Road does not cross SR-91.	Alternatives 1 and 2 would provide a 10 ft wide sidewalk on the north side and a 5 ft wide sidewalk on the south side but would not provide any bicycle facilities.
Pomona Road in the City of Corona (does not cross SR-91)	None; Pomona Road does not cross SR-91.	Alternatives 1 and 2 would provide 5 ft wide sidewalks on the west and east sides but no bicycle facilities.
Lincoln Avenue in the City of Corona (crosses over SR-91)	<p>The total width of the existing bridge structure on Lincoln Avenue at its crossing over SR-91 is 75 ft.</p> <p>Alternatives 1 and 2 would widen the existing Lincoln Avenue bridges on the eastern and western sides by 18 ft each for a total length of 111 ft for the combined bridge structures crossing over SR-91.</p>	Alternatives 1 and 2 would provide 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides of Lincoln Avenue, and ADA ramps on the west and east sidewalks.

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
Buena Vista Avenue in the City of Corona (crosses under SR-91)	<p>The total length of the existing combined westbound and eastbound bridge structures on SR-91 above Buena Vista Avenue is 145 ft.</p> <p>Alternative 1 would widen the westbound bridge 54 ft and the eastbound bridge 44 ft for a total width of 243 ft for the combined bridge structures on SR-91 above Buena Vista Avenue.</p> <p>Alternative 2 would widen the westbound bridge 65 ft and the eastbound bridge 55 ft for a total width of 265 ft for the combined bridge structures on SR-91 above Buena Vista Avenue.</p>	<p>The widening of the bridges under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above Buena Vista Avenue. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at Buena Vista Avenue would increase.</p>
West and East Grand Boulevard in the City of Corona (cross under SR-91)	<p><b><u>West Grand Boulevard</u></b></p> <p>The total length of the existing combined westbound and eastbound bridge structures on SR-91 above West Grand Boulevard is 135 ft.</p> <p>Alternative 1 would widen the westbound bridge 82 ft and the eastbound bridge 70 ft for a total width of 287 ft for the combined bridge structures on SR-91 above West Grand Boulevard.</p> <p>Alternative 2 would widen the westbound bridge 96 ft and the eastbound bridge 80 ft for a total width of 311 ft for the combined bridge structures on SR-91 above West Grand Boulevard.</p> <p><b><u>East Grand Boulevard</u></b></p> <p>The total width of the existing combined westbound and eastbound bridge structures on SR-91 above East Grand Boulevard is 175 ft.</p> <p>Alternative 1 would widen the westbound bridge 168 ft and the eastbound bridge 144 ft for a total width of 487 ft</p>	<p><b><u>West Grand Boulevard</u></b></p> <p>The widening of the bridges on SR-91 under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above West Grand Boulevard. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at West Grand Boulevard would increase.</p> <p>Alternatives 1 and 2 would result in no changes in the existing 5 ft wide sidewalks on West Grand Boulevard.</p> <p><b><u>East Grand Boulevard</u></b></p> <p>The widening of the bridges on SR-91 under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above East Grand Boulevard. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at East Grand Boulevard would increase.</p> <p>Alternatives 1 and 2 would provide 5 ft wide sidewalks (no grass area between curb and sidewalk) and 5 ft wide</p>

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
	<p>for the combined width of the bridge structures on SR-91 above East Grand Boulevard.</p> <p>Alternative 2 would widen the westbound bridge 190 ft and the eastbound bridge 154 ft for a total width of 519 ft for the combined bridge structures on SR-91 above East Grand Boulevard.</p>	<p>bicycle lanes on the west and east sides of East Grand Boulevard.</p>
<p>Main Street in the City of Corona (crosses under SR-91)</p>	<p>The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Main Street is 180 ft.</p> <p>Alternative 1 would widen the westbound bridge 68 ft and the eastbound bridge 54 ft for a total width of 302 ft for the combined bridge structures on SR-91 above Main Street.</p> <p>Alternative 2 would widen the westbound bridge 84 ft and the eastbound bridge 66 ft for a total width of 330 ft for the combined bridge structures on SR-91 above Main Street.</p>	<p>The widening of the bridges under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above Main Street. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at Main Street would increase.</p> <p>Alternatives 1 and 2 would provide 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides and Main Street but would not provide ADA ramps on the sidewalks.</p>
<p>Promenade Avenue in the City of Corona (crosses over SR-91)</p>	<p>None; no improvements would be made to this overcrossing under Alternatives 1 and 2.</p>	<p>Alternatives 1 and 2 result in no changes in the 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides of Promenade Avenue.</p>
<p>McKinley Street in the City of Corona (crosses under SR-91)</p>	<p>The total width of the existing combined westbound and eastbound bridge structures on SR-91 above McKinley Street is 210 ft.</p> <p>Alternatives 1 and 2 would widen the westbound bridge 28 ft and the eastbound bridge 18 ft for a total width of 256 ft for the combined bridge structures on SR-91 above McKinley Street.</p>	<p>The widening of the bridges under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above McKinley Street. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at McKinley Street would increase.</p> <p>Alternatives 1 and 2 would result in no change in the existing 4 ft wide sidewalk on the east side of McKinley Street.</p>

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
Existing primary equestrian, bicycle, and pedestrian trail in the City of Riverside	The existing width of this bridge structure is 38 ft.  Alternatives 1 and 2 would raise the profile of Buchanan Street, which would require the reconstruction of the existing overcrossing, including the road, sidewalks, curb/gutter, and trail. The existing 38 ft wide bridge would not be widened under Alternatives 1 and 2.	Alternatives 1 and 2 would result in no change in the trail facility at its crossing of SR-91 at Buchanan Street.
Buchanan Street in the City of Riverside	The Buchanan Street improvements are included in the description of the primary equestrian, bicycle, and pedestrian trail in the City of Riverside provided above.	The effects of Alternatives 1 and 2 at Buchanan Street are included in the description of the primary equestrian, bicycle, and pedestrian trail in the City of Riverside provided above.
Existing Class I Bikeway in the City of Riverside	Alternatives 1 and 2 would result in no changes in this bikeway crossing at SR-91.	Alternatives 1 and 2 would result in no changes in this bikeway crossing at SR-91.
Riverwalk Parkway/Pierce Street in the City of Riverside	Alternatives 1 and 2 would result in no changes at this crossing of SR-91.	Alternatives 1 and 2 would result in no changes at this crossing of SR-91.
<b>Facilities Along I-15</b>		
Corona Avenue in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 above Corona Avenue is 70 ft wide.  The existing southbound bridge structure on I-15 above Corona Avenue is 70 ft wide.  Alternatives 1 and 2 would provide a new 55 ft wide bridge between the existing northbound and southbound bridges for a total width of 195 ft for the combined bridge structures on I-15 above Corona Avenue.	The addition of a new 55 ft wide bridge between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at Corona Avenue.  Alternatives 1 and 2 would result in no changes to the existing 5 ft wide sidewalks on the north and south sides of Corona Avenue.
Old Temescal Road in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 above Old Temescal Road is 70 ft wide.  The existing southbound bridge structure on I-15 above Old Temescal Road is 70 ft wide.  Alternatives 1 and 2 would provide a new 54 ft wide bridge between the existing northbound and southbound bridges for a total width of 194 ft for the combined bridge structures on I-15 above Old Temescal Road.	The addition of a new 54 ft wide bridge on I-15 between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at Old Temescal Road.  Alternatives 1 and 2 would result in no changes to the existing cross section on Temescal Road and would not provide sidewalks or bicycle facilities on this road at its crossing of I-15.

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
Ontario Avenue in the City of Corona (crosses under I-15)	<p>The existing northbound bridge structure on I-15 above Ontario Avenue is 50 ft wide.</p> <p>The existing southbound bridge structure on I-15 above Ontario Avenue is 50 ft wide.</p> <p>Alternatives 1 and 2 would provide a new 76 ft wide bridge between the existing northbound and southbound bridges for a total width of 176 ft for the combined bridge structures on I-15 above Ontario Avenue.</p>	<p>The addition of a new 76 ft wide bridge on I-15 between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at Ontario Avenue.</p> <p>Alternatives 1 and 2 would result in no changes to the existing sidewalk on Ontario Avenue at its crossing of I-15.</p>
El Cerrito Road in the City of Corona (crosses under I-15)	<p>The existing northbound bridge structure on I-15 above El Cerrito Road is 50 ft wide.</p> <p>The existing southbound bridge structure on I-15 above El Cerrito Road is 50 ft wide.</p> <p>Alternatives 1 and 2 would provide a new 58 ft wide bridge between the existing northbound and southbound bridges for a total width of 158 ft for the combined bridge structures on I-15 above El Cerrito Road.</p>	<p>The addition of a new 58 ft wide bridge on I-15 between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at El Cerrito Road.</p> <p>Alternatives 1 and 2 would result in no changes to the existing sidewalks on El Cerrito Road at its crossing of I-15.</p>
Hidden Valley Parkway in the City of Norco (crosses over I-15)	<p>The existing overcrossing structure is 115 ft wide.</p> <p>Alternatives 1 and 2 will not result in any changes to this structure.</p>	<p>Alternatives 1 and 2 will not result in any changes to the existing sidewalks on this overcrossing.</p>
Parkridge Avenue in the City of Corona (crosses under I-15)	<p>The existing northbound bridge structure on I-15 over Parkridge Avenue is 85 ft wide.</p> <p>The existing southbound bridge structure on I-15 over Parkridge Avenue is 60 ft wide.</p> <p>Alternative 1 would not change the existing bridge structures on I-15 over Parkridge Avenue.</p> <p>Alternative 2 would provide a new 55 ft bridge between the existing northbound and southbound bridges for a total width of 200 ft for the combined bridge structures on I-15 over Parkridge Avenue.</p>	<p>Alternative 1 would not change the length of the undercrossing at Parkridge Avenue.</p> <p>Alternative 2 would increase the total length of the undercrossing at Parkridge Avenue. As a result, the total length of time pedestrians and bicyclists would be in the undercrossing as they cross under I-15 at Parkridge Avenue would increase under Alternative 2.</p>

**Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2**

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions <sup>1</sup> Under Alternatives 1 and 2
East Sixth Street in the City of Corona (crosses under I-15)	The existing overcrossing structure is 105 ft wide. Alternatives 1 and 2 will not result in any changes to this structure.	Alternatives 1 and 2 will not result in any changes to the existing sidewalks on this overcrossing.
Magnolia Avenue in the City of Corona (crosses over I-15)	The existing Magnolia Avenue overpass structure on I-15 is 105 ft wide.  Alternatives 1 and 2 would not result in any modifications or changes to this bridge structure.	Alternatives 1 and 2 would result in no changes to the existing sidewalks on the Magnolia Avenue overcrossing.

Source: Riverside County Transportation Commission (2009 and 2011).

Note: In addition to the crossings described above, there are other crossings on SR-91 that are not available for pedestrian and bicycle use and, therefore, are not listed in the table above. Those crossings are at:

- Undercrossing at Fresno Canyon (just south of Prado Dam Spillway) in the City of Corona
- SR-71 Connector to eastbound SR-91 in the City of Corona
- BNSF railroad crossing in the City of Corona
- BNSF railroad crossing/Temescal Wash in the City of Corona

<sup>1</sup> Conditions apply to the street(s) in the areas of improvement(s) only. The noted improvements would be constructed as part of either the Initial Phases of Alternatives 1 and 2 or Alternatives 1 and 2, depending on when construction in these areas would occur.

<sup>2</sup> DV 1 is the Auto Center Drive/Maple Street interchange (split diamond).

<sup>3</sup> DV 1 is the Auto Center Drive/Maple Street interchange (Smith Avenue drop ramps).

<sup>4</sup> DV 1 is the Auto Center Drive/Maple Street interchange (direct connectors).

<sup>5</sup> DV 1 is the Auto Center Drive/Maple Street interchange (direct connector with Smith Avenue drop ramps).

ADA = Americans with Disabilities Act

BNSF = Burlington Northern Santa Fe

CHSP = Chino Hills State Park

DV = Design Variation

ft = feet

I-15 = Interstate 15

SR-71 = State Route 71

SR-91 = State Route 91

**Table 3.6.32 Summary of Effects to Undercrossing Structures**

Undercrossing Location	Total Combined Lengths of Bridge Structures at Undercrossings		
	Length of Existing Structures Under Freeway	Maximum Length of Structures Under Freeway Under Alternative 1 and its Design Variations	Maximum Length of Structures Under Freeway Under Alternative 2 and its Design Variations, Including Alternative 2f
<b>Undercrossings on SR-91</b>			
Coal Canyon Road in Anaheim	166 ft	220 ft	244 ft
Auto Center Drive/Serfas Club Drive in Corona	165 ft	221 ft	245 ft
Buena Vista Avenue in Corona	145 ft	243 ft	265 ft
West Grand Boulevard in Corona	135 ft	287 ft	311 ft
East Grand Boulevard in Corona	175 ft	487 ft	519 ft
Main Street in Corona	180 ft	302 ft	330 ft
McKinley Street in Corona	210 ft	256 ft	256 ft
<b>Undercrossings on I-15</b>			
Corona Avenue in Corona	140 ft	195 ft	195 ft
Old Temescal Road in Corona	140 ft	194 ft	194 ft
Ontario Avenue in Corona	100 ft	176 ft	176 ft
El Cerrito Road in Corona	100 ft	158 ft	158 ft
Parkridge Avenue in Corona	145 ft	145 ft	200 ft

Source: Riverside County Transportation Commission (2011).

Note: This table describes the project effects at undercrossings that would change under Alternatives 1 and 2. The lengths of the structures provided for Alternative 2 are the maximum lengths for Alternative 2 and its design variations. The length of the structures for design variation Alternative 2f are included in these structure lengths. Refer to Table 3.6.31 for descriptions of unaffected trails and local streets adjacent to or at freeway undercrossings.

Alt = Alternative

ft = feet

I-15 = Interstate 15

SR-91 = State Route 91

**Table 3.6.33 Summary of Effects to Overcrossing Structures**

Overcrossing Location	Total Combined Lengths of Bridge Structures at Overcrossings		
	Length of Existing Structures Over SR-91	Maximum Length of Structures Over SR-91 Under Alternative 1 and Its Design Variations	Maximum Length of Structures Over SR-91 Under Alternative 2 and Its Design Variations, Including Alternative 2f
Maple Street in Corona	260 ft	375 ft	370–420 ft <sup>1</sup>
Smith Avenue in Corona	250 ft	250 ft <sup>2</sup>	690 ft
Existing primary equestrian, bicycle and pedestrian trail on Buchanan Street in Corona	215 ft	250 ft	250 ft

Source: Riverside County Transportation Commission (2011).

Note: This table describes the project effects at overcrossings that would change under Alternatives 1 and 2. The lengths of the structures provided for Alternative 2 are the maximum lengths for Alternative 2 and its design variations. The length of the structures for design variation Alternative 2f are included in these structure lengths. Refer to Table 3.6.31 for descriptions of unaffected trails and local streets adjacent to or at freeway overcrossings.

<sup>1</sup> Ranges reflect the design variations under Alternatives 1 and 2.

<sup>2</sup> No change from existing under Alternative 1.

ft = feet

SR-91 = State Route 91

**Table 3.6.34 Summary of SR-91 Delays for Connector Closures**

Scenario	Phase	Year	Travel Time (min)		Daily Delay <sup>1</sup> (veh/hr)
			Per Trip <sup>1</sup>	Additional <sup>1</sup>	
<b>Eastbound SR-91</b>					
Weekend Baseline	–	2015	30	10	500
EB SR-91 to NB I-15 (Weekend)	Initial & Project	2015	50	30	2,900
<b>Westbound SR-91</b>					
Weekend Baseline	–	2015	25	5	1,500
WB SR-91 to SB SR-241 (Weekend)	Initial & Project	2015	40	20	500
SB SR-91 to SB I-15 (Weekend)	Project	2015	30	10	200

Source: *Final Work Zone Mainline Analysis* (February 2010).

<sup>1</sup> The additional travel time and delay is compared to the free-flow (ideal) conditions.

EB = eastbound      NB = northbound      SR-241 = State Route 241  
I-15 = Interstate 15      SB = southbound      veh/hr = vehicles per hour  
min = minutes      SR-91 = State Route 91      WB = westbound

**Table 3.6.35 Temporary Ramp Closures and Resulting Travel Time Increases on SR-91**

Interchange	Ramps (Off/On)	Time of Closure	Duration	Additional Travel Time Due to Temporary Detour Route
<b>SR-91 Eastbound</b>				
SR-241 NB – SR-91 EB	On	Weekends	3 weekends	4 min 3 sec
SR-71 SB – SR-91 EB	On	Weekends	2 weekends	3 min 2 sec
Auto Center Drive	On	Weekdays and Weekends	6 months	2 min 40 sec
Second Street/Grand Boulevard	Off	Permanent	--	2 min 30 sec
Main Street	On	Weekdays and Weekends	6 months	5 min 34 sec (Detour 1) 6 min 0 sec (Detour 2)
SR-91 EB – I-15 NB	Off	Weekends	2 weekends	3 min 26 sec (Detour 1) 4 min 40 sec (Detour 2)
SR-91 EB – I-15 SB	Off	Weekends	2 weekends	3 min 40 sec (Detour 1) 4 min 58 sec (Detour 2)
I-15 SB – SR-91 EB	On	Weekends	2 weekends	4 min 40 sec
McKinley Street	On (SB)	Weekdays and Weekends	2 months	1 min 33 sec
McKinley Street	On (NB)	Weekdays and Weekends	2 months	5 min 22 sec (Detour 1) 2 min 48 sec (Detour 2) <sup>1</sup>
Buchanan Street NB	Overpass Bridge	Weekdays and Weekends	9 months	5 min 18 sec <sup>1</sup>
Buchanan Street SB	Overpass Bridge	Weekdays and Weekends	9 months	5 min 43 sec <sup>1</sup>
Magnolia Avenue	Off	Weekdays and Weekends	2 weeks	1 min 12 sec
<b>SR-91 Westbound</b>				
Gypsum Canyon Road	Off	Weekdays and Weekends	3 weekends	4 min 52 sec
SR-91 WB – SR-241 SB	Off	Weekends	6 weekends	4 min 0 sec
SR-71 SB – SR-91 WB	On	Weekends	1 weekend	4 min 34 sec
SR-91 WB – SR-71 NB	Off	Weekends	4 weekends	5 min 41 sec
Auto Center Drive	Off	Weekdays and Weekends	6 months	2 min 31 sec
Maple Street	Off	Weekdays and Weekends	2 months	2 min 15 sec
Grand Boulevard	On	Permanent	--	4 min 1 sec
Main Street	Off	Weekdays and Weekends	12 months	5 min 7 sec
I-15 SB – SR-91 WB	On	Weekends	1 weekend	5 min 17 sec
SR-91 WB – I-15 SB	Off	Weekends	2 weekends	3 min 50 sec
SR-91 WB – I-15 NB	Off	Evenings	5 nights	3 min 33 sec
McKinley Street	Off (NB)	Weekdays and Weekends	2 months	1 min 58 sec (Detour 1) 3 min 31 sec (Detour 2) <sup>1</sup>

Source: *Final Ramp Closure Study* (February 2010).

<sup>1</sup> This detour route intersects the railroad track two times; however, the additional travel time shown does not reflect any delay caused by the train crossing. The actual time delay along this route could be longer.

EB = eastbound      NB = northbound      SR-71 = State Route 71      SR-241 = State Route 241  
I-15 = Interstate 15      SB = southbound      SR-91 = State Route 91      WB = westbound

Table 3.6.36 Intersection Peak-Hour Levels of Service with Ramp Closures

Intersection	Peak Hour	2015 Baseline	Ramp Closure Scenarios																	
			Eastbound					Westbound					Combination Closures							
			Auto Center Drive On-ramp	Second Street / Grand Boulevard Off-ramp	Main Street On-ramp	McKinley Street On-ramp (SB)	McKinley Street On-ramp (NB)	Magnolia Avenue Off-ramp	Auto Center Drive Off-ramp	Maple Street Off-ramp	Main Street Off-ramp	Grand Boulevard On-ramp	McKinley Street Off-ramp (NB)	Auto Center Drive EB On-ramp / Auto Center Drive WB Off-ramp	Main Street On-ramp (EB) / Main Street Off-ramp (WB)	McKinley Street EB On-ramp (SB) & WB Off-ramp (NB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB)	Main Street EB On-ramp & McKinley Street WB Off-ramp (NB)	Buchanan Street Overpass and McKinley Street EB On-ramp (NB)	
SR-91 WB ramps / Auto Center Drive	AM	D	-	-	-	-	-	-	B	D	-	-	-	-	B	-	-	-	-	-
	PM	B	-	-	-	-	-	-	A	D	-	-	-	-	A	-	-	-	-	-
SR-91 EB ramps / Auto Center Drive	AM	B	B	-	-	-	-	-	B	-	-	-	-	-	B	-	-	-	-	-
	PM	B	B	-	-	-	-	-	B	-	-	-	-	-	B	-	-	-	-	-
SR-91 EB ramps / West Sixth Street	AM	C	C	-	-	-	-	-	C	-	-	-	-	-	C	-	-	-	-	-
	PM	F	F	-	-	-	-	-	F	-	-	-	-	-	F	-	-	-	-	-
SR-91 WB ramps / West Sixth Street	AM	C	-	-	-	-	-	-	C	B	-	-	-	-	C	-	-	-	-	-
	PM	D	-	-	-	-	-	-	D	B	-	-	-	-	D	-	-	-	-	-
SR-91 EB ramps / Lincoln Street	AM	C	-	-	F	-	-	-	-	C	-	-	-	-	-	F	-	F	F	-
	PM	F	-	-	F	-	-	-	-	F	-	-	-	-	-	F	-	F	F	-
SR-91 WB ramps / Pomona Road	AM	C	-	-	-	-	-	-	-	C	-	-	-	-	-	C	-	-	-	-
	PM	D	-	-	-	-	-	-	-	D	-	-	-	-	-	D	-	-	-	-
Lincoln Street / Pomona Road	AM	-	-	-	-	-	-	-	-	C	-	-	-	-	-	C	-	-	-	-
	PM	-	-	-	-	-	-	-	-	C	-	-	-	-	-	C	-	-	-	-
West Grand Boulevard / Frontage Road	AM	F	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-
	PM	F	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-
SR-91 EB Off-ramp / West Second Street	AM	D	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM	F	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR-91 EB Ramps / Main Street	AM	B	-	C	B	-	-	-	-	B	-	-	-	-	B	-	-	B	B	-
	PM	C	-	D	D	-	-	-	-	C	-	-	-	-	B	-	-	D	C	-
SR-91 WB Ramps / Main Street	AM	C	-	C	-	-	-	-	-	B	D	-	-	-	B	-	-	-	-	-
	PM	E	-	E	-	-	-	-	-	C	F	-	-	-	C	-	-	-	-	-
SR-91 EB Ramps / McKinley Street	AM	B	-	-	B	D	B	-	-	D	-	B	-	-	E	-	E	D	C	D
	PM	C	-	-	C	D	C	-	-	D	-	C	-	-	E	-	E	E	D	D
SR-91 WB On-ramp / McKinley Street	AM	C	-	-	-	-	D	-	-	-	-	F	-	C	-	-	-	-	C	F
	PM	B	-	-	-	-	D	-	-	-	-	F	-	D	-	-	-	-	D	E
SR-91 EB Off-ramp / Pierce Street	AM	B	-	-	-	-	-	B	-	-	-	-	-	-	-	-	-	-	-	-
	PM	B	-	-	-	-	-	B	-	-	-	-	-	-	-	-	-	-	-	-
Wardlow Road / Auto Center Drive	AM	B	-	-	-	-	-	-	B	B	-	-	-	-	B	-	-	-	-	-
	PM	B	-	-	-	-	-	-	B	D	-	-	-	-	B	-	-	-	-	-
Frontage Road / Serfas Club Drive	AM	B	C	-	-	-	-	-	C	-	-	-	-	-	D	-	-	-	-	-
	PM	B	E	-	-	-	-	-	D	-	-	-	-	-	F	-	-	-	-	-
Pomona Road / Maple Street	AM	C	-	-	-	-	-	-	C	D	-	-	-	-	C	-	-	-	-	-
	PM	C	-	-	-	-	-	-	E	D	-	-	-	-	D	-	-	-	-	-
West Sixth Street / Paseo Grande Road	AM	C	E	-	-	-	-	-	C	-	-	-	-	-	E	-	-	-	-	-
	PM	D	F	-	-	-	-	-	C	-	-	-	-	-	F	-	-	-	-	-
D Street / Lincoln Street	AM	C	-	-	C	-	-	-	-	-	C	-	-	-	-	C	-	C	C	-
	PM	C	-	-	C	-	-	-	-	-	D	-	-	-	-	D	-	C	C	-
West Second Street / Grand Boulevard	AM	B	-	A	-	-	-	-	-	-	B	-	-	-	-	B	-	-	-	-
	PM	B	-	A	-	-	-	-	-	-	B	-	-	-	-	B	-	-	-	-
Grand Boulevard / Main Street	AM	C	-	D	-	-	-	-	-	-	C	D	-	-	-	C	-	-	-	-
	PM	F	-	E	-	-	-	-	-	-	E	F	-	-	-	E	-	-	-	-
Third Street / Main Street	AM	E	-	D	C	-	-	-	-	-	F	E	-	-	-	C	-	C	C	-
	PM	D	-	C	F	-	-	-	-	-	E	C	-	-	-	D	-	F	D	-
Griffin Way / McKinley Street	AM	C	-	-	-	-	-	D	-	-	C	-	-	-	C	-	C	C	-	D
	PM	D	-	-	-	-	-	F	-	-	D	-	-	-	D	-	D	D	-	F
Sampson Avenue / McKinley Street	AM	C	-	-	D	C	C	-	-	-	D	-	-	-	E	-	E	D	D	D
	PM	D	-	-	E	E	D	-	-	-	F	-	-	-	F	-	F	E	F	E
Magnolia Avenue / Pierce Street	AM	C	-	-	-	D	C	C	-	-	D	-	D	-	-	C	-	D	D	C
	PM	F	-	-	-	F	F	F	-	-	F	-	F	-	-	F	-	F	F	F
Sixth Street / Lincoln Street	AM	C	-	-	E	-	-	-	-	-	E	-	-	-	F	-	-	E	E	-
	PM	D	-	-	D	-	-	-	-	-	E	-	-	-	F	-	-	D	D	-
Sixth Street / Buena Vista Avenue	AM	C	-	-	E	-	-	-	-	-	C	-	-	-	F	-	-	E	E	-
	PM	B	-	-	B	-	-	-	-	-	B	-	-	-	C	-	-	B	B	-
Sixth Street / Vicentia Avenue	AM	A	-	-	-	-	-	-	-	-	A	-	-	-	-	A	-	A	A	-
	PM	B	-	-	-	-	-	-	-	-	B	-	-	-	-	A	-	A	A	-
Sixth Street / West Grand Boulevard	AM	C	-	C	D	-	-	-	-	-	C	-	-	-	-	E	-	D	D	-
	PM	C	-	C	C	-	-	-	-	-	C	-	-	-	-	D	-	C	C	-
Sixth Street / Main Street	AM	D	-	-	E	-	-	-	-	-	F	-	-	-	-	F	-	E	E	-
	PM	D	-	-	E	-	-	-	-	-	E	-	-	-	-	F	-	E	E	-
Sixth Street / East Grand Boulevard	AM	C	-	-	C	-	-	-	-	-	F	-	-	-	-	F	-	C	C	-
	PM	D	-	-	D	-	-	-	-	-	F	-	-	-	-	F	-	D	D	-

Table 3.6.36 Intersection Peak-Hour Levels of Service with Ramp Closures

Intersection	Peak Hour	2015 Baseline	Ramp Closure Scenarios																
			Eastbound					Westbound					Combination Closures						
			Auto Center Drive On-ramp	Second Street / Grand Boulevard Off-ramp	Main Street On-ramp	McKinley Street On-ramp (SB)	McKinley Street On-ramp (NB)	Magnolia Avenue Off-ramp	Auto Center Drive Off-ramp	Maple Street Off-ramp	Main Street Off-ramp	Grand Boulevard On-ramp	McKinley Street Off-ramp (NB)	Auto Center Drive EB On-ramp / Auto Center Drive WB Off-ramp	Main Street On-ramp (EB) / Main Street Off-ramp (WB)	McKinley Street EB On-ramp (SB) & WB Off-ramp (NB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB) & McKinley Street WB Off-ramp (NB)	Buchanan Street Overpass and McKinley Street EB On-ramp (NB)
Sixth Street / Rimpau Avenue	AM	B	-	-	B	-	-	-	-	-	D	-	-	-	C	-	B	B	-
	PM	C	-	-	C	-	-	-	-	-	C	-	-	-	D	-	C	C	-
Sixth Street / El Sobrante Road	AM	B	-	-	B	-	-	-	-	-	C	-	-	-	D	-	B	B	-
	PM	B	-	-	B	-	-	-	-	-	B	-	-	-	A	-	B	B	-
Sixth Street / Radio Road	AM	B	-	-	B	-	-	-	-	-	B	-	-	-	B	-	B	B	-
	PM	B	-	-	B	-	-	-	-	-	B	-	-	-	B	-	B	B	-
Research Drive / Auto Center Drive	AM	B	-	-	-	-	-	-	B	B	-	-	-	B	-	-	-	-	-
	PM	B	-	-	-	-	-	-	B	B	-	-	-	B	-	-	-	-	-
Railroad Street / Lincoln Avenue	AM	C	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
	PM	C	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
Railroad Street / Sheridan Street	AM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
	PM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
Grand Boulevard / Railroad Street	AM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
	PM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
South Promenade Avenue / McKinley Street	AM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C
	PM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F
Shopping Center / McKinley Street	AM	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B
	PM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Estelle Street / McKinley Street	AM	B	-	-	B	B	B	-	-	-	B	-	B	-	A	A	B	B	B
	PM	B	-	-	B	B	B	-	-	-	B	-	B	-	B	B	C	C	B
Magnolia Avenue / McKinley Street	AM	C	-	-	C	C	C	-	-	-	C	-	C	-	C	C	D	E	C
	PM	C	-	-	D	E	C	-	-	-	D	-	C	-	E	E	E	F	E
Magnolia Avenue / Lincoln Street	AM	C	-	-	-	F	D	-	-	-	-	-	C	-	-	C	F	F	F
	PM	F	-	-	-	F	F	-	-	-	-	-	F	-	-	F	F	F	F
Magnolia Avenue / Buchanan Street	AM	F	-	-	-	F	F	-	-	-	-	-	F	-	-	F	F	F	F
	PM	F	-	-	-	F	F	-	-	-	-	-	F	-	-	F	F	F	F
South Promenade Avenue / Tradewind Place	AM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East Third Street / Grand Boulevard	AM	A	-	B	B	-	-	-	-	-	A	-	-	-	B	-	B	B	C
	PM	A	-	C	B	-	-	-	-	-	A	-	-	-	B	-	B	B	C

Source: Final Ramp Closure Study (February 2010).

Note: The intersection LOS results are only provided for the intersections along the primary detours under each closure. Highlighted cells (F) indicate intersections that operate at LOS E or F.

EB = eastbound  
 LOS = level of service  
 NB = northbound  
 SB = southbound  
 WB = westbound

## 3.7 Visual/Aesthetics

### 3.7.1 Regulatory Setting

The National Environmental Policy Act (NEPA) as amended establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 USC 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Likewise, the California Environmental Quality Act establishes that it is the policy of the State to take all action necessary to provide the people of the State “with ... enjoyment of *aesthetic*, natural, scenic and historic environmental qualities” (CA Public Resources Code Section 21001[b]).

### 3.7.2 Methodology

This section summarizes the methodology and terminology used to assess the visual impacts of Alternatives 1 and 2. More details on the methodology are provided in the *Visual Impact Assessment* (VIA; 2010). The visual impact analysis followed the methodology in the *Visual Impact Assessment for Highway Projects* (FHWA, August 1981). The following six principal steps were carried out to assess the potential visual impacts of the project:

1. Define the existing visual environment.
2. Identify key views for visual assessment.
3. Analyze existing visual resources (visual quality and visual character) and viewer groups.
4. Depict the visual appearance of project alternatives and viewer response.
5. Assess the visual impacts of project alternatives.
6. Propose methods to avoid, minimize, and/or mitigate adverse visual impacts.

The visual impacts of the project were determined by assessing the existing visual resources, the visual resource change due to the project, and predicting viewer response to that change. The degree of visual quality in a view was evaluated using the following FHWA descriptive terms:

- **Vividness:** Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns (e.g., Niagara Falls is a highly vivid landscape component).
- **Intactness:** Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes and natural settings (e.g., a two-lane road that meanders through the countryside).
- **Unity:** Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape (e.g., an English or Japanese garden).

The levels of visual impact are:

- **Low:** Minor adverse change to the existing visual resource with low viewer response to a change in the visual environment.
- **Moderate:** Moderate adverse change to the visual resource with moderate viewer response to a change in the visual environment.
- **Moderately High:** Moderate adverse visual resource change with high viewer response to a change in the visual environment or high adverse visual resource change with moderate viewer response to a change in the visual environment.
- **High:** Excessive adverse visual change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts.

### 3.7.3 Affected Environment

The information in this section is based on the *Visual Impact Assessment* (VIA; 2010) for the project, and the *215/91 Corridor Master Plan* (Caltrans 2006).

#### 3.7.3.1 Visual Environment

The regional landscape establishes the general visual character of the project study area, but the specific visual environment on which the VIA focused was determined by defining individual landscape units across the study area. The project's existing setting includes several types of land uses and visual characteristics, including open space, recreational, residential, industrial, and commercial. The project setting includes and is adjacent to local roads in the adjacent cities and highways (i.e., SR-91, SR-241, I-15, and SR-71). The study area includes the interchanges, overhead structures, embankments, and highway ramps within those highway segments.

### 3.7.3.2 Landscape Units

Landscape units are relatively homogeneous combinations of landform and land cover. A landscape unit is part of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. A landscape unit will often correspond to a place or district that is commonly known among local viewers. Landscape units identified in the project study area are described below and are shown on Figure 3.7-1. To assist the reader and because of the large number of figures provided in this section, all the figures referenced in this section are provided in consecutive order following the last page of text in this section.

#### ***Open Space/Recreational Landscape Unit***

The Open Space/Recreational landscape unit is in the Cities of Anaheim, Yorba Linda, and Corona, and in unincorporated areas of Orange and Riverside Counties. It includes views of SR-91 and the open space and recreational areas adjacent to this freeway. This landscape unit is located in elevations ranging from 401 to 800 ft above mean sea level and includes adjacent scenic features such as CHSP, Featherly Regional Park, CNF, the Santa Ana River, and the Green River Golf Club.

The area north of SR-91 in this landscape unit primarily consists of the Santa Ana River running east to west adjacent to SR-91 and the Green River Golf Club. There is residential development north of SR-91 near Gypsum Canyon Road and Green River Road and south of SR-91 near Green River Road; however, these developments are not the primary visual features in this landscape unit. The primary visual feature in this landscape unit is the area south of SR-91, which consists of the rolling hills within the CNF. The CNF was established over 100 years ago by President Theodore Roosevelt and visually occupies the majority of this landscape unit.

The Open Space/Recreational landscape unit is represented by Key Views 1 and 2 and Existing View A. Key View 1 represents a southwest view of the study area from the Green River Golf Club. Key View 2 is from a residential street on the north side of SR-91 near SR-71, representing a typical southeast view of residents on the north side of and overlooking SR-91. This landscape unit includes developed land, as well as the following vegetation categories: chaparral, coastal sage scrub (CSS), nonnative grasslands, oak woodland, riparian forest, riparian scrub, and ruderal and ornamental.

Wildlife associated with the Open Space/Recreational landscape unit includes:

- Western tiger swallowtail (*Papilio rutulus*)
- Western fence lizard (*Sceloporus occidentalis*)

- Red-tailed hawk (*buteo jamaicensis*)
- Northern rough-winged swallow (*Stelgidopteryx serripennis*)
- California thrasher (*Toxostoma redivivum redivivum*)
- Yellow warbler (*Dendroica petechia*)
- Spotted towhee (*Pipilo maculatus*)
- Lesser goldfinch (*Carduelis psaltria*)
- Audubon's cottontail (*Sylvilagus audubonii*)

### **Urban Use Landscape Unit**

The Urban Use landscape unit is in the Cities of Corona, Riverside, and Norco, and unincorporated areas of Riverside County. It includes views of SR-91, I-15, and commercial, industrial, and residential areas adjacent to those freeways. The landscape unit is at elevations ranging from 401 to 800 ft above mean sea level and is represented by Key Views 3, 4, 5, 6, 7, and 8. Existing Views B, C, D, E, F, and G also represent the urban use landscape unit.

Key View 3 depicts a typical view of SR-91 from a residential street on the south side of SR-91 from Ridgeview Terrace. Key View 4 depicts a typical neighborhood in the City of Corona north of and in the immediate vicinity of SR-91. Key View 5 depicts a view along Main Street showing the SR-91 overcrossing and the westbound on-ramp. Key View 6 shows a typical view of the SR-91 eastbound mainline travel lanes. Key View 7 from Cresta Road, a residential street, shows a typical view of the I-15 and SR-91 interchange from a residential area. Key View 8 is from the Magnolia Avenue overcrossing, depicting the view of I-15 north of Magnolia Avenue.

This landscape unit includes mostly developed land. Vegetation categories in this landscape unit include CSS, nonnative grasslands, ruderal and ornamental, and riparian forest.

Wildlife associated with the Urban Use landscape unit includes:

- Painted lady (*Vanessa cardui*)
- Common side-blotched lizard (*Uta stansburiana*)
- American kestrel (*Falco sparverius sparverius*)
- Cliff swallow (*Petrochelidon pyrrhonota*)
- Northern mockingbird (*Mimus polyglottos*)
- Yellow-rumped warbler (*Dendroica coronata*)
- California towhee (*Pipilo crissalis*)

- House finch (*Carpodacus mexicanus*)
- California ground squirrel (*Spermophilus beecheyi*)

### 3.7.3.3 Topography

The topography in the study area ranges from 0 to 800 ft above mean sea level. The project limits have no areas of steep slopes and no outstanding geological features; however, the visual study area, which extends beyond the project limits, includes the foothills and views of the scenic Santa Ana Mountains south of SR-91 and west of I-15 and CHSP on the north side of SR-91.

### 3.7.3.4 Biological Conditions

A large part of the study area consists of urban development, paved roads, dirt roads, structures, and disturbed habitat. However, parts of the study area do contain plant communities. Figure 3.7-2 shows the existing biological conditions in the study area, and Table 3.7.1 gives the total area occupied by each plant community in the biological study area (BSA). Refer to the VIA or the *Final Natural Environment Study* (NES; 2010) for detailed descriptions of each of these plant communities.

**Table 3.7.1 Existing Biological Conditions**

Land Cover Type	Coverage in the Biological Study Area (Acres)
Chaparral	20
Coastal sage scrub	126
Paths developed	818
Nonnative grasslands	74
Riparian forest	9
Riparian scrub	0.6
Ruderal and ornamental	405
Oak woodland	2
Total	1,455

Source: *Final Natural Environment Study* (May 2010).

### 3.7.3.5 Effects of Weather and Air Pollution

Precipitation and temperature affect the appearance of the undeveloped landscapes throughout northeast Orange County and western Riverside County. Plants are usually greener from December to May than from June to November. Summer months are typically dry and result in landscape palettes of browns and tans, while winter months tend to provide enough precipitation to trigger plant growth, turning the landscape green. The photographs in this section were taken in the dry season.

The visual quality in western Riverside County is sometimes degraded by the presence of smog. Smog is a combination of ozone and ground-level pollutants that produces a haze. The human environment, weather conditions, and topography influence the presence and severity of smog. Smog in western Riverside County is typically more visible during the warmer, dryer summer and fall months than in winter and spring. The site photographs in this report display various air quality conditions.

### **3.7.3.6 Existing Views**

Figure 3.7-3 provides the location and direction of Existing Views A through G in the study area. Figures 3.7-4 through 3.7-9 show several existing views in the study area that depict existing visual conditions representative of the study area. Existing views have been provided in addition to the key views discussed later to assist the reader in visualizing the existing visual quality of the study area in areas other than those selected for the key views and subsequent visual simulations. Key views are intended to represent views from different land uses in the study area where the project has the greatest potential for adverse impacts. The following are brief descriptions of Existing Views A through G in the study area:

- Figure 3.7-4 shows the existing visual quality of the study area within the Open Space/Recreational landscape unit currently visible from a striped bikeway/trail on the north side of SR-91, facing west at Existing View A. SR-91 and the CNF are visible to the south and the Santa Ana River and Green River Golf Club are visible to the north. Prior to implementation of the project, the approved SR-91 Eastbound Lane Addition Project will be completed, resulting in a change in the view shown for Existing View A. However, visual impacts as a result of the SR-91 Eastbound Lane Addition Project are separate from those for the project, and the project would not be required to mitigate or minimize such impacts. Section 3.25, Cumulative Impacts, provides additional discussion of other past, present, and planned projects in the study area.
- Figures 3.7-5 and 3.7-7 show existing visual conditions of the study area from nearby industrial/commercial uses in the Urban Use landscape unit at Existing Views B and E, respectively.
- Figure 3.7-6 shows the existing visual quality of the study area currently visible from an elevated residential use with views of the project site and surrounding uses. Existing View C shows existing conditions of the project site visible to the west toward Orange County, including CHSP. Existing View D shows the project site to the north, including the existing SR-91 and SR-71 interchange area. The

study area consists of several interchanges along SR-91 for local traffic, as well as this major freeway-to-freeway interchange. Prior to implementation of the project, the SR-91/SR-71 Interchange Improvement project may be constructed, which would alter the existing conditions of Existing View D. The project would not be required to mitigate or minimize impacts that could result from implementation of the SR-91/SR-71 Interchange Improvement Project. Section 3.25, Cumulative Impacts, provides additional discussion of other past, present, and planned projects in the study area.

- Figure 3.7-8 also shows existing visual conditions from a residential use; however, this view depicts the existing visual conditions visible from a residential area adjacent to SR-91 and an overcrossing (Smith Avenue) as Existing View F.
- Figure 3.7-9 depicts conditions of the study area seen from Griffin Park as Existing View G.

### **3.7.3.7 Key Views**

As mentioned previously, both existing views and key views are provided to assist in understanding the existing visual quality of the study area. Existing views were provided earlier for information purposes only. Key views specifically selected and provided for the project represent views from different land uses in the study area where the project has the greatest potential for adverse impacts. Key views represent the line-of-sight from various viewer groups and land uses. The location of each key view in the study area is shown on Figure 3.7-3. A description of the existing visual quality for each key view, using the FHWA VIA criteria, is provided below. Table 3.7.2, which is provided later in Section 3.7.4.2, includes the visual quality ratings of the key views for existing conditions as discussed below. The overall visual quality rating (1 to 7, or very low to very high) is an average of the three criteria ratings (i.e., vividness, intactness, and unity). The use of these evaluative criteria helps to establish an existing baseline to evaluate the effects on visual quality, which is provided later in Section 3.7.3.2.

#### **Key View 1**

Key View 1 is looking south toward SR-91 and the CNF from the Green River Golf Club in the western part of the study area. As shown on Figure 3.7-10, the existing visual quality of this view is moderately high because viewers see mostly open space and individual holes on the Green River Golf Club. SR-91 is in this view; however, trees and landscaping provide a visual barrier between the highway and the Green River Golf Club. The vividness or positive visual features in the view include the cluster of trees in the middle ground and the Santa Ana Mountains and CNF in the

background. Limited views of the highway and signs encroach on the intactness of this view. Unity is slightly higher than the other visual quality features because the view is mainly open space and the golf course, which are consistent features in this view.

People exposed to this view are mostly golfers in addition to pedestrians and bicyclists who use the existing bikeway/trail adjacent to SR-91. The viewing duration would vary for each golfer, bicyclist, and pedestrian, but most likely would not exceed 15 minutes; therefore, the overall viewer exposure level is moderate. Viewer sensitivity for Key View 1 would also be moderate because the viewer's activity and awareness are recreational in nature (golf and trail). In the Department's Scenic Highway Program ([www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm](http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm)), the segment of SR-91 between Weir Canyon Road and I-15, in the SR-91 study area, is listed as eligible for designation as a State Scenic Highway but is not an Officially Designated Scenic Highway. This segment of SR-91 is eligible for designation as a State Scenic Highway because it offers motorists views of the Santa Ana River, natural vegetation, the Santa Ana Mountains, and the Chino Hills. These features are consistent with the Scenic Highway Criteria defined on page 2 of the *Scenic Highway Guidelines* (Caltrans, Landscape Architecture Program, Division of Design, October 2008). To become an officially designated State Scenic Highway, a highway must be nominated by the local governing body with jurisdiction over the lands adjacent to the proposed scenic highway. The local governing bodies for this segment of SR-91 are the County of Orange and the City of Corona. As of June 2012, neither agency has nominated this segment of SR-91 to be an officially designated State Scenic Highway. As a result, viewer sensitivity for Key View 1 would be moderate along the segment of SR-91 between SR-241 and Coal Canyon because it is eligible for designation as a State Scenic Highway. There are no significant historical or scientific resources in this view.

The segment of SR-91 between SR-55 and Weir Canyon Road is an Officially Designated Scenic Highway. Because that segment of SR-91 is west of the project study area, it is outside the view areas for the project and would not be affected by the project.

### **Key View 2**

Key View 2 is from a part of CHSP directly adjacent to a residential area on the north side of SR-91, near SR-71, facing southwest toward SR-91 and the CNF. The Prado Road/SR-91 undercrossing is in the western part of this view. As shown on Figure

3.7-11, the existing visual quality is moderate and includes natural landforms and land cover from the mountains, vegetation, and a strongly defined skyline. The view's vividness is slightly lower than intactness and unity because the view lacks a visual pattern in a predominantly natural setting. The intactness of this view is affected by minor encroachments which include fencing, the Prado Road undercrossing, and drainage features from SR-91 in the foreground and middle ground. The view's unity is reflected by the horizontal line of SR-91 and open space seen in this view.

Residents and CHSP visitors are the main viewer groups for Key View 2. The viewing duration would be permanent for those residents with views of this location. The overall viewer exposure level is moderate to high because any changes in the view would be permanent. Viewer sensitivity for these residents would also be moderate to high because residents have a permanent view of this area. There is an undeveloped entrance to CHSP in this area, from Prado Road to an existing trail along the south side of CHSP. Viewer exposure level is low for CHSP visitors because those CHSP visitors who access the park from this location experience a view of SR-91 for only approximately 900 ft along the access road. There is no known local or cultural significance of this view. As mentioned in Key View 1, this segment of SR-91 is eligible for designation as a State Scenic Highway.

### **Key View 3**

Key View 3 is from a residential street on the south side of SR-91, east of the SR-91 and SR-71 interchange, facing northeast from the corner of Ridgeview Terrace and Via Santiago. As shown on Figure 3.7-12, an existing commercial/retail property is the main focus of this view for nearby residents and drivers along Ridgeview Terrace and Via Santiago. The existing view is given a low visual quality because (1) the vividness of the view is rated low due to the lack of landform and natural land cover; (2) the view is predominantly man-made and lacks contrasting visual elements to achieve any memorability in the view; (3) the intactness is low because of the electric poles, billboards, and other encroaching features; and (4) the view's unity is reflected by the sidewalk lines and fencing.

Residents and drivers are the main viewers of Key View 3. The duration of the view is permanent for residents. For drivers, however, the duration of the view depends on the speeds along Via Santiago and Ridgeview Terrace; therefore, the overall viewer exposure, activity, awareness, and overall sensitivity levels are moderate to high. In addition, there is no known local or cultural significance to this view.

#### **Key View 4**

Key View 4 is from a residential street on the north side of SR-91, adjacent to the North Buena Vista Avenue undercrossing. In addition, the Main Street interchange has been identified as a gateway through coordination with interested stakeholders. As shown on Figure 3.7-13, the existing visual quality for nearby residents is moderate because the trees and landscaping on the south side of the road add to the view's vividness. Encroachments in the view include the sound barrier between the residential street and SR-91, utility lines, trash cans, and cars. The view's unity is reflected by the parallel lines of the road, mailboxes, sidewalks, and fencing.

Key View 4 represents a residential setting adjacent to SR-91. Because residents are the main viewers of Key View 4 and the duration of the view is permanent, the overall viewer exposure and sensitivity levels are high. There is no known cultural significance to this view, and this view does not represent any local values for the area.

#### **Key View 5**

Key View 5 is of Main Street and SR-91, including the Main Street overcrossing and SR-91 westbound on-ramp, facing southwest. As shown on Figure 3.7-14, the existing visual quality is rated below moderate because, while drivers along Main Street see mostly vehicle traffic and urban uses, the existing view includes the mountains and open sky in the background. The vividness is limited to vegetation adjacent to Main Street and the SR-91 westbound on-ramp. Vehicle encroachments and traffic signs and signals throughout the view affect the view's intactness, and the view lacks man-made and/or natural pattern elements due to the existing mix of uses that affect the unity in the view.

The overall viewer exposure level for Key View 5 is moderate because drivers along Main Street are the primary viewers for Key View 5 and the duration of the view depends on the speed limits of local roads. In addition, modifications to highways and on- and off-ramps are not unexpected by southern California drivers and residents; therefore, the viewer sensitivity is low because this type of view is typical along a busy highway and adjacent roads. There is no known cultural significance to this view, and this view does not represent any local values for the area.

#### **Key View 6**

Key View 6 is along eastbound SR-91, just east of the I-15/Main Street overcrossing, facing east. As shown on Figure 3.7-15, the existing visual quality is low because

visual features for drivers are limited to the distant view of the hills and mountains, and motorists on SR-91 see various commercial and industrial uses mixed with undeveloped or landscaped areas. Encroachments into the view include highway signs, billboards, and light poles, which decrease the intactness of this view. The view's unity is reflected by the parallel lines and posts separating the HOV and GP lanes along SR-91.

The primary viewer group for Key View 6 is motorists on SR-91, and the overall exposure is low to moderate. As stated previously, modifications along highways are not unexpected by southern California drivers and residents. Some viewers may even be interested in the engineering/architectural aspect of new highway structures. Therefore, viewer sensitivity for motorists on SR-91 is considered low because this type of view is typical along a highway. There is no known local or cultural significance in this view.

### **Key View 7**

Key View 7 is along Cresta Road, a residential street northeast of the SR-91/I-15 interchange, facing southwest. As shown on Figure 3.7-16, the main focus of this key view for nearby residents and motorists along local streets is the SR-91/I-15 interchange, with the mountains and skyline in the far distance. Other urban uses are visible at the base of the mountains; therefore, the existing visual quality is low. Visual features for the view's vividness include the mountains and skyline; however, the cluster of urban uses at the base of the mountains and air pollution decrease the memorability of the view. Encroachments include the cars along I-15 and its on- and off-ramps, as well as fencing and light poles along the residential road in the north side of the view. The view's unity is obstructed by the mix of uses and lack of pattern.

Motorists and residents are the two main viewer groups for Key View 7, and the overall exposure is low to moderate. In addition, Key View 7 represents a residential setting near the SR-91/I-15 interchange; therefore, viewer sensitivity for residents with this view is high as the view would be permanent for residents but low for drivers because the change in view would only be visible for a few minutes, depending on traffic speeds. There is no known cultural significance to this view and this view does not represent any local values for the area.

### **Key View 8**

Key View 8 is along the I-15/Magnolia Avenue overcrossing, facing north. As shown on Figure 3.7-17, the main focus of this existing view for motorists is I-15, north of the Magnolia Avenue overcrossing. The existing visual quality is low given the mix of uses (commercial, highway, and residential) visible from the view point. Views of the mountains and skyline in the distance contribute to the view's vividness; however, encroachments, including cars along I-15 and construction along the median and adjacent right-of-way in the middle ground views, affect the view's intactness. The view's unity is obstructed by mixed uses and a lack of pattern between the natural and man-made elements.

Motorists on I-15 and the Magnolia Avenue overcrossing comprise the primary viewer group in this key view. The overall exposure of motorists to the view is moderate because there would be thousands of drivers per day, but the duration of the view would be seconds to minutes depending on the traffic flow. As mentioned previously, modifications along highways are not unexpected by southern California drivers and residents; therefore, viewer sensitivity for motorists on I-15 is considered low. The segment of I-15 in Corona south of SR-91 to the San Diego County line is eligible for designation as a State Scenic Highway.

There is no known cultural significance in this view.

#### **3.7.3.8 Graffiti**

Graffiti is frequently an issue on publicly owned structures such as fences, retaining walls, bridge supports/columns, sound walls, and other similar structures, as well as privately owned buildings, fences, etc. Graffiti may also occur on traffic control devices such as stop signs, stop lights, other traffic directional and safety signs, and posts/poles. Public agencies frequently have dedicated maintenance programs for the control and removal of graffiti. The Department and City of Corona both have graffiti control and removal programs.

### **3.7.4 Environmental Consequences**

#### **3.7.4.1 Summary of Impacts**

As described earlier on page 3-1 and shown on Figure 3-3, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented in the Initial Phases of Alternatives 1 and 2 would be visible along SR-91 from SR-71 to I-15, and along I-15 from SR-91 to

Ontario Avenue. As a result, viewers on the north and south sides of SR-91 in Corona and viewers along I-15 south of SR-91 would have views of these improvements. As discussed on page 3-1, the improvements between SR-71 and I-15 under the Initial Phases of Alternatives 1 and 2 are the same as the improvements in the Ultimate Projects. As a result, the Alternative 1 and 2 Ultimate Projects would not result in additional improvements or changes in views along that segment of SR-91.

As described earlier on page 3-1 and shown on Figure 3-4, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented for the Alternative 1 and 2 Ultimate Projects would be visible along SR-91 west of SR-71 and east of I-15, and along I-15 north and south of SR-91. As a result, viewers on the north and south sides of SR-91 west of SR-71 and east of I-15 and along I-15 north and south of SR-91 would have views of these improvements. As noted above, the Ultimate Projects under Alternatives 1 and 2 do not include improvements between SR-71 and I-15; therefore, the Alternative 1 and 2 Ultimate Projects would not result in additional improvements or changes in views along that segment of SR-91.

The project would result in expanded right-of-way, added hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The average heights of the retaining walls for Alternatives 1 and 2 range between approximately 2–40 ft (see Tables 2.9 through 2.12 for additional detail; Table 2.13 contains information regarding potential sound wall locations and proposed heights). Lighting would be provided for safety lighting at the interchanges, and existing lighting on existing streets and freeways would be modified or relocated. For example, lighting would be provided in the SR-91 median along the Orange/Riverside County line for the express lane ingress and egress, similar to the existing median lighting for the existing express lanes. Lighting would be provided on the underside of the widened bridge decks for the safety of pedestrians crossing under the widened freeway or local arterials and roads. Therefore, the project would impact the visual quality of the study area, and long-term adverse visual impacts are anticipated to be low to moderate and similar for both Alternatives 1 and 2.

In addition, Alternative 2 would result in a graded/disturbed area of 503 ac, compared to 351 ac for Alternative 1. The largest wall (i.e., largest wall area in one location) proposed for Alternative 2 would be 40 ft high and 2,376 ft long, while the largest

wall for Alternative 1 would be 28 ft high and 1,894 ft long. In Alternative 1, the maximum cut slopes would be approximately 190 ft high and 700 ft long, and the maximum fill slopes would be approximately 45 ft high and 1,200 ft long. In Alternative 2, the maximum cut slopes would be approximately 190 ft high and 700 ft long, and the maximum fill slopes would be approximately 45 ft high and 1,650 ft long. The scale of the facility would be larger for Alternative 2 (adding 173 ac of paved area versus 117 ac for Alternative 1). Alternative 2 would increase the paved area by 39.6 percent, while Alternative 1 would increase it by 27.0 percent.

Alternatives 1 and 2 would result in an adverse impact to a segment of SR-91 eligible for designation as a State Scenic Highway (see Key View 1 impact discussion) and decrease visual quality to a segment of I-15 eligible as a State Scenic Highway (see impact discussion under Key View 8). As mentioned above, while the visual impacts of Alternatives 1 and 2 are generally the same, the visual quality of the study area under Alternative 2 would be altered more than under Alternative 1 because of the channelizers along SR 91 and I-15 that would be associated with the extension of the express lanes.

Aesthetic features will be included during final design of the project for retaining walls, sound walls, and bridge structures to reduce potential visual impacts. Additional landscaping consistent with the *215/91 Corridor Master Plan* will be implemented where existing landscaping is being removed during construction and/or expanded right-of-way allows.

### **Summary of Impacts for Alternative 2f**

Alternative 2f has been identified as the Preferred Alternative. Alternative 2f (Initial Phase and Ultimate Project) would result in expanded right-of-way, added hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls similar to the project features described above for Alternative 2. The average heights of the retaining walls, maximum cut slopes, and the increase in paved area for Alternative 2f would also be similar to the project features described for Alternative 2.

As described earlier on page 3-1 and shown on Figure 3-3, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented in the Initial Phase of Alternative 2f would be visible along SR-91 from SR-71 to I-15, and along I-15 from SR-91 to Ontario

Avenue. As a result, viewers on the north and south sides of SR-91 in Corona and viewers along I-15 south of SR-91 would have views of these improvements. As discussed on page 3-1, the physical footprint of the improvements between SR-71 and I-15 under the Initial Phase of Alternative 2f is the same as in the Ultimate Project. As a result, the Alternative 2f Ultimate Project would not result in additional improvements or changes in views along that segment of SR-91.

As described earlier on page 3-1 and shown on Figure 3-4, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented for the Alternative 2f Ultimate Project would be visible along SR-91 west of SR-71 and east of I-15, and along I-15 north and south of SR-91. As a result, viewers on the north and south sides of SR-91 west of SR-71 and east of I-15 and along I-15 north and south of SR-91 would have views of these improvements. As noted above, the Ultimate Project does not include improvements between SR-71 and I-15; therefore, the Alternative 2f Ultimate Project would not result in additional improvements or changes in views along that segment of SR-91.

As with both Build Alternatives, Alternative 2f (Initial Phase and Ultimate Project) would result in adverse impacts to a segment of SR-91 eligible for designation as a State Scenic Highway and a decrease in visual quality to a segment of I-15 eligible as a State Scenic Highway. As mentioned above, the visual quality of the study area under Alternative 2f would also be altered more than under Alternative 1 because of the channelizers along SR-91 and I-15 that would be associated with the extension of the tolled express lanes. Therefore, Alternative 2f (Initial Phase and Ultimate Project) would also impact the visual quality of the study area, and long-term adverse visual impacts are anticipated to be low to moderate under Alternative 2f, consistent with the determination for both Build Alternatives.

Aesthetic features would also be included in the final design of Alternative 2f for the retaining walls, sound walls, and bridge structures to reduce potential visual impacts. Alternative 2f would also include landscaping consistent with the *215/91 Corridor Master Plan* in areas where existing landscaping is removed during construction and/or expanded right-of-way allows.

The permanent structures including bridges, overcrossings, structural supports, retaining and sound walls, traffic control devices, and signing under Alternative 2f (Initial Phase and Ultimate Project) may also be attractive targets for graffiti. Existing maintenance programs provided by the Department, area cities, and the County of Riverside would provide for the control and removal of graffiti.

#### **3.7.4.2 Permanent Impacts Alternatives 1 and 2**

For both Build Alternatives and their design variations, long-term impacts would result from permanent alteration of the visual environment through added hardscape, graded slopes, and widening of the freeway mainlines, bridges, interchanges, retaining walls, and sound walls. Lighting would be provided for safety lighting at the interchanges, and existing lighting on existing streets and freeways would be modified or relocated. For example, lighting would be provided in the SR-91 median along the Orange/Riverside County line for the express lane ingress and egress, similar to the existing median lighting for the existing express lanes. Lighting would be provided on the underside of the widened bridge decks for the safety of pedestrians crossing under the widened freeway or local arterials and roads. Where lighting is provided, lighting fixtures would be designed to direct light downward to minimize impacts. New signage is not anticipated except for safety purposes. Refer to Table 2.6 in Chapter 2, Project Alternatives, for the total acreage anticipated to be disturbed during the construction of Alternatives 1 and 2. Refer to Table 3.11.2 in Section 3.11, Geology/Soils/Seismic/Topography, for the estimated amounts of cut and fill during construction of Alternatives 1 and 2.

The phasing plans for the Build Alternatives, described in Chapter 2, Project Description, would result in the Build Alternatives being constructed in phases, starting with the Initial Phases in 2015 and ending with completion of all the project components by 2035. The phasing of the improvements under Alternatives 1 and 2 is not anticipated to result in differences in the impacts of those alternatives related to visual resources compared to the impacts of implementing Alternatives 1 and 2 without the phasing plans. The analysis of the potential impacts of the Build Alternatives related to visual resources discussed in this section explains why the impacts for Alternatives 1 and 2 would be the same or very similar with or without the phasing plans.

Table 3.7.2 provides the visual quality ratings for the worst-case scenario of the key views for both Build Alternatives and their design variations, including points of view from the road and points of view including the road. The overall visual quality rating (1 to 7, or very low to very high) is an average of the three criteria ratings (i.e., vividness, intactness, and unity). Each key view’s existing visual quality rating provided in Table 3.7.2 is based on the visual quality described in Section 3.7.3.7.

**Table 3.7.2 Existing and With Project Visual Quality**

Key	Existing Visual Quality				Visual Quality with the Projects				Difference from Existing Visual Quality (P-E)
	Vividness (V)	Intactness (I)	Unity (U)	Existing (E) Visual Quality $([V+I+U]/3)$	Vividness (V)	Intactness (I)	Unity (U)	Proposed (P) Visual Quality $([V+I+U]/3)$	
1	5.0	4.5	5.5	5.0	4.5	2.0	2.5	3.0	-2.0
2	3.5	4.0	4.0	3.8	2.5	2.0	2.0	2.2	-1.6
3	2.0	2.0	2.0	2.0	1.5	1.5	2.0	1.6	-0.4
4	4.0	3.5	3.5	3.6	2.0	1.5	1.5	1.6	-2.0
5	3.3	3.0	3.3	3.2	3.0	2.8	3.0	2.9	-0.3
6	2.5	2.5	3.0	2.7	2.2	2.4	3.3	2.6	-0.1
7	2.5	2.5	3.0	2.7	2.0	2.0	1.5	1.8	-0.9
8	2.5	2.0	3.0	2.5	2.5	2.0	2.5	2.3	-0.2

Source: *Final Visual Impact Assessment* (May 2010).

Rating Scale: 1.0–7.0 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

The with-project visual quality ratings are based on a conceptual idea of what the views would look like when the project is completed. The change in the overall visual character at project build out is the difference between the existing visual quality rating and the with project visual quality rating. For example, if the overall existing visual quality rating was 6 and the with project visual quality rating is 5, then the difference from existing would be -1.0. A negative number indicates an adverse visual impact to the existing visual setting. The greater the negative number the more substantial the visual impact (i.e., a -1.0 rating would have more of a visual impact than a -0.4 rating). A positive number represents a beneficial effect in the visual setting with implementation of the project.

### Key Views

#### Key View 1

The view simulation shown on Figure 3.7-10 represents Alternative 1 and 2 conditions. Both Build Alternatives include improvements and widening along SR-91 in the vicinity of Key View 1. None of the design variations would occur in the area seen in Key View 1. Alternative 1 would add one GP lane in each direction, would improve existing HOV lane conditions, and would add auxiliary lanes where needed. Alternative 2 would add one GP lane in each direction and

extend the existing express lanes from the Orange/Riverside County line to I-15 in the City of Corona. Project features under Alternatives 1 and 2 would include a concrete barrier separating eastbound and westbound SR-91 traffic (this concrete barrier would not be visible in Key View 1 but would be visible to passing motorists along SR-91) and retaining walls along the north side of SR-91 between the mainline travel lanes and the Santa Ana River. The average heights of the retaining walls for Alternatives 1 and 2 range between approximately 3 and 40 ft. Refer to Tables 2.9 through 2.12 for additional detail. In addition, the project has the potential to result in the construction of a sound wall along parts of the Green River Golf Club (this sound wall would not be visible from Key View 1). Refer to Table 2.13 for additional detail and average heights of potential sound walls.

Tieback walls would be constructed under Alternatives 1 and 2 in two locations at approximately Stations 30+00 and 40+00 (outside of the area shown in the visual simulation of Key View 1). The tieback walls would be approximately 20 ft in height. A terraced 2:1 slope would be constructed behind the tieback walls where the existing side slope does not match the top of the 20 ft tieback wall. For maintenance purposes, a 20 ft bench, or terrace, would be provided every 30 ft in vertical height along the slope until it transitions into the existing slope. Also, the heights of the slope behind the retaining walls at Stations 30+00 and 40+00 would be approximately 180 ft and 80 ft, respectively. Refer to Appendix L for additional detail on project features for Alternatives 1 and 2.

As discussed earlier, the SR-91 Eastbound Lane Addition Project will widen SR-91 in the study area and will construct retaining walls in the vicinity of Existing View A and Key View 1. Due to the improvements to SR-91 as part of the project, some of those retaining walls would be removed and replaced with tieback walls. Additional grading and tieback walls would also be required in this part of the study area as a result of widening SR-91 and the realignment of the eastbound Green River Road off-ramp.

During final design of the project, the retaining walls and concrete barriers as well as other structure and hardscape features would be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, and graphic symbols consistent with the *215/91 Corridor Master Plan*. A collage of potential aesthetic treatments for retaining walls is shown on Figure 3.7-18. Because limited right-of-way is available for landscaping along SR-91, holes in the walls may be considered to allow vines to

grow through and cover the walls to reduce the visual impacts of those walls. Other landscaping (if required) would be consistent with the Urban Plant Palette in the *215/91 Corridor Master Plan*.

With implementation of the Build Alternatives, the overall visual quality would decrease for Key View 1. The Initial Phases of Alternatives 1 and 2 propose one less GP lane on eastbound and westbound SR-91 phases than the Ultimate Projects for Alternatives 1 and 2. The vividness, intactness, and unity of the view would decrease due to the removal of trees, increased view of the highway, and additional highway encroachment into the open space and recreational view.

The visual quality rating for Alternatives 1 and 2 at Key View 1 would decrease from moderately high to moderately low (a rate change of -2.0) because this view is along a major highway and this segment of SR-91 is eligible for designation as a State Scenic Highway. In addition, the specific project components in this key view would contribute to its decreased visual quality rating. Similar changes in visual quality are anticipated from other adjacent recreational facilities in the study area, including the nearby bikeway trail as shown in Figure 3.7-4.

### *Key View 2*

Alternative 1 and 2 conditions are shown in the view simulation provided for Key View 2 on Figure 3.7-11. Similar to Key View 1, the project would implement one GP lane in each direction, improvements to the existing HOV lane under Alternative 1, and a GP lane and extension of the express lanes under Alternative 2 at this view location. None of the design variations occur in the area seen in Key View 2. The Initial Phase would provide one less GP lane on the eastbound and westbound SR-91 compared to the completed Alternatives 1 and 2.

Project features in Key View 2 for Alternatives 1 and 2 would also include construction of a retaining wall that would extend from just west of Key View 2 (east of the Green River Road off-ramp), across Key View 2, and farther east toward SR-71. The average heights of the retaining walls would range between approximately 3 and 40 ft (see Tables 2.9 through 2.12 for additional detail). Other project features in the vicinity of Key View 2 include a new structure for the Green River Road westbound off-ramp that will place the ramp bridge structure and supporting columns just to the right of the view shown on Figure 3.7-11. The new off-ramp structure will be located closer to these viewers at about 50 ft away compared to 200 ft away today.

As mentioned above, during final design of the project, aesthetic features would be designed for project retaining walls and sound walls (see Figures 3.7-18 and 3.7-19). Consideration would be given to materials, textures, and graphic symbols for sound walls as shown in Figure 3.7-19 to be consistent with the *215/91 Master Corridor Plan* and the City of Corona limited plans and specifications. In addition, because limited right-of-way is available for landscaping adjacent to SR-91, holes in retaining walls and sound walls may be considered for vines to grow through and reduce impacts.

The view simulation provided for Key View 2 in Figure 3.7-11 shows Alternatives 1 and 2. While the Initial Phases propose improvements within Key View 2, they are not anticipated to result in additional impacts related to visual quality/character compared to the impacts of implementing Alternatives 1 and 2 without the phasing plans. The potential impacts as a result of the Initial Phases would be less than those realized with implementation of the Ultimate Projects of Alternatives 1 and 2. Alternatives 1 and 2 result in the same impact with or without the phasing plans. The overall visual quality of Key View 2 would decrease as a result of the obstruction of views of the mountains and vegetation in both the middle ground and distant views by the retaining wall. The retaining wall would decrease the key view's total vividness, intactness, and unity rating, and the visual quality rating for Key View 2 would decrease from moderate to low (a rate change of -1.6). In addition, this visual impact is also anticipated for other residential use areas adjacent to SR-91 where a retaining wall or sound wall would be constructed under Alternatives 1 and 2.

### *Key View 3*

Alternatives 1 and 2 in the vicinity of Key View 3 include several project features as shown in the view simulation provided in Figure 3.7-12. Under both Build Alternatives, this segment of SR-91 would be widened to accommodate additional lanes, and all improvements in the vicinity of Key View 3 would be completed during the Initial Phases of Alternatives 1 and 2. Additional right-of-way would be acquired, including acquisition and removal of the commercial/retail property shown in the existing view, to accommodate the project modifications and braiding to the on-ramp from Serfas Club Drive and the off-ramp to West Sixth Street, as well as to realign the frontage road adjacent to SR-91 to the south. Other project features in the vicinity of Key View 3 include bridges and retaining walls as well as potential sound walls to reduce noise levels for nearby residents.

Alternatives 1 and 2 also propose design variations in Key View 3. The visual

simulation in Figure 3.7-12 shows the worst-case scenario for Key View 3 with project implementation, including the director connector design variation at the Auto Center Drive/Maple Street interchange that is included in the design for Alternative 2f.

During final design, aesthetic features would be designed to reduce impacts of increased hardscape and to provide a theme or design continuity in this area. Figures 3.7-18 and 3.7-19 show potential aesthetic features for retaining and sound walls. Any right-of-way available for landscaping would be landscaped consistent with the Urban Plant Palette identified in the *215/91 Corridor Master Plan*.

As shown in the visual simulation in Figure 3.7-12, the view's post-project vividness would decrease because of the lack of landform, land cover, and contrasting pattern elements. The billboards and electric poles would no longer be in the view with implementation of the project, and the intactness would also decrease because of encroachment from cars and the highway in the view. The unity of the key view would remain the same. Therefore, the visual quality of Key View 3 would decrease under Alternatives 1 and 2 by -0.4, and the overall rating of Key View 3 would be 1.6. This visual impact is also anticipated for other areas where property may be acquired and/or improvements would be constructed adjacent to SR-91 that would be visible to nearby residential uses. In addition, these impacts for Key View 3 would be realized with completion of the Initial Phases; therefore, the impacts of the Build Alternatives related to visual quality/character in Key View 3 would be the same for the Ultimate Projects of Alternatives 1 and 2 as for the Initial Phases.

#### *Key View 4*

As shown in Figure 3.7-13, project features in the vicinity of Key View 4 under both Build Alternatives include a retaining wall parallel to Bollero Place on the north side of SR-91. No design variations are shown in Key View 4. All improvements in the vicinity of Key View 4 would be completed during the Initial Phases of Alternatives 1 and 2. Figure 3.7-18 shows potential aesthetic features that would be considered during final design of retaining walls under Alternatives 1 and 2. In addition, because Key View 4 is near residential uses, it is likely that sound walls would be required (see Figure 3.7-19 for a collage of aesthetic treatments to be considered during final design).

As a result of the retaining wall, Alternatives 1 and 2 would reduce Key View 4's vividness, intactness, and unity. The retaining wall under the Initial Phases of Alternatives 1 and 2 would remove the landscaping adjacent to SR-91 and Bollero Place, thereby reducing the view's vividness. The retaining wall would also remove pattern elements contributing to the view's unity (fencing, trees, and sidewalk). Intactness in the view under Alternatives 1 and 2 would decrease slightly because of the increase in scale of the concrete block wall.

The level of adverse impact to the visual setting of Key View 4 would be low to moderately low (a reduction of -2.0) because the change in visual quality would decrease and the viewer response to the changes would be high. Within Key View 4, all improvements would be completed during the Initial Phases of Alternatives 1 and 2. Therefore, the impacts to visual quality/character in Key View 4 would be the same for the Ultimate Projects of Alternatives 1 and 2 as for the Initial Phases. Similar visual impacts are also anticipated for other residential uses adjacent to SR-91 where a retaining wall or sound wall would be constructed in the study area as part of the project.

#### *Key View 5*

Alternatives 1 and 2 include several project features in Key View 5. As shown in the visual simulation in Figure 3.7-14, Alternatives 1 and 2 would widen SR-91 and remove existing landscaping on the north side to construct a retaining wall to accommodate the slightly realigned westbound on-ramp from Main Street. The average heights of the retaining walls would range from approximately 8 to 23 ft (refer to Tables 2.9 through 2.12 for additional detail). None of the design variations occur in the area seen in Key View 5. All improvements in the vicinity of Key View 5 would be completed during the Initial Phases of Alternatives 1 and 2; therefore, no additional visual and aesthetic changes would occur as a result of the Ultimate Projects for Alternatives 1 and 2. Potential aesthetic features for project retaining walls shown on Figure 3.7-18, including the wall shown in Key View 5, would help maintain a theme and design continuity in this area under Alternatives 1 and 2. In addition, areas identified for landscaping during final design would be consistent with the Urban Plant Palette in the *215/91 Corridor Master Plan*, including vines to cover hardscape to reduce the visual impacts of the retaining walls, especially for drivers along the westbound on- and off-ramps.

The existing visual character in this key view and the surrounding area is urban, and the existing visual character would not change substantially under

Alternatives 1 and 2. The vividness would decrease as a result of the removal of the landscaping on the north side of SR-91. The intactness would remain below moderate because of the vehicle encroachments. The unity would also decrease because of the mixed uses within the view and the decrease in the view of the mountains as a result of widening SR-91. Overall the visual quality would decrease by -0.3. Similar visual impacts are also anticipated for other commercial and industrial areas adjacent to SR-91. Examples of the existing visual quality of these types of commercial/industrial areas in the project study are also shown in Figures 3.7-5 and 3.7-7.

Key View 5 is also in the Grand Boulevard Historic District. Refer to Section 3.8, Cultural Resources, for discussion of the potential visual and aesthetic impacts of the Build Alternatives in that Historic District.

#### *Key View 6*

Under Alternatives 1 and 2, SR-91 would be widened and, depending on the alternative, new and elevated direct connectors would be provided for the HOV or express lanes between SR-91 and I-15. Retaining walls would be constructed on the north and south sides of SR-91, including along the direct connectors. Concrete barriers would separate eastbound and westbound traffic as well as I-15 traffic connecting to SR-91 prior to merging. In addition, Alternative 2 would include channelizers separating the express lanes and GP lanes. None of the design variations occur in the area seen in Key View 6. While the direct connector for eastbound SR-91 to southbound I-15 and the single-lane express lane connector from northbound I-15 to westbound SR-91 would be implemented during the Initial Phase, and the direct connectors for southbound I-15 to westbound SR-91 and westbound SR-91 to northbound I-15 would be implemented during Alternatives 1 and 2, the visual simulation provided for Key View 6 in Figure 3.7-15 shows the post-project condition for both Build Alternatives.

During final design, aesthetic features would be designed for retaining walls in this area under Alternatives 1 and 2 as shown on Figure 3.7-18. In addition, aesthetic features will be designed for any new bridge structures. Figure 3.7-20 provides a collage of potential aesthetic features for bridge structures consistent with the *215/91 Master Corridor Plan* and the City of Corona limited plan and specifications. By providing aesthetic features in the final design for bridge

structures, the project would maintain a theme and design continuity in the study area.

As shown in the visual simulation in Figure 3.7-15, implementation of Alternatives 1 or 2 would change the visual quality of Key View 6. The most notable changes in this view would be the SR-91 and I-15 HOV or express lane direct connectors with Alternatives 1 and 2, and the channelizers under Alternative 2. As a result, the view's vividness would decrease because the direct connectors would obstruct the existing views of the mountains in the east and hills in the southeast. While several of the existing encroachments (light poles, billboards, and signs) would be removed under Alternatives 1 and 2, larger scale encroachments like the direct connector structures would be constructed and the overall intactness of the view would decrease. The view's unity, however, would increase because of the addition of pattern elements to the view such as lane geometry and parallel ramp structures. Overall, the changes in visual quality would result in a decrease in rating by -0.1, and the level of adverse impact to the visual setting in Key View 6 would be low due to the low sensitivity of viewers and the limited change in the overall visual quality rating. Improvements within Key View 6 would occur during the Initial Phases of Alternatives 1 and 2. The improvements associated with the Ultimate Projects for Alternatives 1 and 2 are not anticipated to result in additional impacts related to visual quality/character compared to the impacts of the Initial Phases of Alternatives 1 and 2. Similar visual impacts are also anticipated for other motorists driving eastbound along SR-91.

#### *Key View 7*

Alternatives 1 and 2 include construction of HOV or express lane direct connectors that would be visible from Key View 7. None of the design variations occur in the area seen in Key View 7. The direct connector for eastbound SR-91 to southbound I-15 and the single-lane express lane connector from northbound I-15 to westbound SR-91 would be implemented during the Initial Phases, and the direct connectors for southbound I-15 to westbound SR-91 and westbound SR-91 to northbound I-15 would be implemented for Alternatives 1 and 2. The visual simulation provided for Key View 7 in Figure 3.7-16 shows Alternatives 1 and 2. Retaining walls and concrete barriers would also be constructed under Alternatives 1 and 2 in the vicinity of the SR-91/I-15 interchange but would not be visible from Key View 7. Because of the proximity to residential uses, sound walls may be required in the vicinity of Key View 7. Figures 3.7-18 through

3.7-20 show the potential aesthetic features that would be considered during final design of Alternatives 1 and 2. In addition, additional right-of-way available for landscaping will be landscaped consistent with the *215/91 Corridor Master Plan*. Vines may also be used to reduce visual impacts of any sound walls and/or retaining walls.

As shown in the visual simulation in Figure 3.7-16, the project would introduce new direct connectors to this view and partially obstruct the view of the mountains and prominent skyline, thereby decreasing the vividness, intactness, and unity of the view. The overall quality rating of the view is decreased by -0.9, and the level of adverse impact to the visual setting in Key View 7 would be low to moderate due to the sensitivity of viewers, distance, and limited change in the overall visual quality rating. The Initial Phases for Alternatives 1 and 2 propose improvements within Key View 7, and the Ultimate Projects of Alternatives 1 and 2 are not anticipated to result in additional impacts related to visual quality/character in this Key View. Similar visual impacts are also anticipated for other views from elevated residential uses with views of the study area and improvements, including Existing Views C and D shown in Figure 3.7-6.

### *Key View 8*

Alternatives 1 and 2 include several project features that would be visible from Key View 8: modifications to the median along I-15, increased signage, and direct and elevated connectors for either the HOV or express lanes between SR-91 and I-15. Alternative 1 would construct one HOV lane on I-15 in each direction from Ontario Avenue in the City of Corona to an I-15/SR-91 HOV lane direct connector. Alternative 2 would extend the express lanes along I-15, including the channelizers to separate the GP lanes and the express lane. There are no design variations in Key View 8. These improvements as well as the direct connector for eastbound SR-91 to southbound I-15 and the single-lane express lane connector from northbound I-15 to westbound SR-91 would be implemented during the Initial Phases of Alternatives 1 and 2. Other improvements visible in Key View 8 include the direct connectors for southbound I-15 to westbound SR-91 and westbound SR-91 to northbound I-15. The visual simulation provided for Key View 8 in Figure 3.7-17 shows Alternatives 1 and 2. Figures 3.7-18 through 3.7-20 show the potential aesthetic features for retaining walls, sound walls, and bridge structures that would be considered during final design of Alternatives 1 and 2. In addition, additional right-of-way available for landscaping would be

landscaped consistent with the Urban Plant Palette identified in the *215/91 Corridor Master Plan*.

The visual simulation provided in Figure 3.7-17 shows that the visual quality of this view would decrease under Alternatives 1 and 2. The segment of I-15 visible in this key view is eligible for designation as a State Scenic Highway.

Alternatives 1 and 2 would include widening of I-15, which would involve modifications to the centerline and construction of the median so there would no longer be construction areas and vacant land encroaching on the view. The view's vividness would be maintained with the views of the mountains, hillside, and skyline. Intactness would be the same because Alternatives 1 and 2 would not introduce substantial new encroachments to this view. The unit of the view would decrease because of lane improvements and direct connectors.

In Key View 8, the widening and lane improvements on I-15 would decrease the visual quality to 2.3 (a decrease of -0.2) by providing more man-made features; however the more distant natural views of the mountains and skyline would be maintained. This visual impact is also anticipated on the overcrossing and adjacent commercial and industrial uses where widening and lane improvements are made to SR-91 while maintaining natural views of the mountains in Riverside County. While improvements would occur within Key View 8 during the Initial Phases of Alternatives 1 and 2, the Ultimate Projects for Alternatives 1 and 2 are not anticipated to result in additional impacts related to visual quality/character.

#### *Light, Glare, Shade, and Shadow*

Existing urban and suburban uses in the study area receive light at night from traffic, street lighting, lighted parking lots, security lighting, signalization at the intersections and freeway on- and off-ramps, and other light sources from commercial and residential uses. Lighting would be provided for safety lighting at the interchanges, and existing lighting on existing streets and freeways would be modified or relocated. For example, lighting would be provided in the SR-91 median along the Orange/Riverside County line for the express lane ingress and egress, similar to the existing median lighting for the existing express lanes. Lighting would be provided on the underside of the widened bridge decks for the safety of pedestrians crossing under the widened freeway or local arterials and roads. To minimize light spill into adjoining areas, light fixtures will be designed to direct light downward to only those areas requiring illumination for safety purposes.

Alternatives 1 and 2 would create new sources of glare, shadow, and shade associated with fill slopes, bridges, and other structures. These shade and shadow effects are considered minimal because very few, if any, sensitive viewers would be in the shade or shadow footprints of the individual project features.

### *Graffiti*

As discussed earlier, public structures are often targets of graffiti. The permanent structures under Alternatives 1 and 2, including bridges, overcrossings, structural supports, retaining and sound walls, traffic control devices, and signing, may be attractive targets for graffiti. Alternatives 1 and 2 will include treatments on many of the structures and project features that help deter taggers. Those will include anti-graffiti coatings, wall texturing, and aesthetic surface treatments, and landscaping/ plantings (ivy). Nonetheless, the new/modified structures under Alternatives 1 and 2 may be attractive targets for taggers; therefore, both Alternatives could result in increased graffiti along the SR-91 and I-15 corridors, including along local streets at their crossings of those freeways.

As discussed earlier, the Department, area cities, and County of Riverside have existing ongoing maintenance programs for the control and removal of graffiti. Those programs would apply to all structures and project features in Alternatives 1 and 2, on public and private property, as appropriate.

### *Summary of Visual Impacts for Alternative 1*

The Alternative 1 Ultimate Project would add one GP lane in each direction, improve existing HOV lane conditions, and add auxiliary lanes. Expanded right-of-way, added hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls are all anticipated under Alternative 1 and would impact the visual quality of the study area. Refer to Tables 2.9, 2.10, and 2.13 for average heights of retaining and sound walls. In addition, Alternative 1 would result in an adverse impact (-2.0) to a segment of SR-91 eligible for designation as a State Scenic Highway (see Key View 1 impact discussion) and a decrease in visual quality to a segment of I-15 eligible as a State Scenic Highway (see impact discussion under Key View 8). However, as stated previously, modifications to highways and on- and off-ramps are not unexpected by southern California drivers and residents. Aesthetic features will be implemented during final design of Alternative 1 for retaining walls, sound walls, and bridge structures to reduce potential visual impacts. Additional landscaping consistent with the *215/91 Corridor Master Plan* will be implemented where expanded right-of-way

allows. Overall, long-term adverse impacts under Alternative 1 are anticipated to be low to moderate with implementation of minimization and mitigation measures described in Section 3.7.5. The phasing plan is not anticipated to result in impacts to visual quality, character, and resources different than those impacts without the phasing plan because all impacts would eventually be realized with completion of the Alternative 1 Ultimate Project.

As noted earlier, the new/modified structures under Alternative 1 may be attractive targets for taggers; therefore, Alternative 1 could result in increased graffiti along the SR-91 and I-15 corridors, including along local streets at their crossings of those freeways.

#### *Summary of Visual Impacts for Alternative 2*

The visual impacts of the Alternative 2 Ultimate Project are similar to as described above for Alternative 1; however, Alternative 2 would add one GP lane in each direction and extend the existing express lanes from the Orange/Riverside County line to I-15 in the City of Corona. Refer to Tables 2.11 through 2.13 for average heights of retaining and sound walls. While the visual impacts would also remain low to moderate under Alternative 2, the visual quality of the study area would be altered more by Alternative 2 than by Alternative 1 because of the channelizers along SR-91 and I-15 that would be associated with the extension of the express lanes. This potential visual impact of Alternative 2 would primarily be visible to drivers along those highways; therefore, the overall exposure would be moderate because of the high number of viewers but low rating of the activity (driving) and duration (seconds or minutes). In addition, the extension of the express lanes would be along highway segments where adjacent uses are primarily commercial and industrial. Therefore, long-term adverse visual impacts as a result of Alternative 2 are also anticipated to be low to moderate and similar to Alternative 1 with implementation of the minimization and mitigation measures described in Section 3.7.5. The phasing plan is not anticipated to result in impacts to visual quality, character, and resources different than those impacts without the phasing plan because all impacts would eventually be realized with completion of Alternative 2 in 2035.

As noted earlier, the new/modified structures under Alternative 2 may be attractive targets for taggers; therefore, Alternative 2 could result in increased graffiti along the SR-91 and I-15 corridors, including along local streets at their crossings of those freeways.

### **No Build Alternative**

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, there would be no construction-related visual impacts because no improvements would be implemented and there would be no change to the existing configuration of the GP, express or HOV lanes. Though smaller, localized projects could be considered, approved, and implemented on their own merits, no major corridor improvements would be implemented on the project segments of SR-91 and I-15 under the No Build Alternative. Therefore, there would be no permanent visual impacts along these freeways under the No Build Alternative.

#### **3.7.4.3 Temporary Impacts Alternatives 1 and 2**

For both Build Alternatives and their design variations, short-term visual impacts would occur to sensitive viewers during the construction period and would include views of demolition of existing structures, clearing of existing vegetation, grading of cut-and-fill slopes, construction of roadway improvements and structures, construction vehicles, and construction staging areas. Construction activities would be temporary, and the adverse visual impacts related to the construction activities would cease after completion of construction. The effects of vegetation clearing would gradually improve over time as landscaping implemented under Alternatives 1 and 2 matures.

Graffiti is not expected to be an issue during construction of Alternatives 1 and 2 because all the construction, staging and equipment storage areas will be fenced. As a result, structures, walls, and other features in the fenced areas would be protected from graffiti during the construction period. Therefore, the construction of Alternatives 1 and 2 is not expected to result in temporary impacts related to graffiti.

### **No Build Alternative**

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Therefore, there would be no construction-related visual impacts under the No Build Alternative because no improvements would occur, and there would be no change to the existing configuration of the express/HOV and GP lanes on SR-91 and I-15.

### 3.7.5 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be required for the Initial Phases and Ultimate Projects of the SR-91 CIP Build Alternatives and would substantially reduce the short- and long-term adverse visual impacts under Alternatives 1 and 2.

**V-1**            **Structure Elements.** To address adverse impacts of the project structures, the RCTC Project Engineer will direct a qualified landscape architect to ensure that the final project design incorporates mitigation and minimization elements A–D, below, and that these enhancements to structures are incorporated in the design and construction of sound walls, retaining walls, and bridge elements, and will not be “follow-up” enhancements.

During construction, RCTC’s Resident Engineer will ensure that the design/build contractor constructs the retaining and sound walls, medians, bridges, and other structures consistent with aesthetic and design features included in the project specifications. RCTC’s Resident Engineer will ensure that those aesthetic and design features are constructed during the construction phase when the impact occurs.

- A. Sound walls in low-density, developed areas or those fronting private property will be heavily textured (i.e. split-face or fractured rib) and integrally colored to minimize reflected glare and visual mass. Sound walls facing public-use areas (parks, streets, etc.) will incorporate textures and color as stated above plus site-specific aesthetic features (local or historical references) to minimize/mitigate impacts to community character and to restore a “sense of place.” Specific color selection for sound walls will be determined by the *215/91 Corridor Master Plan*.
- B. Retaining walls (including walls associated with bridge structures) will be heavily textured (i.e. split-face or fractured rib) to minimize glare and visual mass. Retaining walls facing public use areas (parks, streets, etc.) over 9 ft high will be heavily textured (i.e., split-face or fractured rib) and include site-specific aesthetic features (local or historical references). Color (integral or applied) is not required for retaining walls.

- C. In addition to texture and color as described in A and B, above, sound walls and retaining walls with low-density development or recreational viewer groups will include planting of trees or trees, shrubs, and vines, at the base of the walls (non-motorist side) to minimize loss of visual unity. Plantings will be local native species or ornamental species that require no irrigation after establishment. These plantings will not require permanent irrigation.
- D. Slope paving in all areas with bicyclist and pedestrian viewers will include texture (i.e. stamped slate). In urban areas, slope paving will incorporate site-specific aesthetic features in addition to texture. Texture and pattern will be used to minimize the visual impacts of increased hard surface, and reinforce community identity, offsetting reduced community connectivity associated with increased bridge widths.

**V-2**

**Highway Planting.** RCTC's Project Engineer will direct a qualified landscape architect to ensure that replacement planting to mitigate the loss of existing landscaping is included in the final design. Replacement planting will be funded with the project's construction and will include no less than 3 years of plant establishment. All planting must be reviewed and approved by the District Landscape Architect.

RCTC's Project Engineer will ensure that the replacement planting is under construction within 2 years of acceptance of the highway contract that damaged or removed the existing planting.

RCTC's Project Engineer will direct a qualified landscape architect to ensure the project plans show that where plantable right-of-way is reduced (as at Main Street), replacement planting will be trees, shrubs, vines, ground cover, permanent irrigation, and enhanced structural elements. Enhanced structural elements will minimize the impact of reduced planting areas. Enhanced structural elements will include enhanced pedestrian facilities (such as pavement treatments, graphics, or above-standard decorative pedestrian lighting) and may incorporate community entry features into the structures.

RCTC's Project Engineer will direct a qualified landscape architect to ensure that the project plans show that where plantable right-of-way is eliminated (as at residential areas on both sides of SR-91 between just east of Lincoln Boulevard to approximately 400 ft west of East Grand Boulevard), the loss will be mitigated by off-site planting. Planting of street trees or other approved planting such as vines with permanent irrigation in City right-of-way such as at the base of retaining walls at Bollero Place and the 600 to 700 block of West Second Street will minimize the loss of existing landscape. The off-site tree planting will minimize the visual presence of the widened adjacent mainline. Replacement of existing trees by new street trees will be at a 1:1 (new tree to existing tree) ratio. To minimize the visual loss of the mature existing trees, these mitigating/replacement street trees will be planted at no less than 36 in box size.

RCTC's Project Engineer will direct a qualified landscape architect to ensure that where plantable right-of-way is eliminated without the prospect of site-adjacent mitigation (as at the industrial areas just east of East Grand Boulevard or the above residential areas if street planting is not accepted by the City), the loss will be mitigated by planting within the project limits. This planting will be at a 4:1 (new tree to existing tree) ratio. If vehicle recovery distances prohibit tree planting in any selected area, mitigation planting may be achieved at a ratio of 10 new shrubs to 1 existing tree. For this mitigation planting, all trees will be no less than 15-gallon size and all shrubs will be no less than 5-gallon size.

RCTC's Project Engineer will direct a qualified landscape architect to ensure that the project plans show that all mitigation planting within the State right-of-way, where appropriate, will include native tree, shrub, and vine species, and include temporary irrigation for establishment. Replacement planting will include permanent irrigation.

RCTC's Resident Engineer will ensure that the design/build contractor properly implements the landscaping and structural treatment components described in Measures V-1 and V-2.

**V-3**            **Light and Glare.** To reduce glare, RCTC's Project Engineer will ensure that the project plans specify lighting fixtures with non-glare hoods and that lighting is designed to illuminate only the right-of-way.

The lighting plans will require the review and approval of the Department and applicable cities and counties before construction to assure compliance with their applicable policies regarding public street lighting. RCTC's Project Engineer will coordinate with the City of Corona and the other applicable cities and counties to ensure that sufficient lighting is provided as part of the improvements to local streets within the project limits, consistent with applicable local policies and street lighting codes.

Increased glare from walls, structures and pavement will be minimized by measures identified in V-1 and V-2.

RCTC's Resident Engineer will ensure that the project lighting plan included in the project specifications is implemented by the design/build contractor during construction.

**V-4**            **Graffiti Reduction, Removal, and Control.** During final design, the RCTC Project Engineer will direct a qualified landscape architect to prepare planting plans that incorporate vine planting on all sound barriers in the project specifications to reduce the potential for graffiti and to soften the appearance of those walls, consistent with the Highway Design Manual, Index 902.3(5).

After the construction of each sound barrier, the RCTC Resident Engineer will require the design/build contractor to install vine planting consistent with the project specifications and the planting requirements in Measure V-2.

The Department and the City of Corona have existing ongoing maintenance programs for the control and removal of graffiti. Those programs would apply to all new and modified structures in Alternatives 1 and 2, on public and private property, as appropriate. Key components of those programs are:

- **Department Program.** Chapter D1, Litter, Debris, and Graffiti (July 2006), in the Caltrans Maintenance Manual (Volume I, January 2011) describes the Department's maintenance program for the control and removal of graffiti. Key program components applicable to the project features in Alternatives 1 and 2 are:
  - Use of recycled paint for various structures and matching paint used to cover graffiti with the original paint color on the structure.
  - Use of physical devices such as rat guards, sign hoods, razor wire, and glare screen patches to limit access to facilities targeted by taggers.
  - Replacement of ground-mounted signs with signs that have protective coatings or application of protective coatings to signs.
- **City of Corona Program.** Chapter 9.30, Graffiti Abatement Procedure, in the Corona Municipal Code, describes the City's procedures related to the prohibition of graffiti in the City and the graffiti removal process. Methods for the removal of graffiti include power washing, gel removers, and painting.

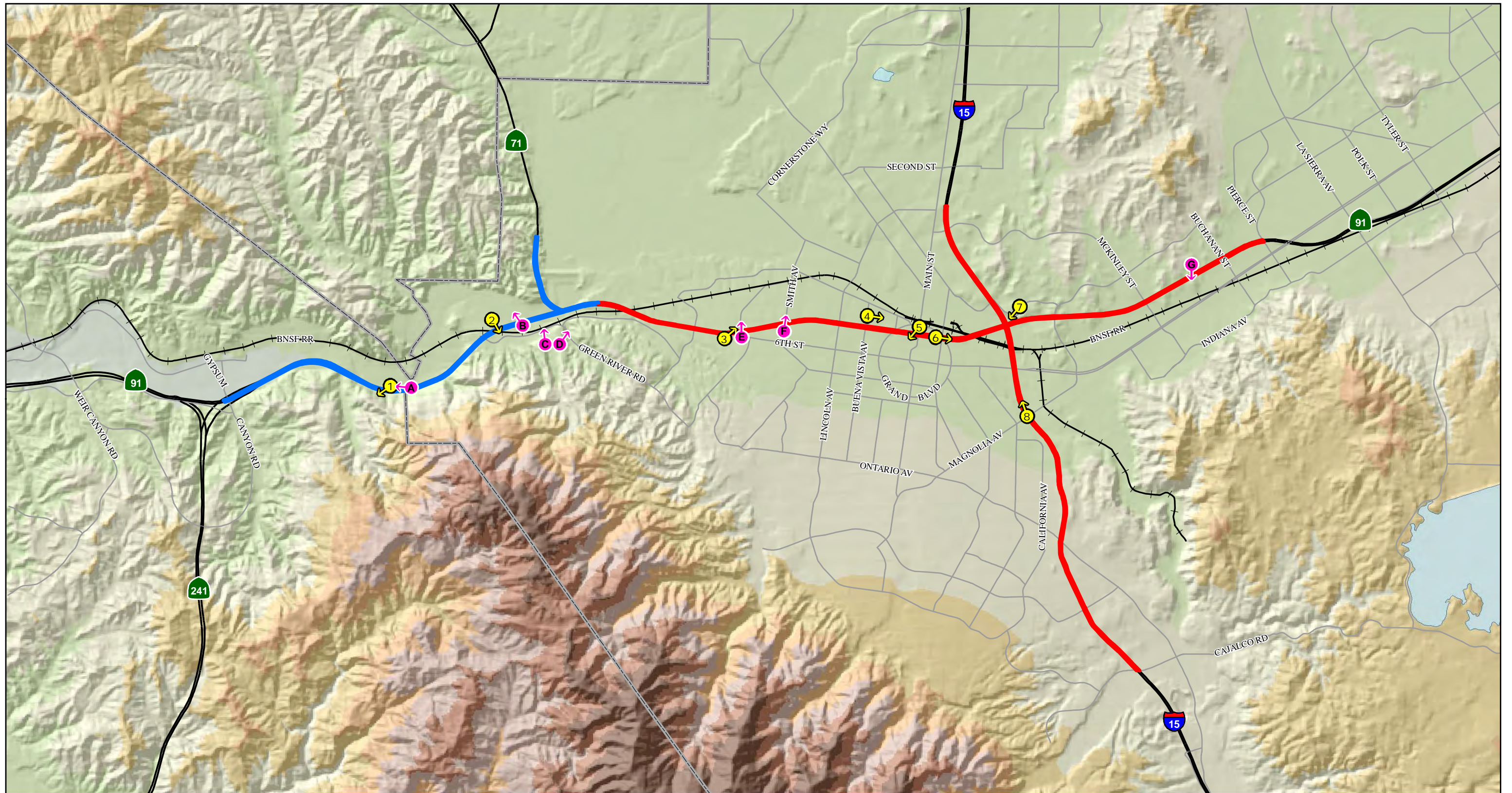
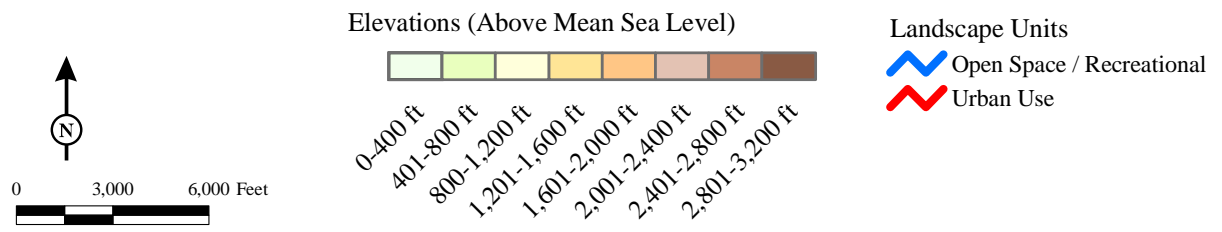


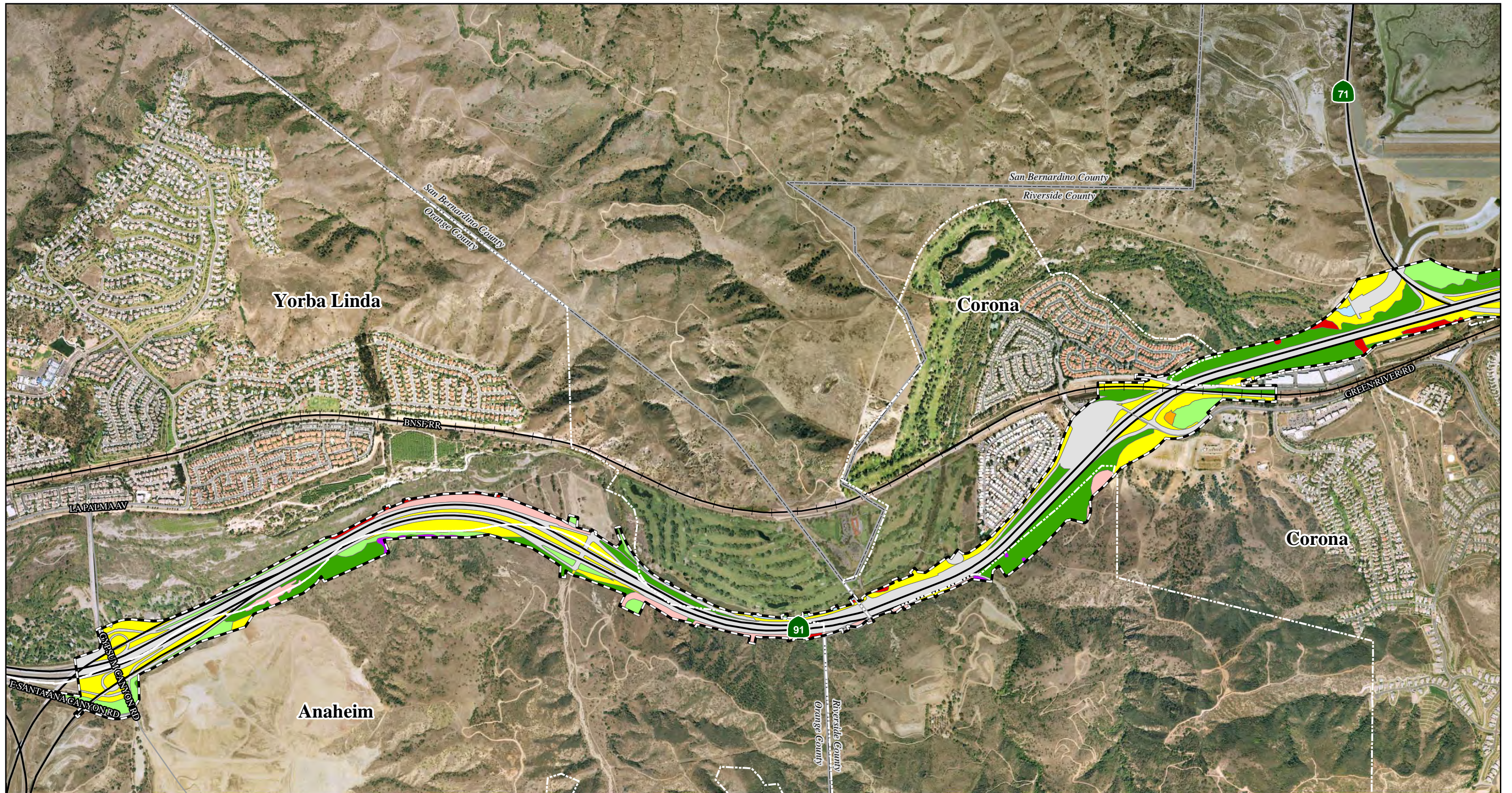
FIGURE 3.7-1



Existing View Location,  
Site Letter, and Direction (A-G)

Key View Location,  
Site Number, and Direction (1-8)

*SR-91 Corridor Improvement Project*  
 Elevations and Landscape Units  
 12-Ora-91-R14.43/R18.91  
 08-Riv-91-R0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540



- |                       |                        |
|-----------------------|------------------------|
| Biological Study Area | Non-native Grassland   |
| Biological Conditions | Oak Woodland           |
| Chaparral             | Riparian Forest        |
| Coastal Sage Scrub    | Riparian Scrub         |
| Developed             | Ruderal and Ornamental |
|                       | Water                  |

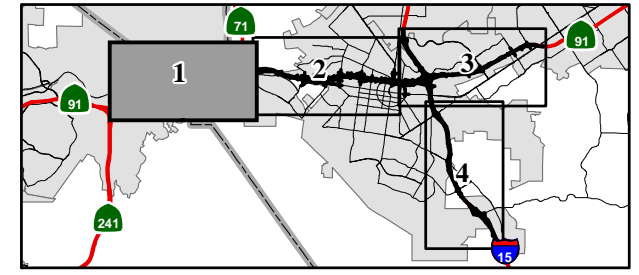


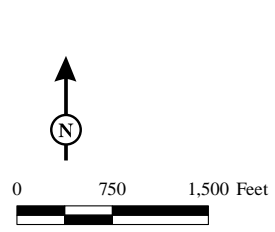
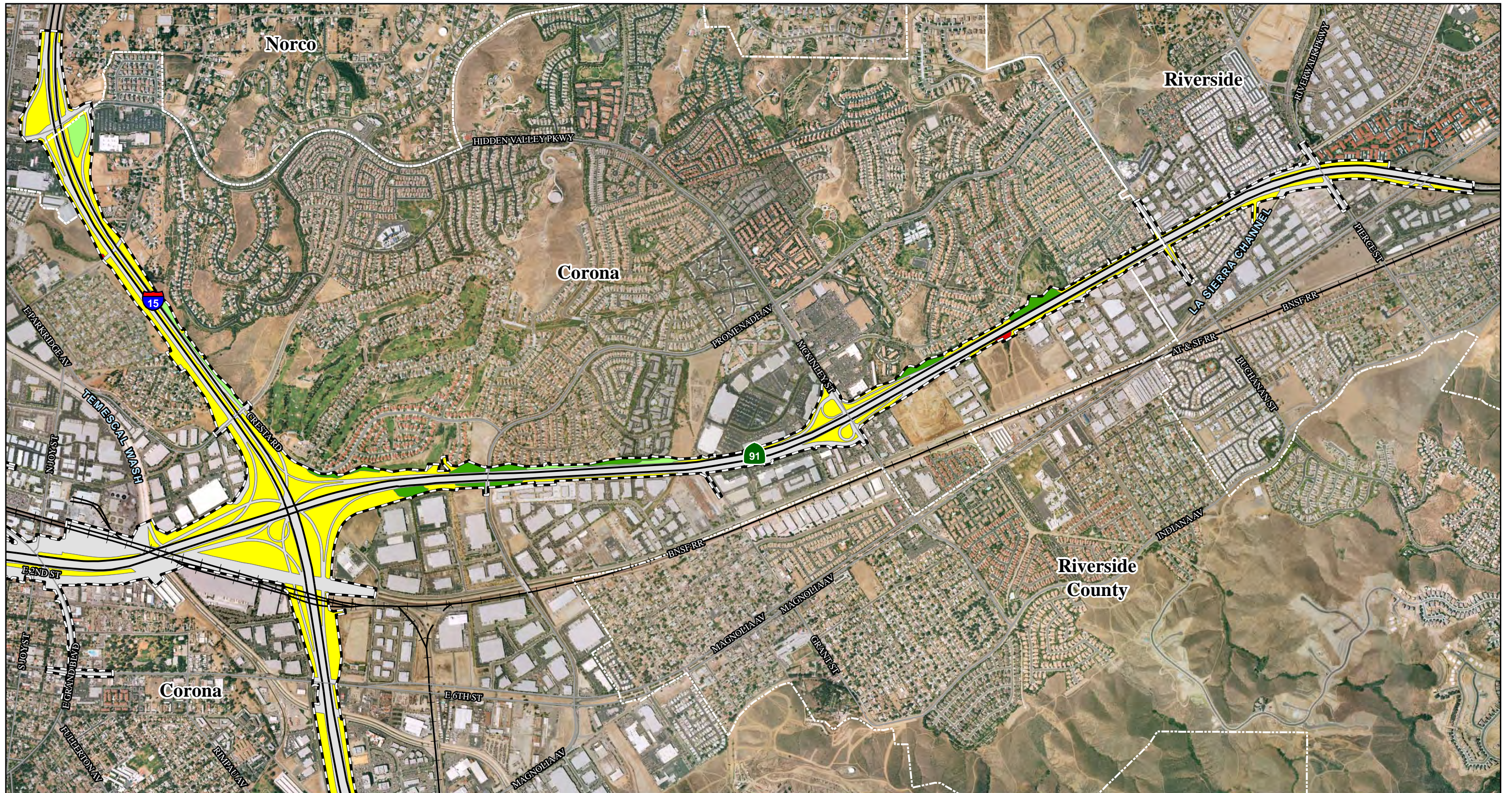
FIGURE 3.7-2

Sheet 1 of 4

*SR-91 Corridor Improvement Project*  
 Biological Conditions  
 12-Ora-91-R14.43/R18.91  
 08-Riv-91-R0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540

SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).  
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- |                              |                        |
|------------------------------|------------------------|
| Biological Study Area        | Non-native Grassland   |
| <b>Biological Conditions</b> | Oak Woodland           |
| Chaparral                    | Riparian Forest        |
| Coastal Sage Scrub           | Riparian Scrub         |
| Developed                    | Ruderal and Ornamental |
|                              | Water                  |

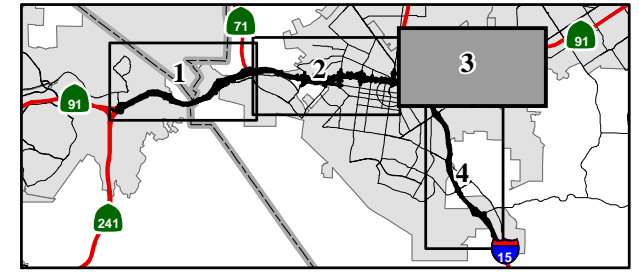


FIGURE 3.7-2

Sheet 3 of 4

*SR-91 Corridor Improvement Project*

**Biological Conditions**

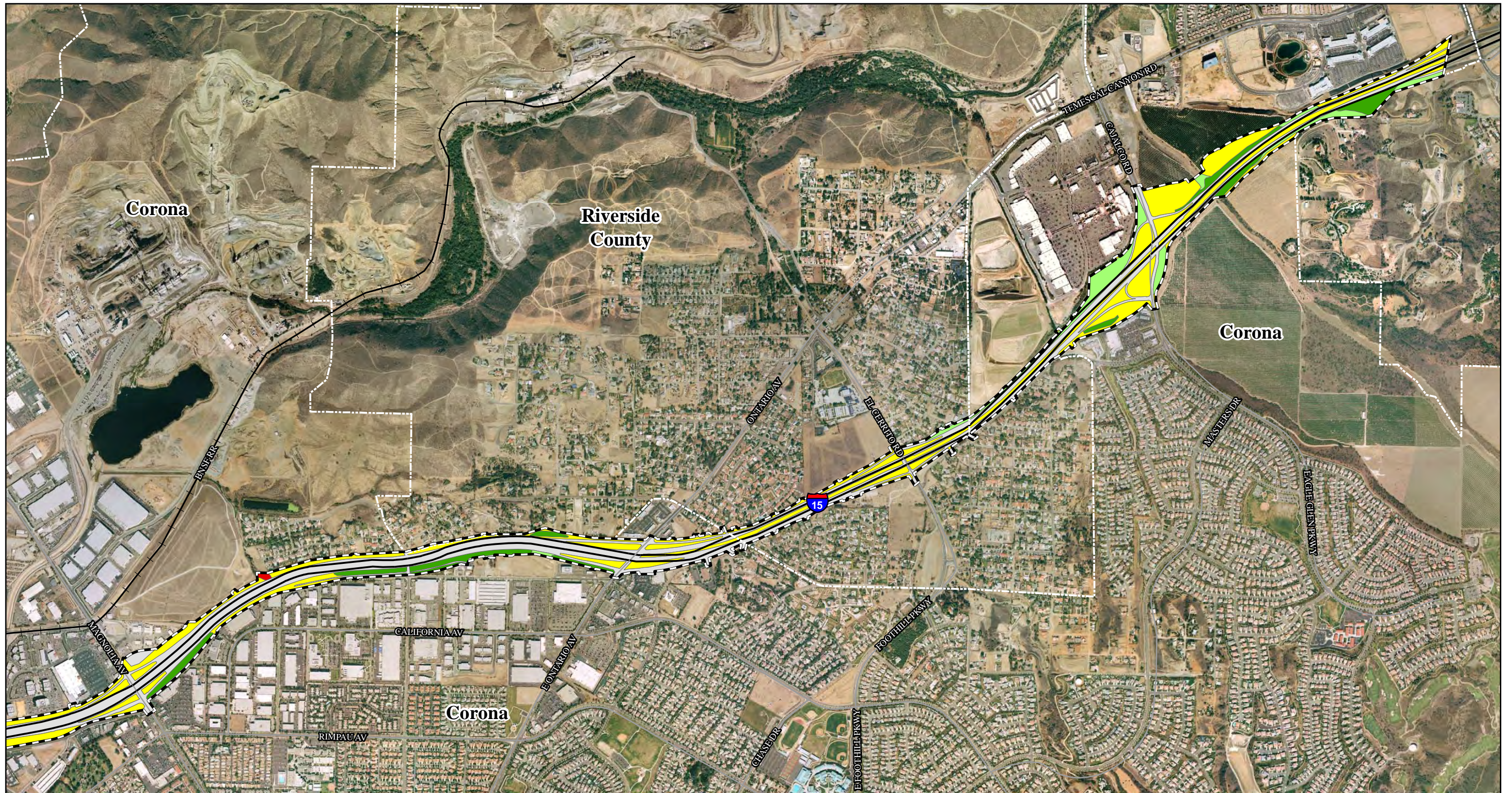
12-Ora-91-R14.43/R18.91

08-Riv-91-R0.00/R13.04

08-Riv-15-35.64/45.14

EA 0F540

SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).  
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- |                              |                        |
|------------------------------|------------------------|
| Biological Study Area        | Non-native Grassland   |
| <b>Biological Conditions</b> | Oak Woodland           |
| Chaparral                    | Riparian Forest        |
| Coastal Sage Scrub           | Riparian Scrub         |
| Developed                    | Ruderal and Ornamental |
|                              | Water                  |

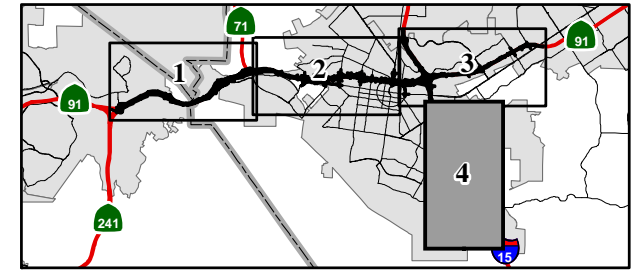
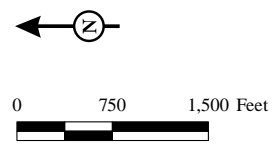


FIGURE 3.7-2

Sheet 4 of 4

*SR-91 Corridor Improvement Project*

**Biological Conditions**

12-Ora-91-R14.43/R18.91

08-Riv-91-R0.00/R13.04

08-Riv-15-35.64/45.14



EA 0F540

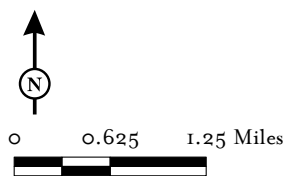
SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).  
 I:\PAZ0701\GIS\Visual\Biological\_Conditions\_EIR.mxd (9/22/2009)



FIGURE 3.7-3

LEGEND

-  Key View Location, Site Number, and Direction (1-8)
-  Existing View Location, Site Letter, and Direction (A-G)



SR-91 Corridor Improvement Project  
View Location Map

12-Ora-91-R14.43/R18.91  
08-Riv-91-R0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

Study Area



Key View Location



Existing View

LEGEND




-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

FIGURE 3.7-4

SR-91 Corridor Improvement Project

Existing View A

12-Ora-91-R14.43/R18.91  
 08-Riv-91-R.0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540

Study Area



Key View Location



Existing View

LEGEND




-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

FIGURE 3.7-5

SR-91 Corridor Improvement Project

Existing View B

12-Ora-91-R14.43/R18.91

08-Riv-91-R.0.00/R13.04

08-Riv-15-35.64/45.14

EA 0F540

Study Area



Key View Location



Existing View C



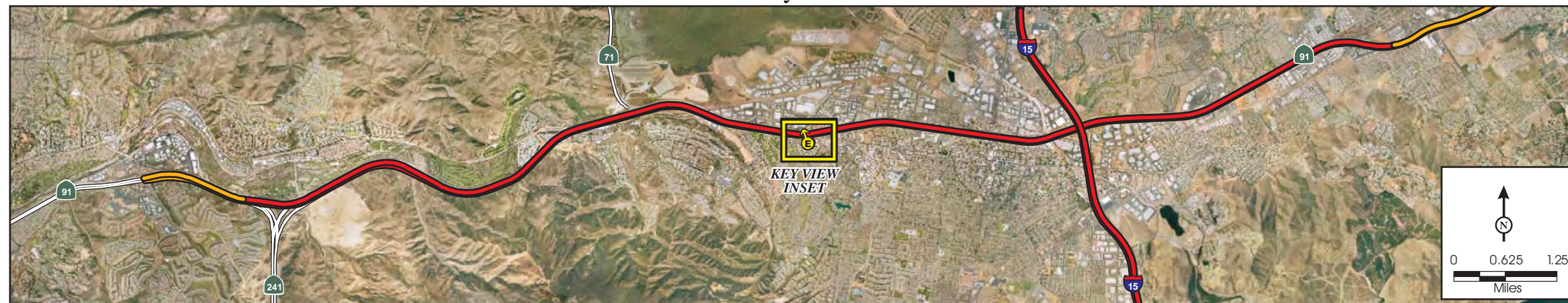
Existing View D

- LEGEND
- Project Area
  - Advanced Signage Area
  - Photo Location and Direction

SOURCE: Air Photo USA (2007)  
 I:\PAZ0701\G\Visual\XV-CD.cdr (8/13/09)

FIGURE 3.7-6

Study Area



Key View Location



Existing View

LEGEND




-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

FIGURE 3.7-7

SR-91 Corridor Improvement Project

Existing View E

12-Ora-91-R14.43/R18.91  
 08-Riv-91-R.0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540

Study Area



Key View Location



Existing View

LEGEND




-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

FIGURE 3.7-8

SR-91 Corridor Improvement Project

Existing View F

12-Ora-91-R14.43/R18.91

08-Riv-91-R.0.00/R13.04

08-Riv-15-35.64/45.14

EA 0F540

Study Area



Key View Location



Existing View

LEGEND




-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

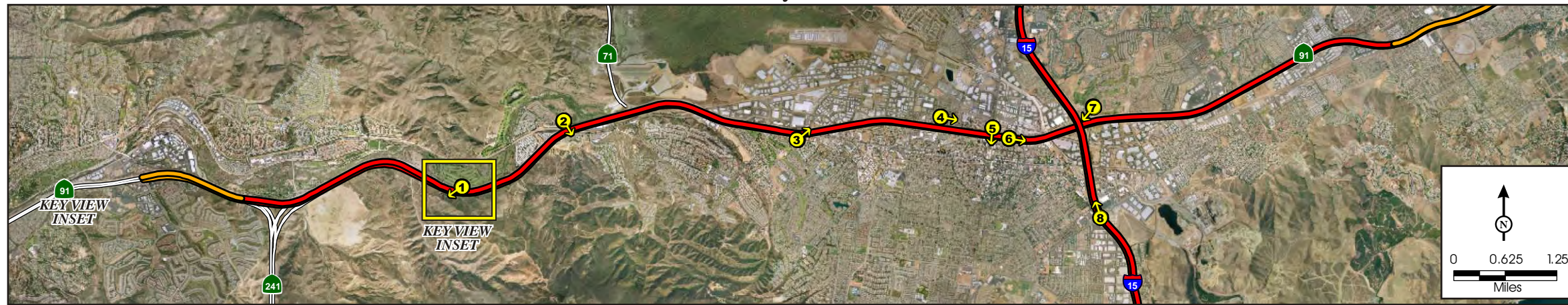
FIGURE 3.7-9

SR-91 Corridor Improvement Project

Existing View G

12-Ora-91-R14.43/R18.91  
 08-Riv-91-R.0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540

### Study Area



### Key View Location






Existing View



Visual Simulation

#### LEGEND

-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

Note, the proposed retaining walls and concrete barriers shown in the visual simulation for Key View 1 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan*. A collage of these potential aesthetic treatments is shown in Figure 3.7-18, and required to be implemented during final design as defined in Mitigation Measures V-2 and V-3.

FIGURE 3.7-10

SR-91 Corridor Improvement Project

Key View 1

12-Ora-91-R14.43/R18.91  
 08-Riv-91-R.0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540

### Study Area



### Key View Location






Existing View



Visual Simulation

#### LEGEND

-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

Note, the proposed retaining wall shown in the visual simulation for Key View 2 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the 215/91 Corridor Master Plan and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figure 3.7-18, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-11

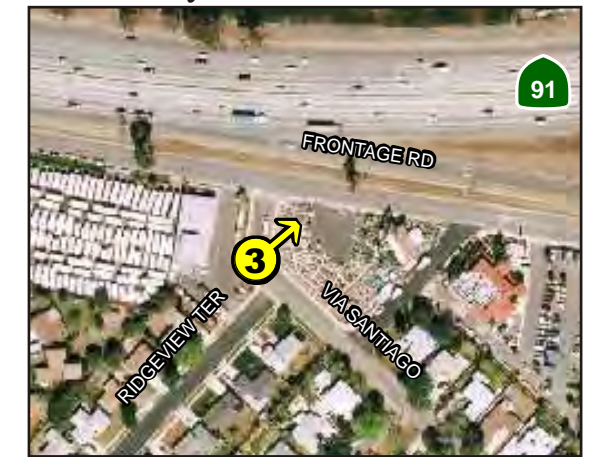
SR-91 Corridor Improvement Project  
Key View 2

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

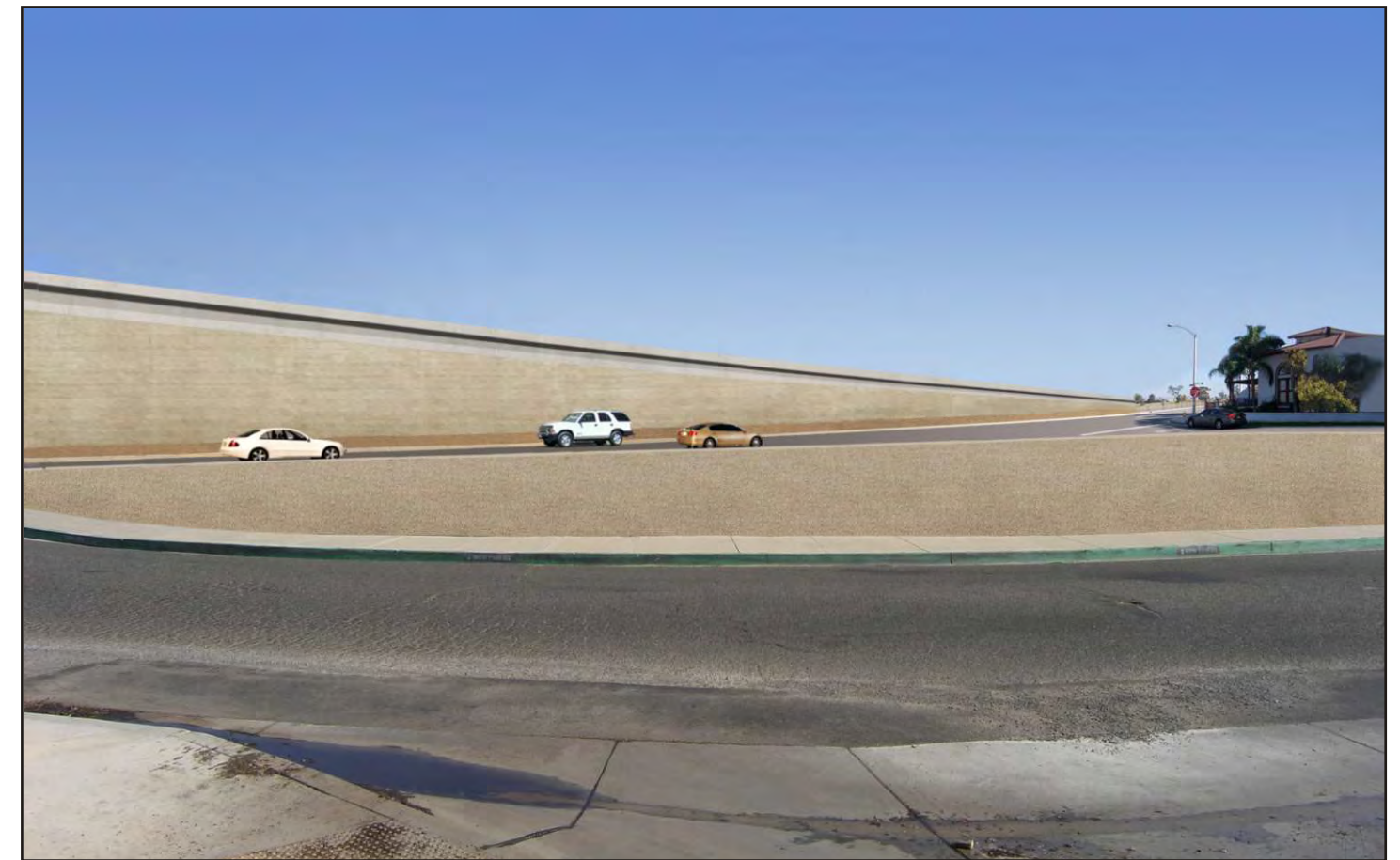
Study Area



Key View Location






Existing View



Visual Simulation

LEGEND

-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

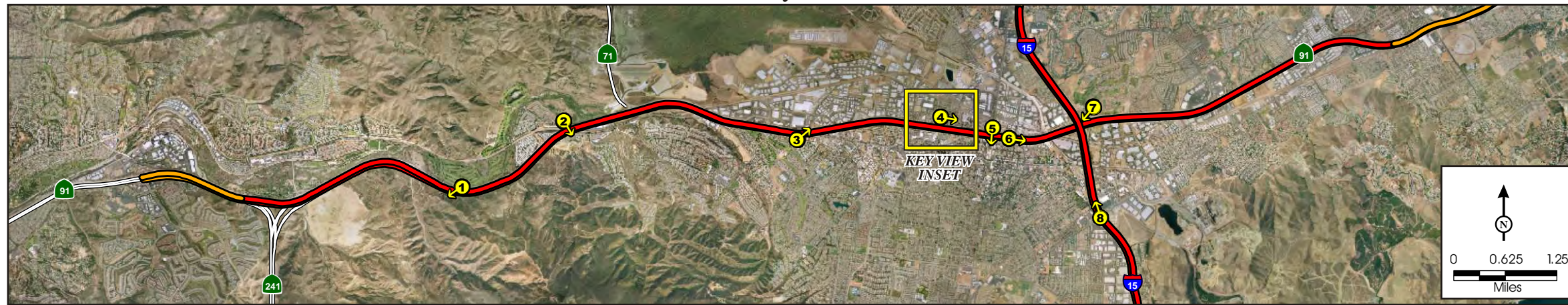
Note, the proposed hardscape, including the retaining wall and any soundwalls required within Key View 3 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the 215/91 Corridor Master Plan and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-18 and 3.7-19, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-12

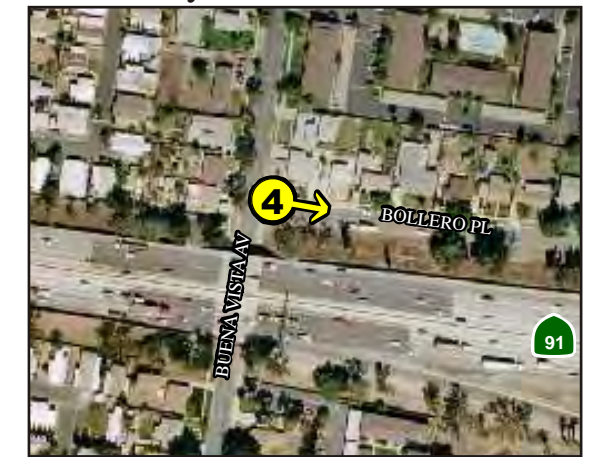
SR-91 Corridor Improvement Project  
Key View 3

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

Study Area



Key View Location






Existing View



Visual Simulation

LEGEND

-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

Note, the proposed retaining wall shown in the visual simulation for Key View 4 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the 215/91 Corridor Master Plan and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figure 3.7-18, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-13

SR-91 Corridor Improvement Project  
Key View 4

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

### Study Area



### Key View Location






Existing View



Visual Simulation

#### LEGEND

-  Project Area
-  Advanced Signage Area
-  Photo Location and Direction

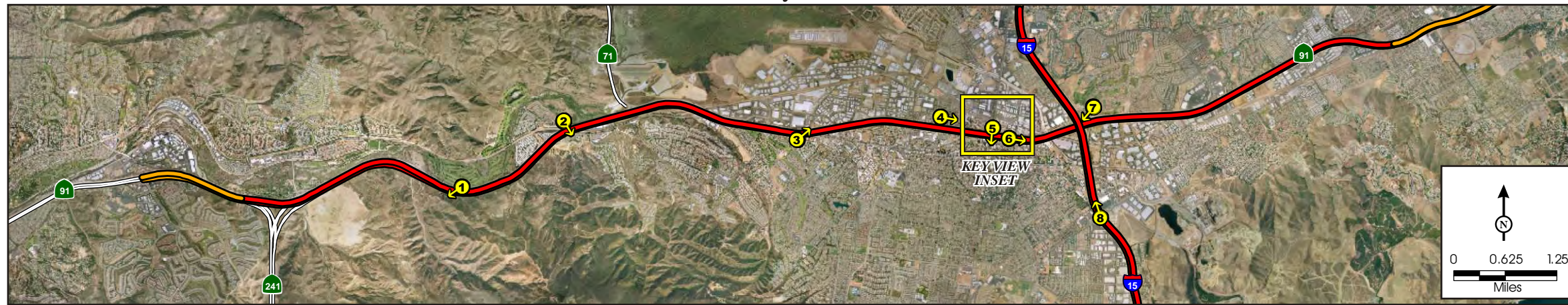
Note, the Main Street interchange has been identified as a Gateway through coordination with interested stakeholders, therefore the modifications shown in the visual simulation for Key View 5 would receive typical gateway treatments consistent with the *215/91 Corridor Master Plan*, as well as potential aesthetic treatments that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan*. A collage of these potential aesthetic treatments is shown in Figure 3.7-18 and 3.7-20, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-14

*SR-91 Corridor Improvement Project*  
Key View 5

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

### Study Area



### Key View Location



Existing View



Visual Simulation

#### LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

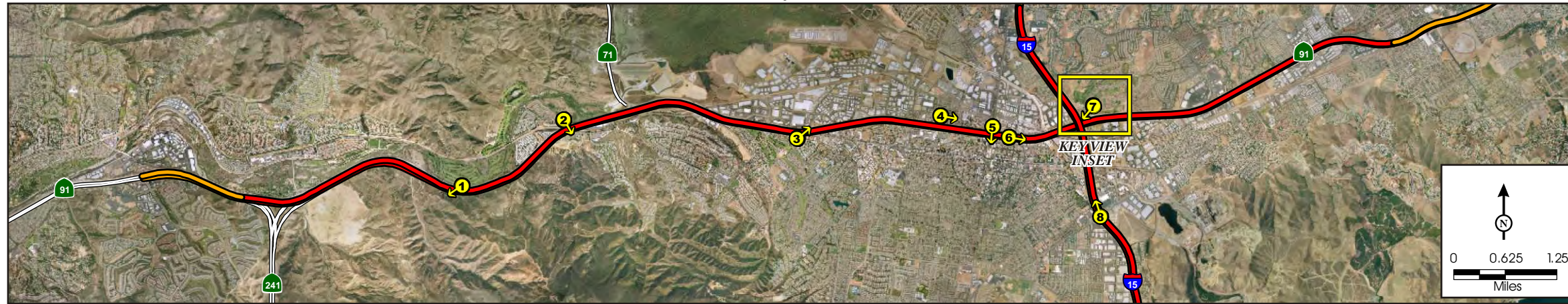
Note, the proposed bridge structures and retaining walls shown in the visual simulation for Key View 6 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-19 and 3.7-20, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-15

*SR-91 Corridor Improvement Project*  
Key View 6

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

### Study Area



### Key View Location



Existing View



Visual Simulation

#### LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed bridge structures shown in the visual simulation for Key View 7, and any retaining walls or sounds walls required within Key View 7 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the 215/91 Corridor Master Plan and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-18, 3.7-19, and 3.7-20, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-16

SR-91 Corridor Improvement Project  
Key View 7

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540

### Study Area



### Key View Location



Existing View



Visual Simulation

#### LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed bridge structures shown in the visual simulation for Key View 8, and any retaining walls or sounds walls required within Key View 7 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the 215/91 Corridor Master Plan and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-18, 3.7-19, and 3.7-20 and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-17

SR-91 Corridor Improvement Project  
Key View 8

12-Ora-91-R14.43/R18.91  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540



Fractured Rib Texture



The City of Riverside's Raincross Symbol



The aesthetic features shown here are characteristic of the Mission Revival Style that is part of the visual context of Riverside.



*Parthenocissus tricuspidata*



*Distictis buccinitoria*



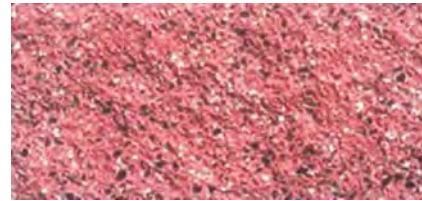
FIGURE 3.7-18

SR-91 Corridor Improvement Project  
Aesthetic Features for Retaining Walls  
12-Ora-91-R14.43/R.18.19  
08-Riv-91-R.0.00/R13.04  
08-Riv-15-35.64/45.14  
EA 0F540



### SPLIT FACE BLOCK

Red Brown  
City of Riverside



Tan  
City of Corona

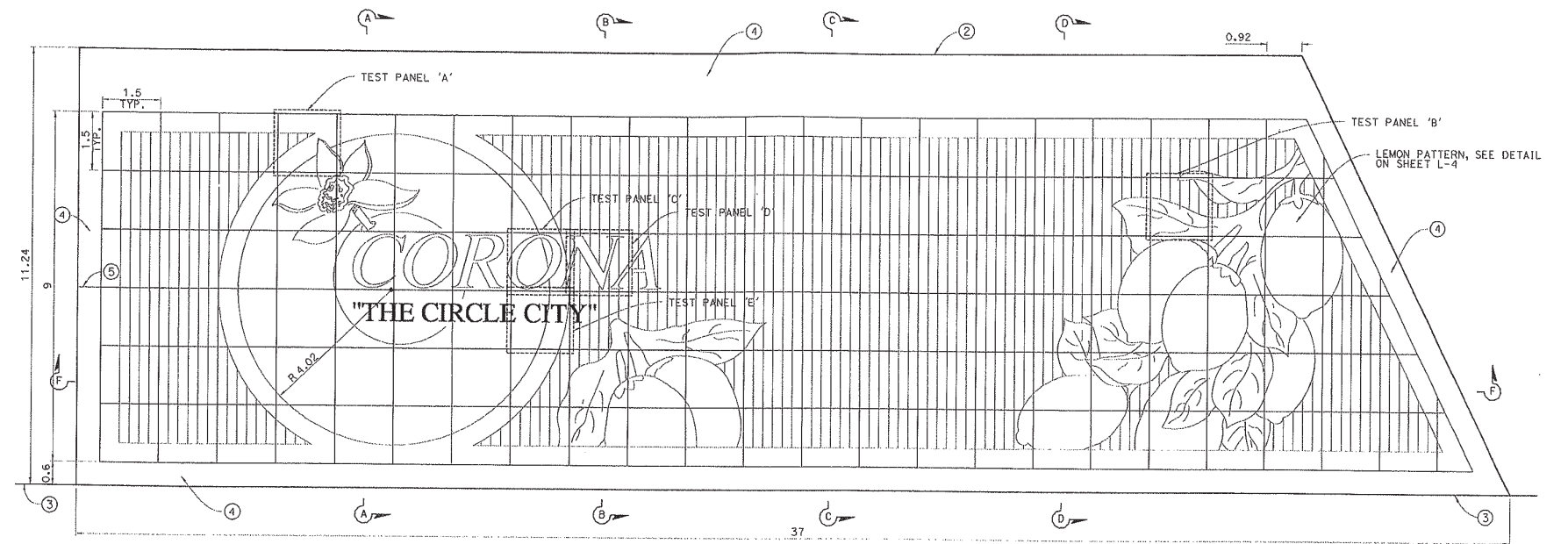
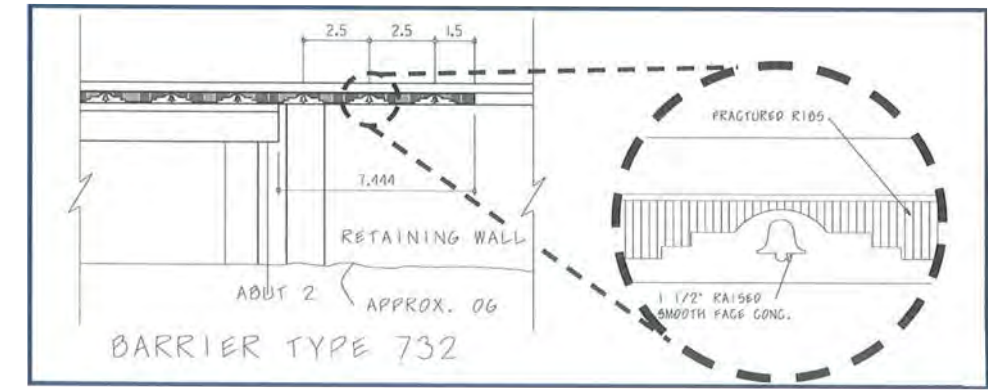
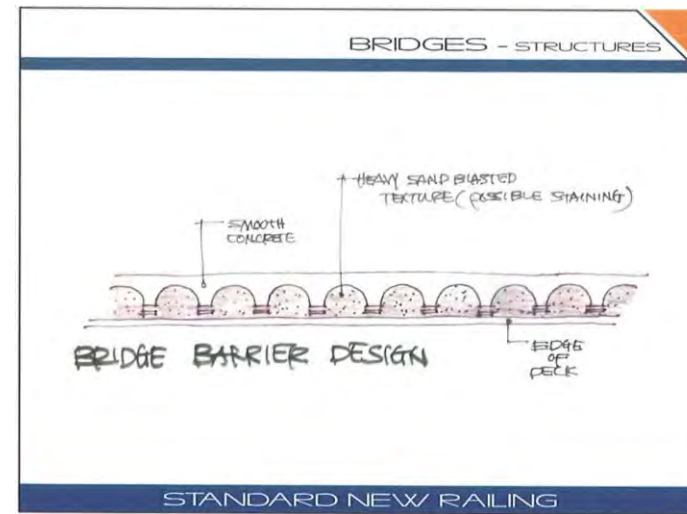
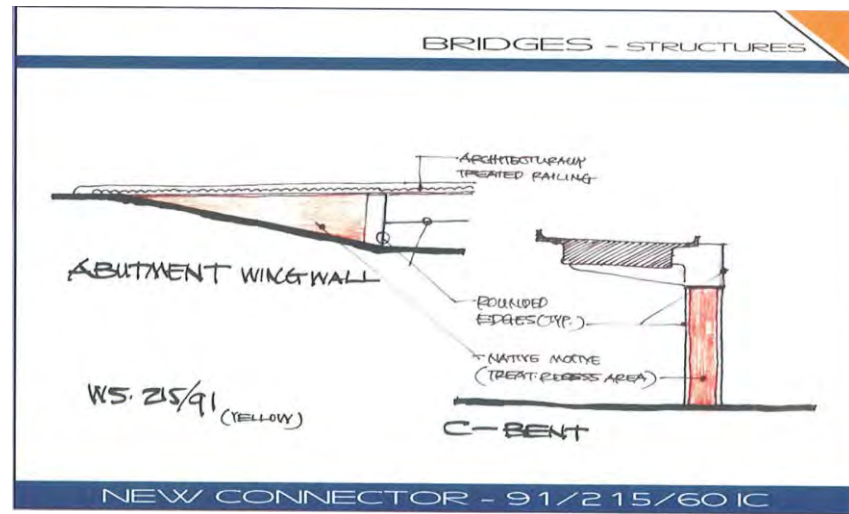


FIGURE 3.7-19

SR-91 Corridor Improvement Project  
 Aesthetic Features for Soundwalls  
 12-Ora-91-R14.43/R.18.19  
 08-Riv-91-R.0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540



Slope Pavement Design



Bridge Girder Design

FIGURE 3.7-20

SR-91 Corridor Improvement Project  
 Aesthetic Features for Bridge Structures  
 12-Ora-91-R14.43/R.18.19  
 08-Riv-91-R.0.00/R13.04  
 08-Riv-15-35.64/45.14  
 EA 0F540

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