



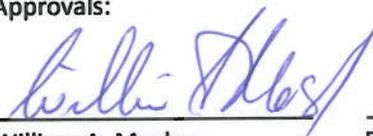
TRANSPORTATION CONCEPT REPORT
Interstate 215
District 8
September 2012



Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 8 Freight and System Planning Branch makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

California Department of Transportation
Caltrans Improves Mobility Across California

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9/19/12

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ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by identifying deficiencies and proposing improvements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety, mobility, delivery, stewardship, and service.

The System Planning process primarily produces four products: the District System Management Plan (DSMP), the Transportation System Development Plan (TSDP), the Transportation Concept Report (TCR), and the Corridor System Management Plan (CSMP). The district-wide **DSMP** is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TSDP** is a list of planned and partially programmed transportation projects used to recommend projects for funding. The **TCR** evolves from the development of the DSMP and TSDP and is used to document the existing and future route conditions as well as future needs for each route on the SHS. Similar to the TCR, the **CSMP** is a more complex multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. These System Planning products are also intended as resources for stakeholders, the public, partners, and regional and local agencies.

TCR Purpose

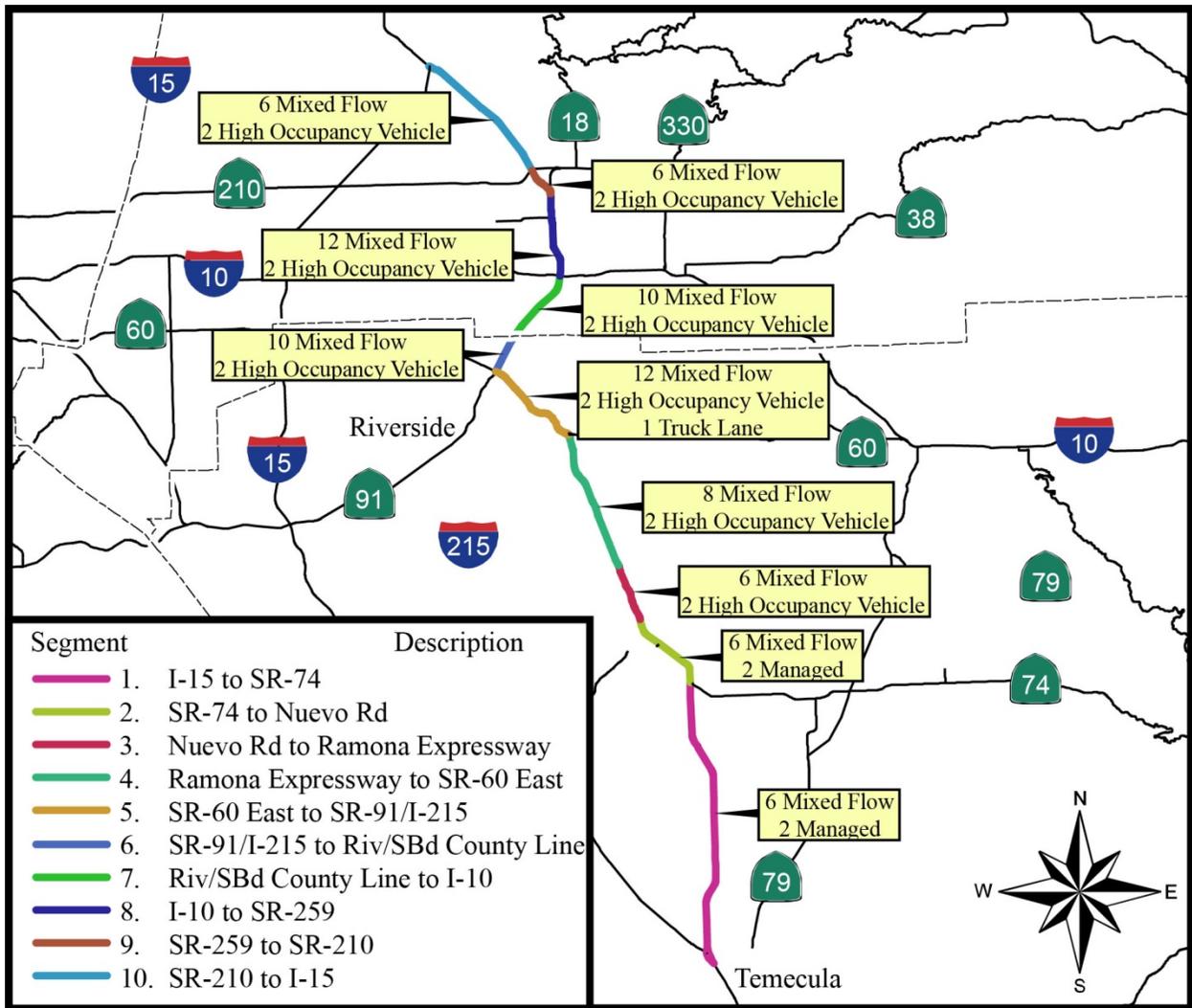
California's State Highway System needs long-range planning documents to guide the logical development of transportation systems as required by law and as necessitated by public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

EXECUTIVE SUMMARY: INTERSTATE 215

Concept Summary Table

CONCEPT – 2035 Facility

Segment	ADT	Dir. Split	Peak Hour	Truck Peak Hour	No-Build		Planned SCAG RTP		LOS "D" Minimum Requirement	Concept
					V/C	LOS	V/C	LOS		
1	138,800	57%	11,200 (8.1%)	550 (4.9%)	4 MF		6 MF		8 MFE	6 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.58	F	1.05	F		
2	130,000	56%	10,400 (8%)	830 (8%)	4 MF		6 MF		8 MFE	6 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.38	F	0.92	E		
3	153,000	56%	11,900 (7.8%)	940 (7.9%)	6 MF		6 MF/2 HOV		8 MFE	6 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.04	F	0.79	D		
4	181,800	55%	14,400 (7.9%)	1,100 (7.4%)	6 MF		6 MF/2 HOV		10 MFE	8 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.24	F	1.01	F		
5	249,000	53%	19,900 (8.0%)	1,350 (6.8%)	6 MF/2 HOV/ 1 T		6 MF/2 HOV/ 1 T		14 MFE/ 1 T	12 MF/ 2 HOV/ 1 T
					V/C	LOS	V/C	LOS		
					1.09	F	1.09	F		
va6	223,600	54%	17,400 (7.8%)	770 (4.4%)	6 MF		8 MF/2 HOV		12 MFE	10 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.47	F	0.92	E		
7	245,900	53%	19,400 (7.9%)	810 (4.2%)	6 MF		8 MF/2 HOV		12 MFE	10 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.60	F	1.02	F		
8	247,500	56%	19,800 (8.0%)	910 (4.6%)	6 MF		8 MF/2 HOV		14 MFE	12 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.71	F	1.09	F		
9	131,600	59%	11,300 (8.6%)	690 (6.1%)	4 MF		6 MF/2 HOV		8 MFE	6 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.67	F	0.85	D		
10	140,000	62%	10,500 (7.5%)	630 (6%)	4 MF		6 MF/2 HOV		8 MFE	6 MF/ 2 ML
					V/C	LOS	V/C	LOS		
					1.61	F	0.81	D		



Concept Rationale

Currently, 2012 RTP operations and capacity improvements are under construction to improve mobility on the corridor. With the improvements, I-215 is not expected to achieve the concept. In order to achieve the concept, Caltrans recommends several projects and strategies in addition to the 2012 RTP.

Proposed Projects and Strategies

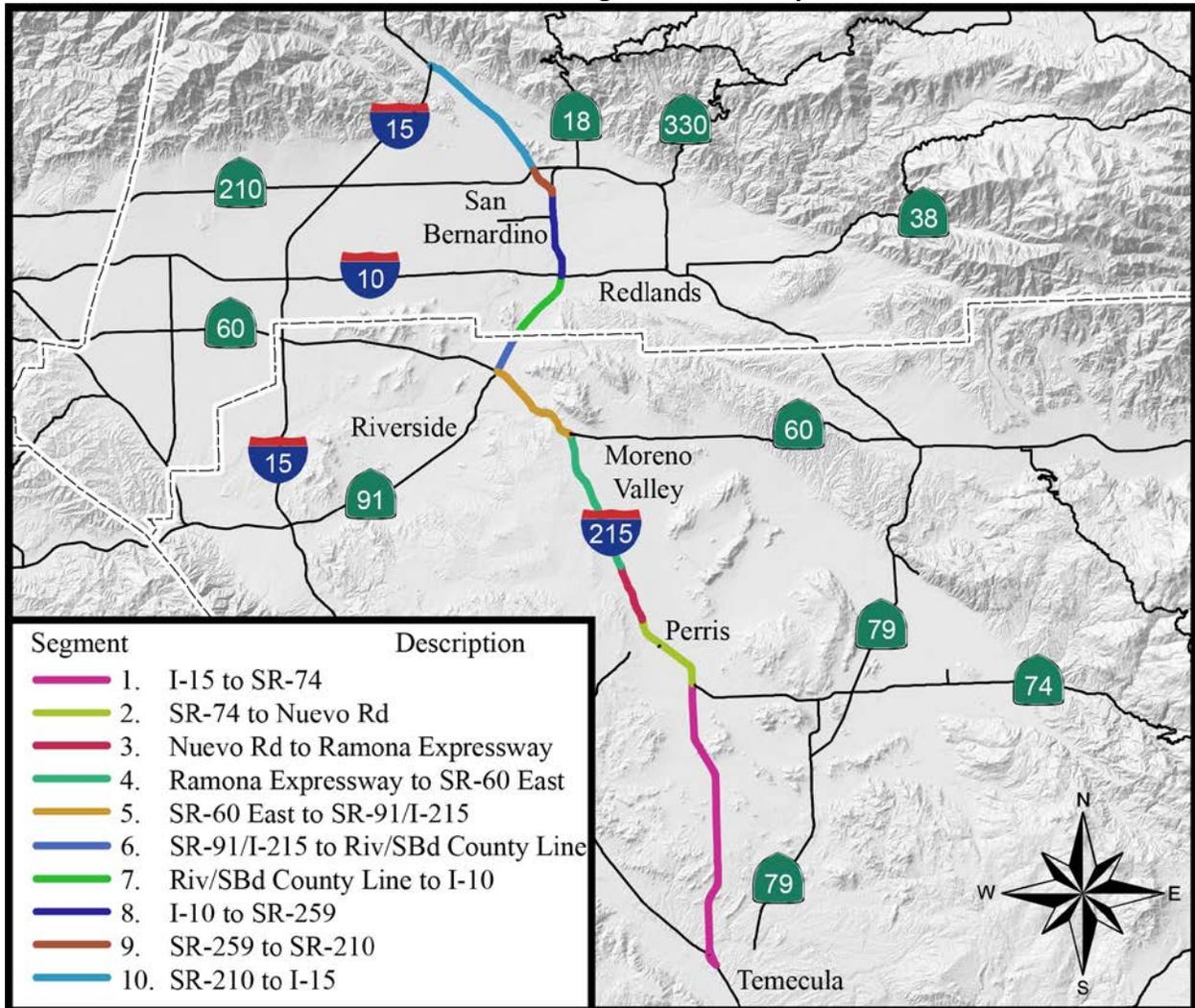
Seven projects are recommended in addition to the 2012 RTP projects in order to achieve the recommended concept on I-215: Add two managed lanes to Segments 1 and 2, add two mixed-flow lanes to Segment 4, add six mixed-flow lanes Segment 5, add two mixed-flow lanes Segments 6 and 7, and add four mixed-flow lanes Segment 8.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

Interstate 215			
Segment	County	Post Miles	Description
1	Riv	R9.0-23.5	I-15 to SR-74 South
2	Riv	23.5-R27.9	SR-74 South to Nuevo Road
3	Riv	R27.9-R30.9	Nuevo Road to Ramona Expressway
4	Riv	R30.9-R38.3	Ramona Expressway to SR-60 East Junction
5	Riv	R38.3-R43.3	SR-60 East Junction to 60/91/215 Interchange
6	Riv	R43.3-45.3	60/91/215 Interchange to Riv/SBd County Line
7	SBd	0.0-4.1	Riv/SBd County Line to I-10
8	SBd	4.1-8.6	I-10 to SR-259
9	SBd	8.6-10.1	SR-259 to SR-210
10	SBd	10.1-17.8	SR-210 to I-15

Interstate 215 Segmentation Map



ROUTE DESCRIPTION

Interstate 215 (I-215) begins at its southerly junction with Interstate 15 (I-15) in the city of Murrieta, Riverside County and terminates at its northerly junction with I-15 in the community of Devore, San Bernardino County. The total length of I-215 is 55 miles and is entirely within District 8. It ranges from four to seven mixed-flow lanes, which includes one truck ascending lane.

For the purposes of this study, I-215 is divided into 10 segments traversing urbanized or urbanizing areas. The route provides north-south mobility to and through the Temecula-Murrieta, Hemet, and San Bernardino-Riverside Urbanized Areas.

I-215 serves significant volumes of commuters and goods movement. Freight along the corridor consists of truck traffic between San Diego, San Bernardino, and Riverside County. Freight traffic serves distribution centers located along the corridor and March Air Reserve base.

Route Designation and Characteristics

Seg.	Freeway and Expressway System	National Highway System	Strategic Highway Network	Scenic Highway	Interregional Road System Route	High Emphasis Route	Focus Route	Federal Functional Classification	Goods Movement Route	Truck Designation	Rural/Urban/Urbanized	Metropolitan Planning Organization	Regional Transportation Planning Agency	Congestion Management Agency	Local Agencies	Tribes	Air District	Terrain
1	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Murrieta, Menifee, Perris, Riverside County	No	South Coast AQMD	Level
2	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Perris	No	South Coast AQMD	Level
3	Freeway	Yes	Yes	Eligible	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Perris, Riverside County	No	South Coast AQMD	Level
4	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Riverside, Moreno Valley, Riverside County	No	South Coast AQMD	Level
5	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Moreno Valley, Riverside	No	South Coast AQMD	Level
6	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	RCTC	Riverside, Riverside County	No	South Coast AQMD	Level
7	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	SANBAG	Grand Terrace, Colton	No	South Coast AQMD	Level
8	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	SANBAG	Colton, San Bernardino	No	South Coast AQMD	Level
9	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	SANBAG	San Bernardino	No	South Coast AQMD	Rolling
10	Freeway	Yes	Yes	No	Yes	Yes	No	Interstate	Yes	National Network	Urbanized	SCAG	SCAG	SANBAG	San Bernardino, San Bernardino County	No	South Coast AQMD	Rolling

COMMUNITY CHARACTERISTICS AND LAND USE

Segment 1 traverses the cities of Murrieta and Menifee. Parcels along this segment are zoned residential, commercial, and industrial. Segment 2 traverses the city of Paris. Parcels along this segment are zoned residential. Segment 3 traverses the sparsely populated areas of Paris and Riverside County. Parcels along this segment are zoned residential and commercial. Segment 4 traverses the cities of Perris, Moreno Valley, and Riverside. The parcels along this segment are zoned rural living, industrial, and commercial. Segment 5 traverses the city of Riverside. The parcels along this segment are zoned business park and industrial. University of California, Riverside is also adjacent to this segment. Segment 6 traverses the city of Riverside and the county of Riverside. The parcels along this segment are zoned commercial, residential, and business parks. Segment 7 traverses the cities of Colton and Grand Terrace. Parcels along this segment are zoned residential and industrial. Segment 8 traverses the city of San Bernardino. The parcels along this segment are zoned residential, industrial, and general commercial. Segment 9 traverses the city of San Bernardino. Parcels along this segment are zoned residential, commercial, and industrial. Segment 10 traverses the city of San Bernardino. Parcels along this segment are zoned residential, industrial, and flood control.

SYSTEM CHARACTERISTICS

Existing Facility					
Segment	Facility Type	Mixed-Flow Lanes	Managed Lanes	Centerline Miles	Lane Miles
1	Freeway	4	0	14.5	58.0
2	Freeway	4	0	4.4	17.6
3	Freeway	6	0	3.0	18.0
4	Freeway	6	0	7.4	44.4
5	Freeway	6	0	5.0	30.0
6	Freeway	6	0	2.0	12.0
7	Freeway	6	0	4.1	24.6
8	Freeway	6	0	4.5	27.0
9	Freeway	4	0	1.5	6.0
10	Freeway	4	0	7.7	30.8

Concept Facility					
Segment	Facility Type	Mixed-Flow Lanes	Managed Lanes	Centerline Miles	Lane Miles
1	Freeway	6	2	14.5	87.0
2	Freeway	6	2	4.4	26.4
3	Freeway	6	2	3.0	24.0
4	Freeway	8	2	7.4	59.2
5	Freeway	12	2	5.0	40.0
6	Freeway	10	2	2.0	20.0
7	Freeway	10	2	4.1	41.0
8	Freeway	12	2	4.5	45.0
9	Freeway	6	2	1.5	12.0
10	Freeway	6	2	7.7	61.6

TMS Elements				
Segment	Signalized Intersection 2008	Signalized Intersection 2035	Ramp Meters 2008	Ramp Meters 2035
1	0	0	2	13
2	0	0	2	6
3	0	0	0	2
4	0	0	1	13
5	0	0	10	14
6	0	0	1	6
7	0	0	7	7
8	0	0	9	9
9	0	0	0	2
10	0	0	0	6

BICYCLE FACILITY

Bicycles are not permitted on the freeway.

Bicycle Facility Table		
Segment	Bicycle Access Prohibited	Facility Description
1	Yes	Bicycles are not permitted on the freeway.
2	Yes	Bicycles are not permitted on the freeway.
3	Yes	Bicycles are not permitted on the freeway.
4	Yes	Bicycles are not permitted on the freeway.
5	Yes	Bicycles are not permitted on the freeway.
6	Yes	Bicycles are not permitted on the freeway.
7	Yes	Bicycles are not permitted on the freeway.
8	Yes	Bicycles are not permitted on the freeway.
9	Yes	Bicycles are not permitted on the freeway.
10	Yes	Bicycles are not permitted on the freeway.

PEDESTRIAN FACILITY

Pedestrians are not permitted on the freeway.

Pedestrian Facility Table		
Segment	Pedestrian Access Prohibited	Facility Description
1	Yes	Pedestrians are not permitted on the freeway.
2	Yes	Pedestrians are not permitted on the freeway.
3	Yes	Pedestrians are not permitted on the freeway.
4	Yes	Pedestrians are not permitted on the freeway.
5	Yes	Pedestrians are not permitted on the freeway.
6	Yes	Pedestrians are not permitted on the freeway.
7	Yes	Pedestrians are not permitted on the freeway.
8	Yes	Pedestrians are not permitted on the freeway.
9	Yes	Pedestrians are not permitted on the freeway.
10	Yes	Pedestrians are not permitted on the freeway.

TRANSIT FACILITY

Transit Facility Table			
Segment	Mode & Collateral Facility	Name	Route End Points
1	Bus	Riverside Transit Agency	Murrieta, Menifee, Perris, Riverside County
2	Bus	Riverside Transit Agency	Perris
	Train	Metrolink (Service begins 2014)	Perris
3	Bus	Riverside Transit Agency	Perris, Riverside County
	Train	Metrolink (Service begins 2014)	Riverside, Riverside County
4	Bus	Riverside Transit Agency	Riverside, Moreno Valley, Riverside County
	Train	Metrolink (Service begins 2014)	Riverside, Moreno Valley, Riverside County
5	Bus	Riverside Transit Agency	Moreno Valley, Riverside
	Train	Metrolink (Service begins 2014)	Moreno Valley, Riverside
6	Bus	Omnitrans	Riverside, Riverside County
	Train	Metrolink	Riverside, Riverside County
7	Bus	Omnitrans	Grand Terrace, Colton
	Train	Metrolink	Grand Terrace, Colton
8	Bus	Omnitrans	Colton, San Bernardino
	Train	Metrolink	Colton, San Bernardino
9	Bus	Omnitrans	San Bernardino
	Train	Metrolink	San Bernardino
10	Bus	Omnitrans	San Bernardino, San Bernardino County
	Train	Metrolink	San Bernardino, San Bernardino County

FREIGHT

Goods movement along the I-215 corridor is comprised of truck traffic between San Diego, San Bernardino, and Riverside County. Freight traffic also serves distribution centers located along the corridor.

There are several freight facilities and freight generators within this corridor. In northern Perris, several large distribution centers are located east of I-215. In eastern Riverside, west of I-215, there are multiple large distribution centers. In northern San Bernardino, several large distribution centers are located west of I-215. These distribution centers generate truck traffic on I-215.

March Air Reserve Base is also located along this corridor. As of 2012, there are no major cargo companies operating out of this airport. DHL operated out of March Air Reserve Base until 2009 when they shut down due to low profitability. If air cargo service returns to March Air Reserve Base, it has the potential to increase freight traffic on I-215.

Freight Facility Table			
Facility Type/Freight Generator	Location	Mode	Name
Warehousing/Distribution Center	North Perris	Truck	Various
Warehousing/Distribution Center	Eastern Riverside	Truck	Various
Warehousing/Distribution Center	Northern San Bernardino	Truck	Various
Airport	East of Riverside	Airplane	March Air Reserve Base

CORRIDOR PERFORMANCE¹

Basic System Operations							
Segment	AADT 2008	AADT 2035	LOS 2008	LOS 2035	LOS Concept	VMT 2008	VMT 2035
1	83,300	138,800	D	F	D	1,207,900	2,012,600
2	88,400	130,000	E	E	D	389,000	572,000
3	103,000	153,000	D	D	D	309,000	459,000
4	121,400	181,800	D	F	D	898,400	1,345,300
5	163,500	249,000	F	F	D	817,500	1,245,000
6	139,800	223,600	D	E	D	279,600	447,200
7	193,100	245,900	F	F	D	791,700	1,008,200
8	155,700	247,500	F	F	D	700,700	1,113,800
9	70,200	131,600	D	D	D	105,300	197,400
10	71,100	140,000	D	D	D	547,500	1,078,000

Truck Traffic				
Segment	Total Average Annual Daily Truck Traffic (AADT) 2008	Total Trucks (% of AADT) 2008	5+ Axle Average Annual Daily Truck Traffic (AADTT) 2008	5+ Axle Trucks (% of AADTT) 2008
1	6,000	7%	1,900	32%
2	11,100	13%	2,500	23%
3	12,400	12%	5,600	45%
4	12,400	12%	5,300	43%
5	19,200	12%	7,800	41%
6	11,500	7%	4,600	40%
7	13,200	7%	5,200	39%
8	11,500	7%	3,800	33%
9	7,800	11%	4,300	55%
10	6,500	9%	3,100	48%

Peak Period Traffic Data				
Segment	Peak Direction	Time of Day	VMT 2008	VMT 2035
1	Southbound	6am-9am/3am-7pm	92,100	163,900
2	Southbound	6am-9am/3am-7pm	31,700	45,400
3	Southbound	6am-9am/3am-7pm	25,500	36,100
4	Southbound	6am-9am/3am-7pm	73,800	105,900
5	Southbound	6am-9am/3am-7pm	67,700	97,600
6	Northbound	6am-9am/3am-7pm	21,800	36,000
7	Northbound	6am-9am/3am-7pm	59,000	79,100
8	Northbound	6am-9am/3am-7pm	56,500	89,800
9	Northbound	6am-9am/3am-7pm	8,500	16,400
10	Northbound	6am-9am/3am-7pm	47,200	80,600

¹ Corridor Performance table is based on 2008 Caltrans traffic data and SCAG Model 2035.

KEY CORRIDOR ISSUES

The purpose of I-215 is to provide for the safe and efficient interstate and interregional mobility of goods and people. In conjunction with I-15, I-215 is a major north-south corridor linking San Bernardino/Riverside counties with Nevada and San Diego County. The route also provides for intra-regional mobility within the cities of Murrieta, Perris, Moreno Valley, Riverside, Grand Terrace, Colton and San Bernardino. I-215 provides access to California State University - San Bernardino, University of California – Riverside, March Air Reserve Base, Glen Helen Regional Park, Riverside National Cemetery, and major employment in the urban areas Riverside and San Bernardino Counties.

CORRIDOR CONCEPT

CONCEPT RATIONALE

Currently, major operations and capacity improvements are under construction on the corridor. With these financially constrained 2012 RTP improvements, traffic operations on most of I-215 is expected to fall below the concept (a minimum LOS “D”) prior to 2035. In order to maintain the concept, several projects and strategies are recommended in addition to those planned in the SCAG 2012 RTP.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Segment	County	Post Miles	Location	Lead Agency	Project
2012 Regional Transportation Improvement Program (RTIP) Projects					
1	Riv	R8.2- R16.0	Riverside County	RCTC	Add 1 MF in each direction
1	Riv	R10.6- R11.1	Murrieta	Murrieta	Improve Los Alamos IC/ramps
1	Riv	R12.3- R12.8.	Murrieta	Murrieta	Reconstruct/widen Clinton Keith Rd. IC and ramps
1	Riv	R13.0	Murrieta	Murrieta	Construct new Linnel Ln. OC
1,2,3	Riv	R14.2- R28.5	Riverside County	RCTC	Add 1 MF in each direction
1	Riv	R14.3- R14.8	Murrieta	Murrieta	Reconstruct Keller Rd. OC
1	Riv	R15.0- R16.0	Riverside County	Riverside County	Reconstruct/widen Scott Rd. IC and ramps
1	Riv	R17.4- R19.3	Riverside County	Riverside County	Reconstruct/widen Newport Ave. IC and ramps
1,2,3	Riv	R14.2- R28.5	Riverside County	RCTC	1 MF in each direction
2	Riv	25.5-27.0	Perris	RCTC	SR-74 IC Modification
1,2,3	Riv	R14.2- R28.5	Riverside County	RCTC	Add 1 MF in each direction
3	Riv	R29.5	Perris	Perris	Construct new Placentia Ave. IC and ramps
3,4	Riv	R30.7- R31.1	Perris	Perris	Reconstruct/widen Ramona Expressway IC

Segment	County	Post Miles	Location	Lead Agency	Project
2012 Regional Transportation Improvement Program (RTIP) Projects					
3,4	Riv	R30.7- R31.1	Perris	Perris	Reconstruct/widen Ramona Expressway IC
4	Riv	R32.3- R35.8	Perris	Riverside County	Improve Van Buren Blvd. IC
4	Riv	R35.4- R36.2	Riverside/Moreno Valley	Riverside County	Improve Cactus Ave. IC
4,5	Riv	R37.7-43.9	Riverside	Caltrans	Improve I-215/SR-60Jct. /add HOV/ aux./ SB truck lane
4,5	Riv	R38.0- R38.9	Riverside/ Moreno Valley	RCTC	Add 2 HOV direct connectors/widen IC
4,5	Riv	R38.0- R38.9	Riverside/ Moreno Valley	RCTC	2 HOV direct connectors
6,7,8	SBd/Riv	Riv-215 43.2-45.3 SBd-215 0.0-5.1	Riverside/Grand Terrace/Colton/ San Bernardino	SANBAG	1 MF/1 HOV in each direction/auxiliary lanes
6	Riv	43.4-44.4	Riverside	Caltrans/RCTC	Improve Columbia Ave. IC
6	Riv	44.5-45.5	Riverside	Caltrans/RCTC	Improve Center St. IC
7	SBd	1.3	Grand Terrace	SANBAG	Reconstruct/widen Barton Rd. IC
8,9	SBd	4.1-10.1	San Bernardino	Caltrans/ SANBAG/ San Bernardino County	1 MF/1 HOV in each direction/ aux. lanes/braided ramps
10	SBd	11.6	San Bernardino	San Bernardino	Reconstruct University Pkwy. IC and ramps
10	SBd	14.0-16.4	San Bernardino	Caltrans	Devore IC improvements
2012 Financially Constrained Regional Transportation Plan (RTP) Projects					
1	Riv	R8.0- R10.0	Murrieta	RCTC	Add 1 MF in each direction
1	Riv	R16.0- R17.0	Riverside County	Caltrans/Riverside County	Construct new Garbani Rd. IC/ramps
1	Riv	R20.3-21.3	Menifee	Riverside County	Reconstruct/widen McCall Blvd. IC/ramps
1	Riv	22.4-23.1	Perris	Perris	Reconstruct/widen Ethanac Rd. IC
1,2	Riv	23.0-24.0	Perris	Perris	Reconstruct Matthews Rd. IC and ramps
2	Riv	24.7-26.1	Perris	Perris	New Ellis Ave. IC with ramps
2,3	Riv	27.4-R28.4	Perris	Perris	Improve Nuevo Rd. IC and ramps
2,3	Riv	R27.9- R38.3	Riverside County	Caltrans/RCTC	1 HOV in each direction
2,3	Riv	27.4-R28.4	Perris	Perris	Improve Nuevo Rd. IC and ramps
3,4	Riv	R27.9- R38.3	Riverside County	Caltrans/ RCTC	1 HOV in each direction

Segment	County	Post Miles	Location	Lead Agency	Project
2012 Financially Constrained Regional Transportation Plan (RTP) Projects					
4	Riv	R31.8- R32.8	Perris	Perris	Improve Oleander Ave. IC
4	Riv	R35.9- R36.9	Riverside	Riverside County	Improve Alessandro Blvd. IC
3,4	Riv	R27.9- R38.3	Riverside County	Caltrans/RCTC	1 HOV in each direction
5	Riv	41.0-42.0	Riverside	Caltrans	Improve University Ave. IC
5	Riv	41.7-42.4	Riverside	Caltrans	Number 4 lane extension
6	Riv	43.4-44.4	Riverside	Caltrans/RCTC	Improve Columbia Ave. IC
6	Riv	44.5-45.5	Riverside	Caltrans/RCTC	Improve Center St. IC
9,10	SBd	9.5-18.0	San Bernardino	Caltrans	1 HOV in each direction
9,10	SBd	10.0-18.0	San Bernardino	Caltrans	1 MF in each direction
9,10	SBd	9.5-18.0	San Bernardino	Caltrans	1 HOV in each direction
9,10	SBd	10.0-18.0	San Bernardino	Caltrans	1 MF in each direction
10	SBd	12.8	San Bernardino	San Bernardino	Construct new Pepper-Linden Ave. IC
10	SBd	13.5-14.5	San Bernardino	San Bernardino	Reconstruct Palm Ave. IC
Strategic Plan Projects (Unconstrained)					
No projects are planned					

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

SEGMENT	LOCATION	DESCRIPTION
		CONCEPT RECOMMENDED
1	R9.0-23.5	Add 2 managed lanes (1 in each direction)
2	23.5-R27.9	Add 2 mixed-flow lanes (1 in each direction)
3	N/A	N/A
4	R30.9-R38.3	Add 2 mixed-flow lanes (1 in each direction)
5	R38.3-R43.3	Add 6 mixed-flow lanes (3 in each direction)
6	R43.3-45.3	Add 2 mixed-flow lanes (1 in each direction)
7	0.0-4.1	Add 2 mixed-flow lanes (1 in each direction)
8	4.1-8.6	Add 4 mixed-flow lanes (2 in each direction)
9	N/A	N/A
10	N/A	N/A

Appendix A

GLOSSARY OF TERMS AND ACRONYMS

Acronyms

- AADT** – Annual Average Daily Traffic
- ADT** – Average Daily Traffic
- AQMD** – Air Quality Management District
- Caltrans** – California Department of Transportation
- CMA** – Congestion Management Plan
- CSS** – Context Sensitive Solutions
- FHWA** – Federal Highway Administration
- GHG** – Green House Gas
- HCP** – Habitat Conservation Plan
- HCS** – Highway Capacity Software
- HOV** – High Occupancy Vehicle Lane
- HOT** – High Occupancy Toll Lane
- IC** – Interchange
- ITS** – Intelligent Transportation System
- LOS** – Level of Service
- MF** – Mixed-Flow Lane
- MFE** – Mixed-Flow Lane Equivalent
- ML** – Managed Lane
- MPO** – Metropolitan Planning Organizations
- NOA** – Naturally Occurring Asbestos
- NCCP** – Natural Community Conservation Plan
- OC** – Overcrossing
- PID** – Project Initiation Document
- PM** – Post Mile
- PSR** – Project Study Report
- RCTC** – Riverside County Transportation Commission
- Riv** – Riverside County
- RTP** – Regional Transportation Plan
- RTIP** – Regional Transportation Improvement Program
- RTPA** – Regional Transportation Planning Agency
- SANBAG** – San Bernardino Associated Governments
- SBd** – San Bernardino County
- SCAG** – Southern California Association of Governments
- SCS** – Sustainable Community Strategies
- SHOPP** – State Highway Operation Protection Program
- STIP** – State Transportation Improvement Program
- T** – Truck Lane
- TDM** – Transportation Demand Management
- TMS** – Transportation Management System
- TSN** – Transportation System Network
- UC** – Undercrossing
- V/C** – Volume to Capacity Ratio
- VMT** – Vehicle Miles Traveled

Definitions

Annual Average Daily Traffic (AADT) – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved from location throughout the State in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways, and other purposes.

Bikeway Class I (Bike Path) – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bikeway Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.

Bikeway Class III (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic.

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

Capital Facility Concept – The 20-25 year vision of future development on the route to the capital facility. The capital facility can include capacity increasing, state highway, bicycle facility, pedestrian facility, transit facility (Intercity Passenger rail, Mass Transit Guideway etc.), grade separation, and new managed lanes.

Concept LOS – The minimum acceptable level of service over the next 20-25 years.

Conceptual Project – A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a financially constrained plan and is not currently programmed. It could be included in a General Plan or in the unconstrained section of a long-term plan.

Corridor – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included for informational purposes and not analyzed in the TCR.

Facility Concept – Describes the facility and strategies that may be needed within 20-25 years. This can include capacity increasing, state highway, bicycle facility, pedestrian facility, transit facility, non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, transportation demand management, and incident management.

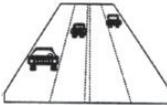
Facility Type – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

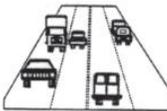
Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

Intelligent Transportation System (ITS) – Improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent transportation systems encompass a broad range of wireless and wire line communications-based information and electronics technologies to collect information, process it, and take appropriate actions.

Level of Service (LOS) – It is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. LOS can generally be categorized as follows:



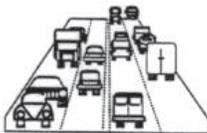
LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



LOS B is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.



LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.



LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.



LOS E reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.



LOS F is a stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Mainline – Includes travelway for through traffic but not freeway to freeway interchanges, local road interchanges, ramps, or auxiliary lanes.

Multimodal – The availability of transportation options using different modes within a system or corridor, such as automobile, subway, bus, rail, or air.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between six percent and 10 percent of the Annual Daily Traffic (ADT). The lower values are generally found on roadways with low volumes.

Planned Project – A planned improvement or action is a project in a financially constrained section of a long-term plan, such as an approved Regional or Metropolitan Transportation Plan (RTP or MTP), Capital Improvement Plan, or measure.

Post-25 Year Concept – This dataset may be defined and re-titled at the District's discretion. In general, the Post-25 Year concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-25 year horizon. The post-25 year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Post Mile (PM) – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a county to the next county line. The milepost values start over again at each county line. Mile post values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The mile post at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "mile post equations" are introduced at the end of each relocated portion so that mile posts on the remainder of the route within the county will remain unchanged.

Programmed Project – A programmed improvement or action is a project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

Route Designation – A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards

should apply during project development and design. Typical designations include but not limited to National Highway System (NHS), Interregional Route System (IRRS), and Scenic Highway System.

Rural – Fewer than 5,000 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau.

Segment – A portion of a facility between two points.

System Operations and Management Concept – Describes the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Auxiliary lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV lane to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

Transportation Demand Management (TDM) – Programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

Transportation Management System (TMS) – Is the business processes and associated tools, field elements, and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems, and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

Urban – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

Urbanized – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

Vehicle Miles Traveled (VMT) – Is the total number of miles traveled by motor vehicles on a road or highway segments.

Appendix B

RESOURCES

California Department of Transportation: *District 8 District System Management Plan*, December 2011.

County of San Bernardino Land Use Services: *San Bernardino County Land Use Plan*, May 2007

San Bernardino County Non-Motorized Transportation Plan – 2001 Update