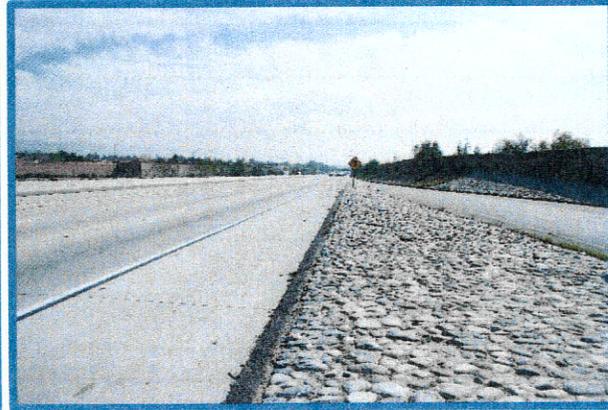
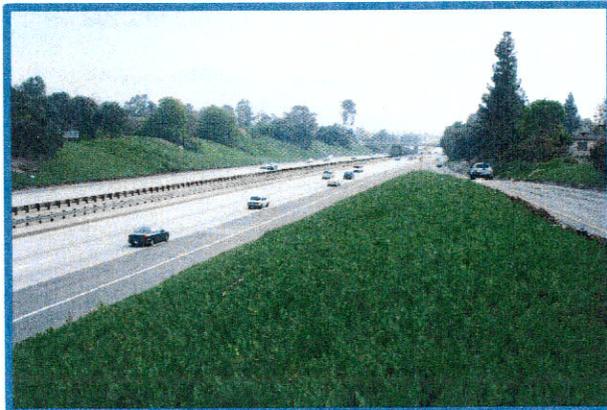
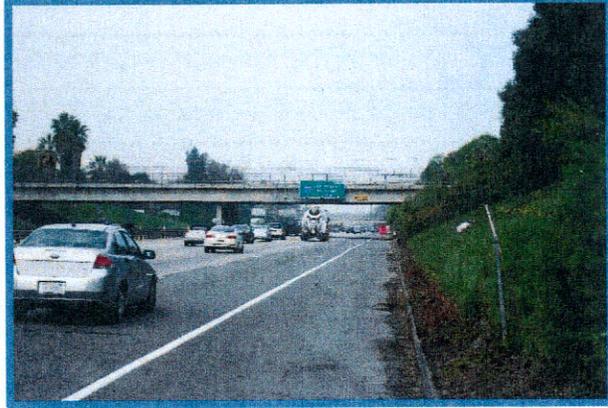




# Transportation Concept Report

## State Route 210

### District 8

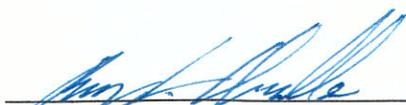


Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 8 System Planning Division 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

Mission: Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Approvals:

  
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05/23/16  
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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 evaluating conditions and proposing enhancements to the SHS. Through System Planning, Caltrans focuses on its mission to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

The System Planning process (See Appendix E: System Planning Flow Chart) is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMP Project List. The district-wide **DSMP** is strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The **CSMP** is a 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. The **DSMP Project List** is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders, the public, and partner, 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 CA Gov. Code §65086 and as necessitated by the 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.

## STAKEHOLDER PARTICIPATION

State Route 210 TCR involved a collaboration with stakeholders including representatives along the State right-of-way. Feedback from the stakeholders helped solidify the findings of the performance assessment, bottleneck identification, and causality analysis given their intimate knowledge of local conditions. Moreover, stakeholders have provided support and insight, and shared valuable field and project data without which this study would not have been possible. The stakeholders included representatives from the following organizations: Southern California Association of Governments; San Bernardino Associated Governments; the County of San Bernardino; the cities of Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino, Highland, and Redlands; and Native American Tribes including the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Cahuilla Band of Indians Reservation, Morongo Band of Mission Indians, Ramona Band of Cahuilla Indians; San Manuel Band of Mission Indians, Santa Rosa Band of Cahuilla Indians, and Torres Martinez Desert Cahuilla Indians.

## EXECUTIVE SUMMARY

State Route 210 (SR-210) is an urban freeway that begins in Caltrans District 7 within the city of Los Angeles and ends in District 8 in the city of Redlands. Within District 8, the freeway starts at the Los Angeles-San Bernardino county line and traverses the foothill cities of Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino, and Highland before ending at its junction with Interstate 10 (I-10) in the city of Redlands. SR-210 is primarily used by commuters living in the foothill communities and traveling to their places of employment located within and out of the area. SR-210 provides access to and from local business, schools, and airports. It provides an east-west connection to the access points to the San Bernardino Mountains and to several north-south Interstate and state highway routes.

### CONCEPT SUMMARY

Seg.	Segment Description	Existing Facility	2035 Capital Facility Concept	2035 System Operations and Management Concept	No-Build		Planned SCAG-RTP		Minimum to attain LOS "D"
					V/C	LOS	V/C	LOS	
1	Los Angeles/ San Bernardino County line to I-15	8L, F	10L, F	Add CMS; Multimodal transportation improvements	6 MF/2 HOV		8 MF/2 HOV		10 MFE
					V/C	LOS	V/C	LOS	
2	I-15 to I-215	8L, F	8L, F	No TMS improvements planned	6 MF/2 HOV		6 MF/2 HOV		6 MFE
					V/C	LOS	V/C	LOS	
3	I-215 to SR-259	6L, F	10L, F	Add RMS	6 MF		8 MF/2 HOV		6 MFE
					V/C	LOS	V/C	LOS	
4	SR-259 to Highland Avenue	6L, F	10L, F	Add CCTV, CMS	6 MF		8 MF/2 HOV		6 MFE
					V/C	LOS	V/C	LOS	
5	Highland Avenue to I-10	4L, F	10L, F	Add CCTV	4 MF		8 MF/2 HOV		6 MFE
					V/C	LOS	V/C	LOS	

Source: Caltrans District 8 District System Management Plan Update, 2016

F = Freeway  
L = Number of lanes

CCTV = Closed-Circuit Television  
CMS = Changeable Message Sign  
RMS = Ramp Meter Signals  
TMS = Transportation System Management

MF = Mixed-Flow Lane  
MFE = Mixed-Flow Lane Equivalent  
HOV = High Occupancy Vehicle Lane  
LOS = Level of Service  
V/C = Volume to Capacity Ratio

### CONCEPT RATIONALE

LOS "D" concept will be achieved through the implementation of financially constrained projects in the Southern California Association of Governments 2012 Regional Transportation Plan.

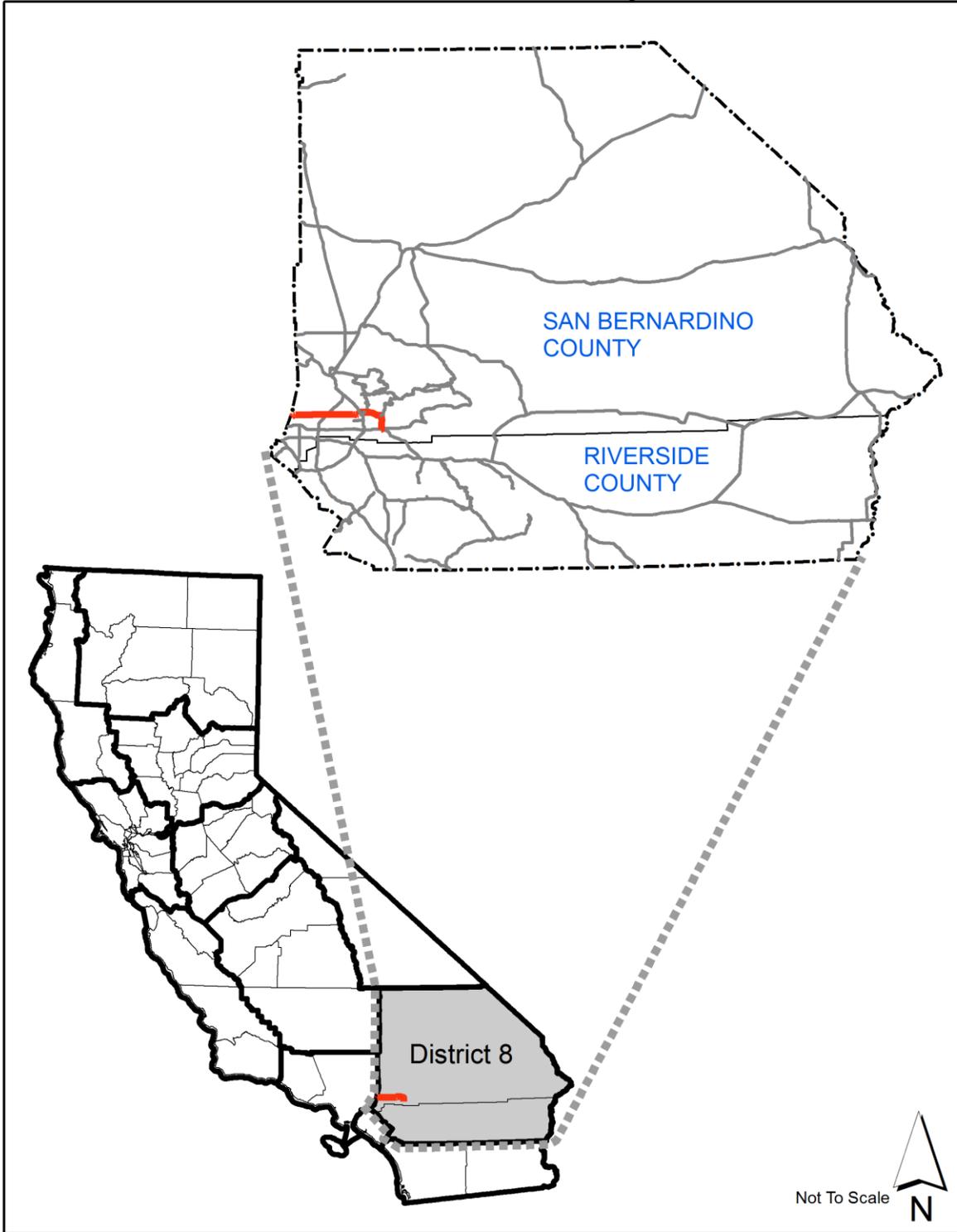
## **PROPOSED PROJECTS AND STRATEGIES**

Several SR-210 projects are planned in the Southern California Association of Governments 2012 Regional Transportation Plan (RTP) including the addition of mixed-flow and High Occupancy Vehicle (HOV) lanes as well as the construction and reconfiguration of several interchanges between I-215 and I-10.

To further reduce demand while better meeting the operational needs of the corridor, rapid public transportation could serve the SR-210 corridor. Currently, there are only local buses but no single-seat solution (a service not requiring transfers) to travel between multiple cities without requiring multiple transfers.

Several cities have planned projects that will create parallel and perpendicular corridors along SR-210 to improve local and regional connectivity and circulation for bicyclists and pedestrians. These projects are not included within the financially constrained RTP project list and have yet to receive funding. City plans include the creation of parallel Class I mixed use non-motorized paths in the city of Rancho Cucamonga as well as an overpass in the city of Fontana could improve neighborhood circulation within and between these cities.

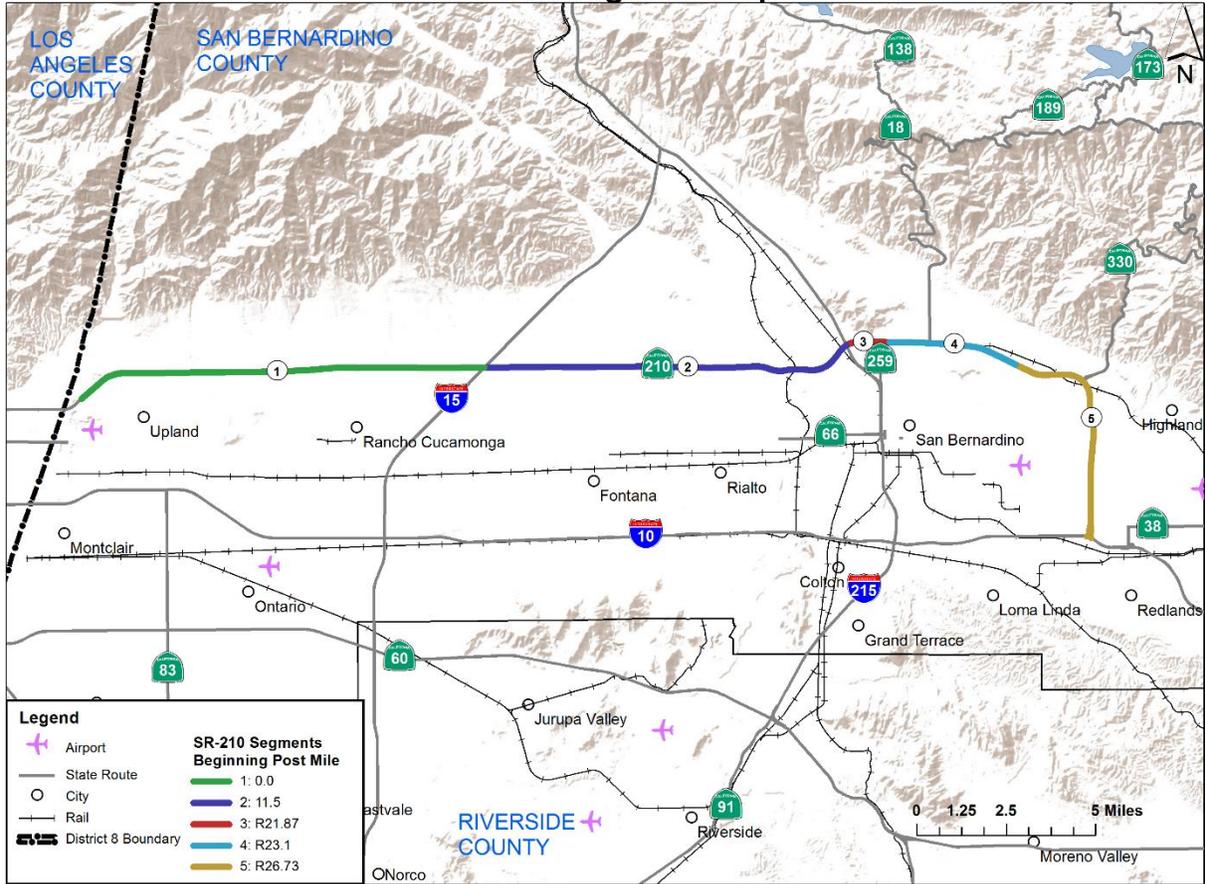
# SR-210 Location Map



# CORRIDOR OVERVIEW

## ROUTE SEGMENTATION

SR-210 Segment Map



Segment	Location Description	County_Route_ Begin PM	County_Route_ End PM
1	Los Angeles-San Bernardino County line to I-15	SBd_210_0.00	SBd_210_11.5
2	I-15 to I-215	SBd_210_11.5	SBd_210_R21.9
3	I-215 to SR-259	SBd_210_R21.9	SBd_210_R23.1
4	SR-259 to Highland Avenue	SBd_210_R23.1	SBd_210_R26.7
5	Highland Avenue to I-10	SBd_210_R26.7	SBd_210_R33.1

## **ROUTE DESCRIPTION**

### **Route Location**

State Route 210 (SR-210) begins in the city of Glendora at its junction with Interstate 210 (I-210) and ends at Interstate 10 (I-10) in the city of Redlands. SR-210 traverses portions of District 7 in Los Angeles County and District 8 in San Bernardino County. In District 8, the route length is 34.2 miles traversing the cities of Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino, and Redlands.

### **Route Purpose**

State Route 210 is an urban freeway that serves a high volume of commuter and commercial traffic traveling between the Urbanized Areas of Riverside-San Bernardino and Los Angeles-Long Beach-Anaheim. Bicyclists and pedestrians are not permitted on the freeway corridor.

### **Major Route Features**

State Route 210 traverses several foothill communities that are adjacent to the San Gabriel and San Bernardino mountain ranges and provides access to the National Forests via State Route 18 (SR-18), State Route 330 (SR-330), and State Route 38 (SR-38). Most of the land uses adjacent to the freeway are residential, with a few light commercial and shopping areas that support the residential neighborhood. In addition to heavy commuter traffic during peak hours from residential areas, there are other major trip generators that lie along SR-210. These generators include a solid waste landfill, materials recovery facility, several construction aggregate (asphalt, concrete, sand, gravel) suppliers, Chaffey Community College, California State University-San Bernardino, and the San Bernardino Municipal Airport; all of which generate automobile and truck traffic during normal business hours. In addition, SR-210 provides the only southerly highway link to local mountain roads, SR-18, and SR-330, which serve several mountain communities located north of the cities of San Bernardino and Redlands.

## Route Designations and Characteristics

Segment	1	2	3	4	5
Freeway & Expressway System	Yes	Yes	Yes	Yes	Yes
National Highway System	Yes	Yes	Yes	Yes	Yes
Strategic Highway Network	Yes	Yes	Yes	Yes	Yes
Scenic Highway	No	No	No	No	No
Interregional Road System	No	No	No	No	No
High Emphasis	No	No	No	No	No
Focus Route	No	No	No	No	No
Federal Functional Classification	Other Freeway and Expressways	Other Freeway and Expressways	Other Freeway and Expressways	Other Freeway and Expressways	Other Freeway and Expressways
Goods Movement Route	Yes	Yes	Yes	Yes	Yes
Truck Designation	National Network	National Network	National Network	National Network	National Network
Rural / Urban / Urbanized	Urbanized	Urbanized	Urbanized	Urbanized	Urbanized
Metropolitan Planning Organization	SCAG	SCAG	SCAG	SCAG	SCAG
Regional Transportation Planning Agency	SCAG	SCAG	SCAG	SCAG	SCAG
Congestion Management Agency	SANBAG	SANBAG	SANBAG	SANBAG	SANBAG
County Transportation Commission	SANBAG	SANBAG	SANBAG	SANBAG	SANBAG
Local Agency	Cities of Upland and Rancho Cucamonga	Cities of Fontana, Rialto, and San Bernardino	City of San Bernardino	Cities of San Bernardino and Highland	Cities of San Bernardino, Highland and Redlands
Tribes	Agua Caliente Band of Cahuilla Indians; Augustine Band of Cahuilla Indians; Cabazon Band of Mission Indians; Cahuilla Band of Indians Reservation; Morongo Band of Mission Indians, Ramona Band of Cahuilla Indians; San Manuel Band of Mission Indians; Santa Rosa Band of Cahuilla Indians; Torres Martinez Desert Cahuilla Indians				
Air District	SCAQMD	SCAQMD	SCAQMD	SCAQMD	SCAQMD
Terrain	Flat	Flat	Flat	Flat	Flat

## COMMUNITY CHARACTERISTICS

Jurisdiction	Upland	Rancho Cucamonga	Fontana	Rialto	San Bernardino	Highland	Redlands
Total Population	73,732	165,269	196,069	99,171	209,924	53,104	68,747
Median Income	\$67,567	\$77,835	\$63,252	\$50,555	\$38,385	\$59,549	\$79,569
Drive Alone to Work	81.2%	82.3%	76.7%	76.1%	75.3%	78.1%	79.3%

Source: 2010 U.S. Census

State Route 210 traverses several foothill cities that abut the San Gabriel and San Bernardino mountain ranges, the northern border of the greater Los Angeles metropolitan region. Major trip generating community facilities located north of SR-210 include the San Manuel Amphitheater (originally Glen Helen

Pavilion), California State University campus in San Bernardino, and the San Manuel Indian Bingo and Casino. Other trip generation attributes include the mountain communities north of SR-210, accessible via SR-18 and SR-330; both of which terminate at their junctions with SR-210. Most of the developed areas along SR-210 consist of residential neighborhoods whose working population commute to job centers located away from their local community.

## **LAND USE**

State Route 210 traverses the foothill cities of Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino, Highland, and Redlands. Except for its junction with I-10 in Redlands, SR-210 runs parallel and roughly five miles north of I-10 within District 8. SR-210 traverses primarily residential areas, with shopping centers located at nearly every exit. In Rialto, SR-210 runs adjacent to a landfill, the municipal airport and surrounding industrial areas. In the cities of San Bernardino and Highland, SR-210 connects with SR-18 and SR-330, which are the primary routes through National Forest land to mountain communities including Lake Arrowhead, Running Springs, and Big Bear Lake. In addition to the California State University, San Bernardino, SR-210 also serves the San Bernardino International Airport.

Within the cities of Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino, Highland, and Redlands, as well as unincorporated areas within their respective spheres of influence, there is a significant amount of undeveloped land along the SR-210 corridor. These areas, when developed will foster population growth and become trip generators. In the city of Upland, a vehicle dealership is planned to be constructed north of SR-210 (PM 3.5). Within the city of Rancho Cucamonga, annexation of its “North East Sphere of Influence” is underway due to residential neighborhoods planned to be developed within the North Etiwanda and Etiwanda Specific Plan areas (PM 7.9 to 11.5). The City of Fontana has undeveloped land at the I-15 and SR-210 interchange, as well as in many areas between the cities of Rancho Cucamonga and Rialto. These specific plan areas include Arboretum, California Landings, Summit at Rosena, Providence Pointe, Walnut Village, and Westgate (PM 11.5 to 15.4). The City of Rialto has created the Rialto Airport and Renaissance Specific Plans to redevelop the existing Rialto Municipal Airport into a residential, commercial and industrial area (PM 15.4 to 17.9). The city of Rialto also includes the Lytle Creek Ranch Specific Plan which will result in housing development within its sphere of influence, alongside Lytle Creek Wash between I-15 to SR-210 and the Pepper Avenue Specific Plan. The City of San Bernardino plans to develop housing and additional hotel rooms in the University District and Arrowhead Springs Specific Plan areas (PM R21.9 to R24.2) and along industrial areas surrounding the San Bernardino International Airport in the Alliance California Specific Plan (PM R30.2). The City of Highland plans to build housing and commercial areas in the Greenspot Village Specific Plan (PM R30.2). The City of Redlands is planning to develop adjacent land near the SR-210 and I-10 interchange into commercial and industrial areas (PM R32.4 to R33.1). All of the local jurisdiction’s development plans will encourage population growth and be significant trip generators on SR-210.

The commute patterns of SR-210 are westbound in the morning and eastbound in the evening. These patterns are due to the supply of more affordable housing located outside and east of the employment centers within Los Angeles and Orange counties.

## SYSTEM CHARACTERISTICS

Segment	1	2	3	4	5
<b>Existing Facility</b>					
Facility Type	F	F	F	F	F
General Purpose Lanes	6	6	6	6	4
Lane Miles	92	91.2	7.2	21.6	26
Centerline Miles	11.5	10.4	1.2	3.6	6.5
HOV Lanes	2	2	0	0	0
HOT/ Express Lanes	0	0	0	0	0
<b>Concept Facility 2035</b>					
Facility Type	F	F	F	F	F
General Purpose Lanes	8	6	8	8	8
Lane Miles	115	83.2	12	36.6	52
Centerline Miles	11.5	10.4	1.2	3.6	6.5
HOV Lanes	2	2	2	2	2
HOT/ Express Lanes	0	0	0	0	0
<b>TMS Elements</b>					
<b>TMS Elements 2008</b>	(3) Changeable Message Signs, (14) Freeway Ramp Meters, (2) Hubs, (11) Mainline Detection, (17) Video Cameras	(2) Changeable Message Signs, (15) Freeway Ramp Meters, (2) Hubs, (7) Mainline Detection, (16) Video Cameras	(2) Mainline Detections, (2) Video Cameras	(1) Changeable Message Sign, (4) Mainline Detection, (2) Video Cameras	(1) Changeable Message Sign, (7) Mainline Detection, (2) Video Cameras
<b>TMS Elements 2035</b>	(2) Changeable Message Signs	(2) Freeway Ramp Meters	(5) Freeway Ramp Meters	(1) Changeable Message Sign, (7) Freeway Ramp Meters, (2) Mainline Detection, Roadway Weather Information, (4) Video Cameras	(1) Changeable Message Sign, Freeway Ramp Meter, (4) Mainline Detection, Roadway Weather Information, (9) Video Cameras

F=Freeway

State Route 210 is a conventional freeway that starts in the city of Glendora at its junction with Interstate 210 (I-210) and State Route 57 (SR-57) in Los Angeles County (District 7) and ends at its junction with Interstate 10 (I-10) in the city of Redlands. For the entire length of the mainline from the Los Angeles - San Bernardino County line to the SR-210/I-215 interchange in San Bernardino, there is a high occupancy vehicle (HOV 2+) lane. From the SR-210/ I-215 interchange in San Bernardino to its terminus in Redlands at its junction with I-10, SR-210 is realigned along former SR-30 right of way. The older portions of what is now SR-210 have fewer travel lanes and changeable message signs as well as no freeway ramp meters or High Occupancy Vehicle (HOV) lanes.

## **BICYCLE FACILITY**

<b>Segment</b>	<b>Bicycle Access Prohibited</b>	<b>Facility Type</b>
<b>1</b>	Yes	Alternate route Baseline Road
<b>2</b>	Yes	Alternate route Highland Avenue
<b>3</b>	Yes	Alternate route Highland Avenue
<b>4</b>	Yes	Alternate route Highland Avenue
<b>5</b>	Yes	Alternate route Palm Avenue and Alabama Street

There are no state-owned bicycle facilities on the SR-210 right of way. An opportunity for improvement is the creation of a Class I multi-use bicycle/pedestrian path on either side of the freeway, within the state right of way. The City of Rancho Cucamonga in their recently completed Circulation Master Plan recommends the construction of a Class I multi-use path within the SR-210 right of way, south of the freeway mainline. The cities of Upland and Highland have no bicycle facility plans relative to SR-210.

The City of Fontana as part of the north-south San Sevaine Trail Connectivity Plan is proposing a Class I multi-use path that will cross SR-210 near the Interstate 15 interchange. In addition, the General Plan includes a recommendation to construct a bridge (for all modes of travel) over SR-210 to further improve the circulation of the Sierra Lakes neighborhood.

These projects by the cities of Rancho Cucamonga and Fontana are intended to improve multi-modal transportation options, locally and regionally.

## **PEDESTRIAN FACILITY**

<b>Segment</b>	<b>Pedestrian Access Prohibited</b>	<b>Sidewalk Present</b>
<b>1</b>	Yes	Pedestrians are not allowed
<b>2</b>	Yes	Pedestrians are not allowed
<b>3</b>	Yes	Pedestrians are not allowed
<b>4</b>	Yes	Pedestrians are not allowed
<b>5</b>	Yes	Pedestrians are not allowed

There are no state-owned pedestrian facilities on the SR-210 right of way. An opportunity for improvement can entail the creation of a Class I multi-use bicycle/pedestrian path on either side of the freeway, within the state right of way. The City of Rancho Cucamonga in their recently completed Circulation Master Plan has recommended the construction of a Class I multi-use path within the SR-210 right of way, south of the freeway mainline.

The City of Fontana as part of the north-south San Sevaine Trail Connectivity Plan is proposing a Class I multi-use path that will cross SR-210 near the Interstate 15 interchange. In addition, the General Plan includes a recommendation to construct a bridge (for all modes of travel) over SR-210 to further improve the circulation in the area within the Sierra Lakes Specific Plan.

These projects by the cities of Rancho Cucamonga and Fontana are intended to improve multi-modal transportation options, locally and regionally.

## TRANSIT FACILITY

Segment	Mode & Collateral Facility	Name	Route End Points	Operating Period	Station Cities	Bikes Allowed On Transit	Location Description	# Parking Spaces*
1-2	Commuter Rail	Metrolink: San Bernardino Line	Los Angeles/ San Bernardino	4am-9:30pm weekdays; 6am-11:30pm Saturday; 7am-9pm Sunday	Montclair, Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino	12-33	N/A	N/A
1-5	Traditional Bus	Omnitrans	Upland/ Redlands	5am-10pm weekdays	Montclair, Upland, Rancho Cucamonga, Fontana, Rialto, San Bernardino	2	N/A	N/A
1	Transit Center	Montclair Transcenter	N/A	N/A	Montclair	N/A	5091 Richton St.	1,700*
1	Transit Center	Upland Metrolink Station	N/A	N/A	Upland	N/A	300 E. A St.	294
1	Transit Center	Rancho Cucamonga Metrolink Station	N/A	N/A	Rancho Cucamonga	N/A	11208 Azusa Ct.	960
1	Park & Ride	Community Baptist Church	N/A	N/A	Rancho Cucamonga	N/A	9090 19 <sup>th</sup> St.	35
1	Park & Ride	Highland Avenue Community Church	N/A	N/A	Rancho Cucamonga	N/A	9944 Highland Ave.	122
1	Park & Ride	Shepherd of the Hills Lutheran Church	N/A	N/A	Rancho Cucamonga	N/A	6080 Haven Ave.	85
2	Transit Center	Fontana Metrolink Station	N/A	N/A	Fontana	N/A	16777 Orange Way	309
2	Transit Center	Rialto Metrolink Station	N/A	N/A	Rialto	N/A	261 S. Palm Ave.	186
2	Transit Center	Santa Fe Depot	N/A	N/A	San Bernardino	N/A	1170 W. 3 <sup>rd</sup> St.	777
2	Park & Ride	Victoria St.	N/A	N/A	Fontana	N/A	13850 Victoria St.	116*

Segment	Mode & Collateral Facility	Name	Route End Points	Operating Period	Station Cities	Bikes Allowed On Transit	Location Description	# Parking Spaces*
2	Park & Ride	Beech Ave.	N/A	N/A	Fontana	N/A	Beech Ave. and Brandt Dr.	190*
2	Passenger Intercity Rail	Amtrak: Southwest Chief	Los Angeles/ Chicago	Once daily	San Bernardino	Folding	N/A	N/A
3	Transit Center (Bus)	San Bernardino Transit Center	N/A	N/A	San Bernardino	N/A	Rialto Ave. and E St.	0

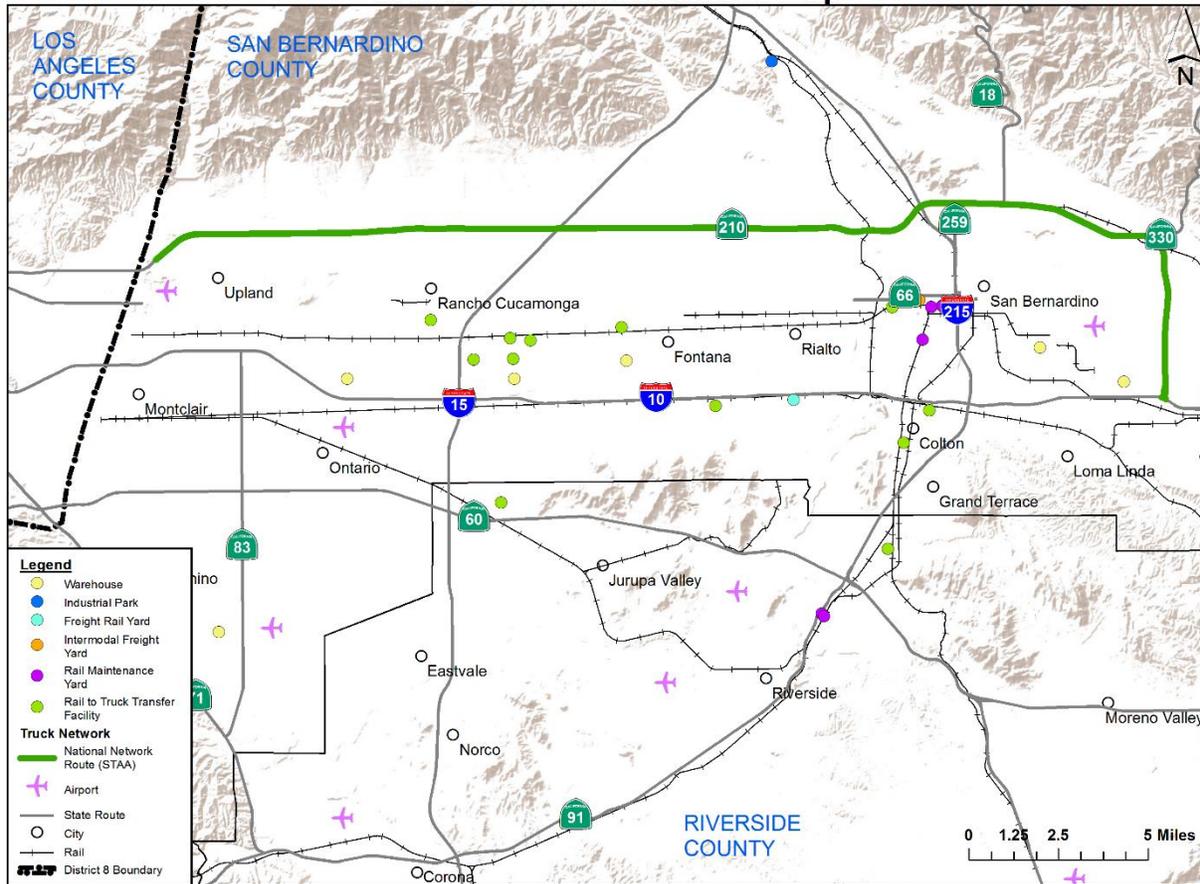
\* Park and Ride Lot is owned by Caltrans

State Route 210 serves as a vital link to the job and population centers in San Bernardino and Los Angeles counties. There are numerous privately owned park and ride facilities serving SR-210 in Rancho Cucamonga along with other park and ride facilities in neighboring cities that are owned and operated by the state of California. Parallel to and south of SR-210, a commuter rail line runs between Los Angeles and San Bernardino, with all day service to nearly every city along the SR-210 corridor. Also, south of SR-210, the municipal bus provider has local routes running within and between cities along the corridor. As for long distance intercity travel, there is an Amtrak route with daily service between Los Angeles and Chicago including a station stop in the city of San Bernardino, just south of the SR-210/I-215 interchange.

There are no transit agencies that directly serve the SR-210 corridor. However, there is commuter bus service provided by multiple transit agencies along the I-10 corridor, located parallel and several miles south of SR-210. There may be an opportunity to reduce Vehicle Miles Travelled (VMT) by providing commuters bus service on SR-210. Existing park and ride facilities along the SR-210 corridor are not fully utilized. Running parallel between I-10 and SR-210, Metrolink commuter rail service might be expanded.

**FREIGHT**

**SR-210 Goods Movement Map**



Facility Type/Freight Generator	Location	Mode	Name
Intermodal freight facility	1535 W. 4th St., San Bernardino	Truck and Rail	Burlington Northern Santa Fe (BNSF) San Bernardino Intermodal Facility
Air Cargo Airport	1601 E. 3rd St., San Bernardino	Airplane	San Bernardino International Airport
Rail Line	SBd_210_21.7 San Bernardino	Rail	BNSF Railway (Class I)
Rail Line	SBd_210_20.2 San Bernardino	Rail	Union Pacific (UP) (Class I)

Along SR-210, there are several freight generators including San Bernardino International Airport, an intermodal freight facility for BNSF Railway as well as rail lines for BNSF Railway and Union Pacific. Rail lines for both BNSF Railway and Union Pacific run through San Bernardino between Los Angeles and states to the east of California.

## CORRIDOR PERFORMANCE

Segment #	1	2	3	4	5
<b>Basic System Operations</b>					
<b>AADT 2008</b>	159,400	87,600	52,400	101,900	78,000
<b>AADT 2035</b>	194,700	114,800	67,700	123,600	96,000
<b>LOS Method</b>	HCM	HCM	HCM	HCM	HCM
<b>LOS 2008</b>	E	B	D	D	F
<b>LOS 2035</b>	C	B	B	B	B
<b>LOS Concept</b>	D	D	D	D	D
<b>VMT 2008</b>	1,832,390	908,576	64,049	370,417	503,436
<b>VMT 2035</b>	2,238,902	1,191,080	82,841	449,293	619,283
<b>Truck Traffic</b>					
<b>Total Average Annual Daily Truck Traffic (AADTT) 2008</b>	7,330	4,380	2,670	6,010	4,600
<b>Total Trucks (% of AADT) 2008</b>	4.6%	5.0%	5.1%	5.9%	5.9%
<b>5+ Axle Average Annual Daily Truck Traffic (AADTT) 2008</b>	4,110	1,230	400	600	1,470
<b>5+ Axle Trucks (% of AADTT) 2008</b>	56%	28%	15%	10%	32%
<b>Peak Hour Traffic Data</b>					
<b>Peak Hour Direction</b>	WB	WB	WB	WB	WB
<b>Peak Hour Time of Day</b>	AM	AM	AM	AM	AM
<b>Peak Hour Directional Split 2008</b>	64%	64%	64%	64%	64%
<b>Peak Hour Directional Split 2035</b>	50%	51%	50%	51%	53%
<b>Peak Hour % 2008</b>	8%	9%	9%	8%	9%
<b>Peak Hour % 2035</b>	6.4%	6.6%	13.8%	8.1%	9.1%
<b>Peak Hour V/C 2008</b>	0.95	0.50	0.78	0.76	1.05
<b>Peak Hour V/C 2035</b>	0.71	0.35	0.36	0.41	0.47

Source: Caltrans District 8 Forecast Unit forecast based on SCAG 2012 RTP traffic model

## KEY CORRIDOR ISSUES

State Route 210 is used by a high volume of commuters and construction related traffic including transportation of materials for local land use development. The westerly segments of SR-210 (from SR-57 to I-215) were built in the current century with three mixed-flow lanes and one HOV lane in each direction. The easterly segments (from I-215 to I-10) traversing the cities of San Bernardino, Highland, and Redlands having been built decades prior now require HOV lanes and additional mixed-flow lanes.

There are no parallel facilities for bicyclists and pedestrians to travel along the SR-210 corridor. For the foothill cities of Upland, Rancho Cucamonga, Fontana, Rialto, and San Bernardino, there are few local parallel roads for bicyclists and pedestrians linking each city north of SR-210. Also, no public transportation directly serves the SR-210 corridor and no single-seat access (service requiring no transfer) is available.

# CORRIDOR CONCEPT

## CONCEPT RATIONALE

The segments of State Route 210 through Upland, Rancho Cucamonga, San Bernardino, Highland and Redlands will operate at the LOS “D” concept due to additional mixed-flow and HOV lanes planned in the SCAG 2012 RTP.

Several cities have proposed projects that will create parallel and perpendicular corridors along SR-210 to improve local and regional connectivity and circulation for bicyclists and pedestrians. To further reduce traffic demand while meeting the operational needs of the corridor, rapid public transportation could directly serve the SR-210 corridor. Currently there are only local buses whose west-east routes run several miles south of SR-210 but no single-seat solution (no transfers needed) exists for travel between multiple cities without several transfers.

## PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Seg.	Description	Planned or Programmed	Location	Source
1-2	Widen SR-210 from 6 MF to 8 MF	Planned, Constrained	Los Angeles County Line to I-215	FTIP
1	Construct Class I mixed use path	Unconstrained	South side of SR-210 ROW from Sapphire St. to east of Milliken Ave.	City of Rancho Cucamonga Circulation Master Plan
1-2	Construct Class I mixed use path	Unconstrained	SR-210 crossing near I-15	City of Fontana San Sevaine Community Trail Plan
2	Construct interchange	Planned, Constrained	SR-210 @ Pepper Avenue in Rialto	FTIP, RTP
2	Construct overpass	Unconstrained	SR-210 @ Cypress Ave.	City of Fontana General Plan Circulation Element
3-5	Add 1 MF and 1 HOV each direction, auxiliary lane, ramp improvements	Planned, Constrained	Highland Avenue to I-10	FTIP, RTP
4	Interchange reconfiguration	Planned, Constrained	SR-210 @ SR-18 Waterman Ave.	SCAG 2012 RTP
4	Interchange reconfiguration	Planned, Constrained	SR-210 @ Del Rosa Ave.	SCAG 2012 RTP
4	Construct/ modify interchange	Planned, Constrained	SR-210 @ Victoria Ave. and SR-210 @ Arden Ave.	SCAG 2012 RTP
5	Widen SR-210 bridge, onramps and off-ramps	Planned, Constrained	SR-210 @ Base Line	FTIP, SCAG 2012 RTP
5	Interchange reconfiguration	Planned, Constrained	SR-210 @ Base Line	SCAG 2012 RTP
5	Widen ramps, truck acceleration lane	Planned, Constrained	SR-210 @ 5 <sup>th</sup> St.	FTIP

FTIP = Federal Transportation Improvement Program

RTP = Regional Transportation Plan

## **PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT**

<b>Seg.</b>	<b>Description</b>	<b>Location</b>	<b>Source</b>
<b>1-2</b>	Widen SR-210 from 6 MF to 8 MF	Los Angeles County Line to I-215	FTIP, SCAG 2012 RTP
<b>3-5</b>	Add 1 MF and 1 HOV lane	I-215 to I-10	FTIP, SCAG 2012 RTP

FTIP = Federal Transportation Improvement Program

RTP = Regional Transportation Plan

# APPENDIX

## 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
- HCM** – Highway Capacity Manual
- HCP** – Habitat Conservation Plan
- HCS** – Highway Capacity Software
- HOV** – High Occupancy Vehicle Lane (2 or more occupants per vehicle)
- 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

## Acronyms

- 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 30<sup>th</sup>. 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 Guide way 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.

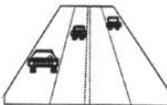
**Facility Type** – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

**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.

**PeMS** – Caltrans Performance Measurement System is an archived data user service that provides over ten years of data for historical analysis. PEMS provides access to real-time and historical performance data which conducts assessment of freeway performance, base operational decisions on knowledge of the current state of the freeway network, and identifies congestion bottlenecks.

**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.

**RTP Model** – Forecasting model developed by Southern California Association of Governments (SCAG) prepares travel demand model approximately every 4 years in conjunction with the Regional Transportation Plan Project List. SCAG’s trip based model is structured on a four-step gravity model, which includes trip generation, trip distribution, mode choice, and trip assignment.

**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: FACTSHEETS**

There are no factsheets available for this route.

## **APPENDIX C: ADDITIONAL CORRIDOR DATA**

There is no additional corridor data for this route.

## **APPENDIX D: RESOURCES**

### Bicycle Facility

City of Fontana San Sevaine Trail Connectivity Plan (<http://www.fontana.org/trailplan>)

City of Rancho Cucamonga Circulation Master Plan

(<https://www.cityofrc.us/civica/filebank/blobdload.asp?BlobID=20475>)

### Land Use

City of Fontana Zoning District Map (<https://www.fontana.org/index.aspx?NID=854>)

City of Rancho Cucamonga Adopted Specific Plans and Planned Communities

(<https://www.cityofrc.us/cityhall/planning/zoning.asp>)

City of Redlands Zoning Map (<http://www.cityofredlands.org/ds/pd/zoningmap>)

City of Rialto Official City Zoning Map ([http://www.rialtoca.gov/documents/downloads/Zoning\\_Map\\_-\\_July\\_2013.pdf](http://www.rialtoca.gov/documents/downloads/Zoning_Map_-_July_2013.pdf))

City of San Bernardino Zoning Map

([http://www.sbcity.org/cityhall/community\\_development/planning/default.asp](http://www.sbcity.org/cityhall/community_development/planning/default.asp))

City of Upland Zoning Map

([http://www.ci.upland.ca.us/uploads/ftp/city\\_departments/development\\_services/planning/pdfs/Attachment%204B%20-%20Final%20Draft%20Zoning%20Map.pdf](http://www.ci.upland.ca.us/uploads/ftp/city_departments/development_services/planning/pdfs/Attachment%204B%20-%20Final%20Draft%20Zoning%20Map.pdf))

### Transit Facility

Amtrak Southwest Chief (<http://www.amtrak.com/southwest-chief-train>)

Caltrans District 8 Park and Ride

([http://www.dot.ca.gov/hq/traffops/trafmgmt/hov/Park\\_and\\_Ride/maps/d8.html](http://www.dot.ca.gov/hq/traffops/trafmgmt/hov/Park_and_Ride/maps/d8.html))

Omnitrans Schedules and Maps (<http://www.omnitrans.org/schedules>)

SANBAG Park & Ride Lots (<http://www.sanbag.ca.gov/commuter/park-ride.html>)

### Planned and Programmed Policies and Strategies

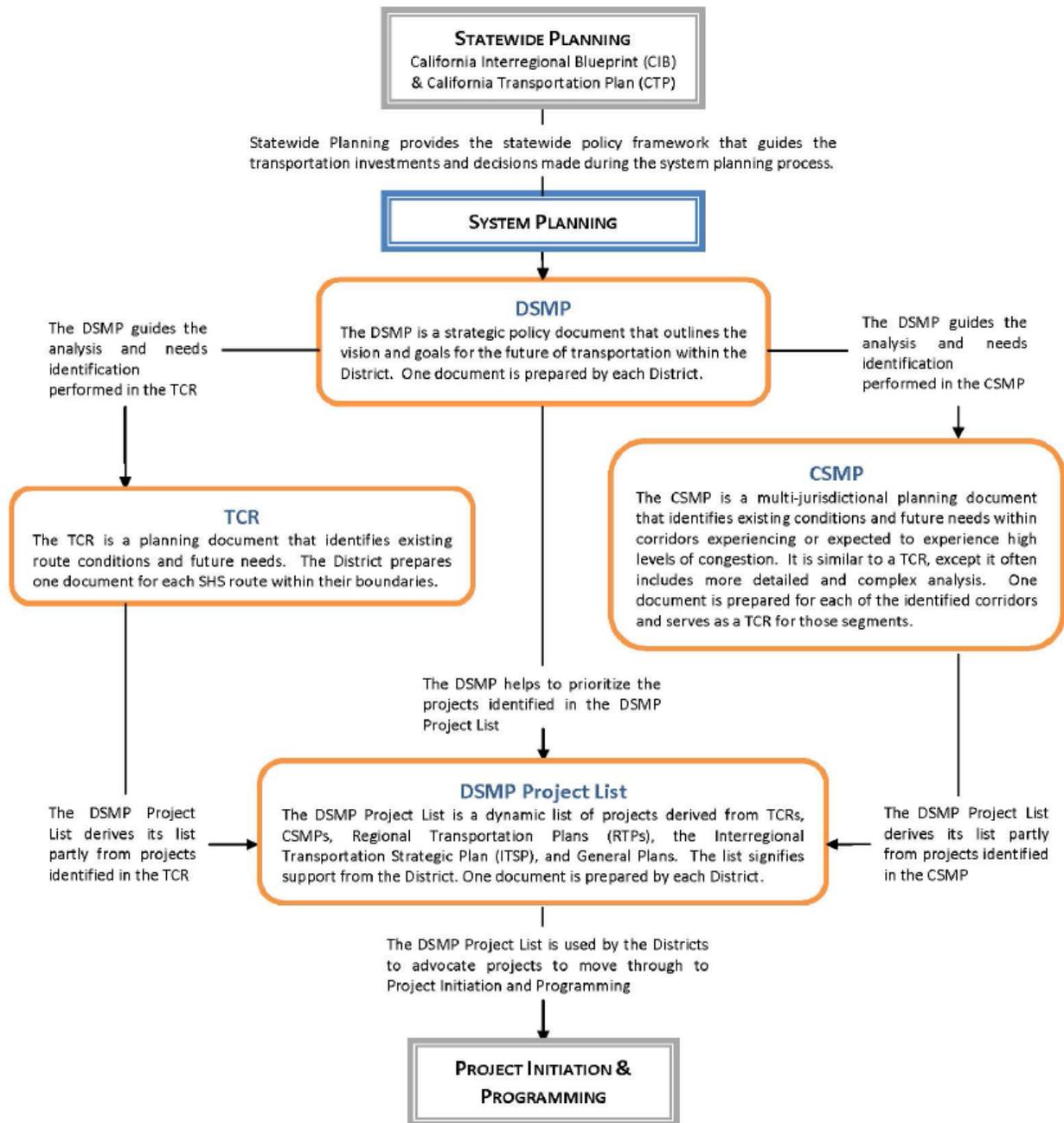
City of Fontana General Plan Circulation Element

(<http://www.fontana.org/DocumentCenter/Home/View/4296>)

City of Rancho Cucamonga Circulation Master Plan

(<https://www.cityofrc.us/civica/filebank/blobdload.asp?BlobID=20475>)

## APPENDIX E: SYSTEM PLANNING FLOW CHART



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