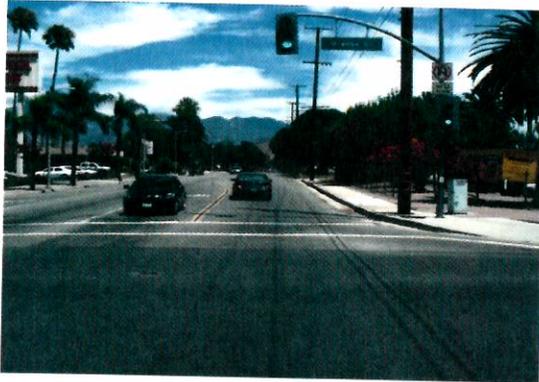
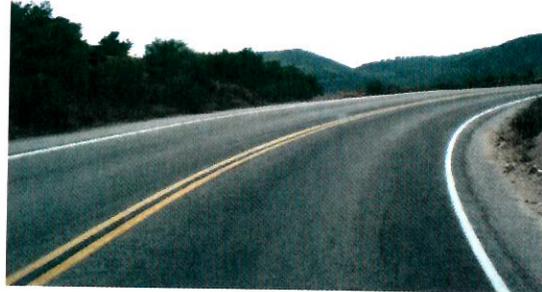
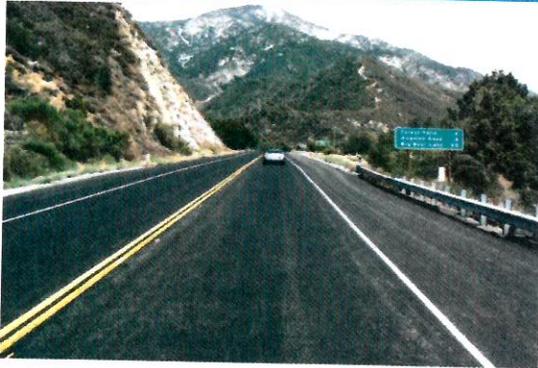




Transportation Concept Report

State Route 38

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:



 RAY I. DESSELLE Date 06/14/16
 Deputy District Director
 Planning



 JOHN BULINSKI Date 6/24/16
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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 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 document the evaluation of current and projected conditions along the route and to communicate the vision for the development of the route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety and health; providing good stewardship and system efficiency; making Smart Mobility decisions that sustainably improve the environment and a vibrant economy; and providing reliable and accessible mobility options through an 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

The SR-38 TCR involved stakeholders bordering SR-38 corridor. 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 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; County of San Bernardino; the cities of Redlands, Yucaipa, and Big Bear Lake; and the tribal community: San Manuel Band of Mission Indians and Morongo Band of Mission Indians.

EXECUTIVE SUMMARY

State Route 38 (SR-38) is a conventional highway and expressway beginning at Interstate 10 (I-10) in Redlands and terminating at its north junction with State Route 18 (SR-18) at the Big Bear Dam. The route varies from two to four lanes. The total route length is 59.4 miles and the route traverses the city of Redlands, unincorporated San Bernardino County, the San Bernardino National Forest, and the city of Big Bear Lake. SR-38 is a major route from the eastern San Bernardino Valley to the San Bernardino Mountain recreational centers. The entire length of SR-38 lies within District 8.

CONCEPT SUMMARY

Seg.	Segment Description	Existing Facility	2035 Capital Facility Concept	2035 System Operations and Management Concept	No-Build		Planned SCAG-RTP		Los "D" Minimum Requirement
					V/C	LOS	V/C	LOS	
1	I-10 to Lugonia Avenue	2L, C	2L, C	-	2 MF		2 MF		4 MFE
					V/C	LOS	V/C	LOS	
					0.75	E	0.75	E	
2	Lugonia Avenue to Garnet Avenue	2L, C	2L, C	-	2 MF		2 MF		4 MFE
					V/C	LOS	V/C	LOS	
					0.78	E	0.78	E	
3	Garnet Avenue to Valley of the Falls Drive	2L, C	2L, C	CMS	2 MF		2 MF		2 MFE
					V/C	LOS	V/C	LOS	
					0.58	D	0.58	D	
4	Valley of the Falls Drive to State Lane	2L, C, E	2L, C	-	2 MF		2 MF		2 MFE
					V/C	LOS	V/C	LOS	
					0.31	C	0.31	C	
5	State Lane to Big Bear Boulevard	2L, C	2L, C	-	2 MF		2 MF		2 MFE
					V/C	LOS	V/C	LOS	
					0.48	E	0.48	E	
6	Big Bear Boulevard to S. Jct. SR-18	2L, C	2L, C	-	2 MF		2 MF		2 MFE
					V/C	LOS	V/C	LOS	
					0.55	D	0.55	D	
7	N. Jct. SR-18 to S. Jct. SR-18 at Big Bear Dam	2L, C	2L, C	-	2 MF		2 MF		2 MFE
					V/C	LOS	V/C	LOS	
					0.25	C	0.25	C	

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

C = Conventional Highway
 CMS = Changeable Message Sign
 L = Number of mainline lanes

MF = Mixed Flow Lane
 MFE = Mixed Flow Equivalent Lane
 LOS = Level of Service
 V/C = Volume to Capacity Ratio

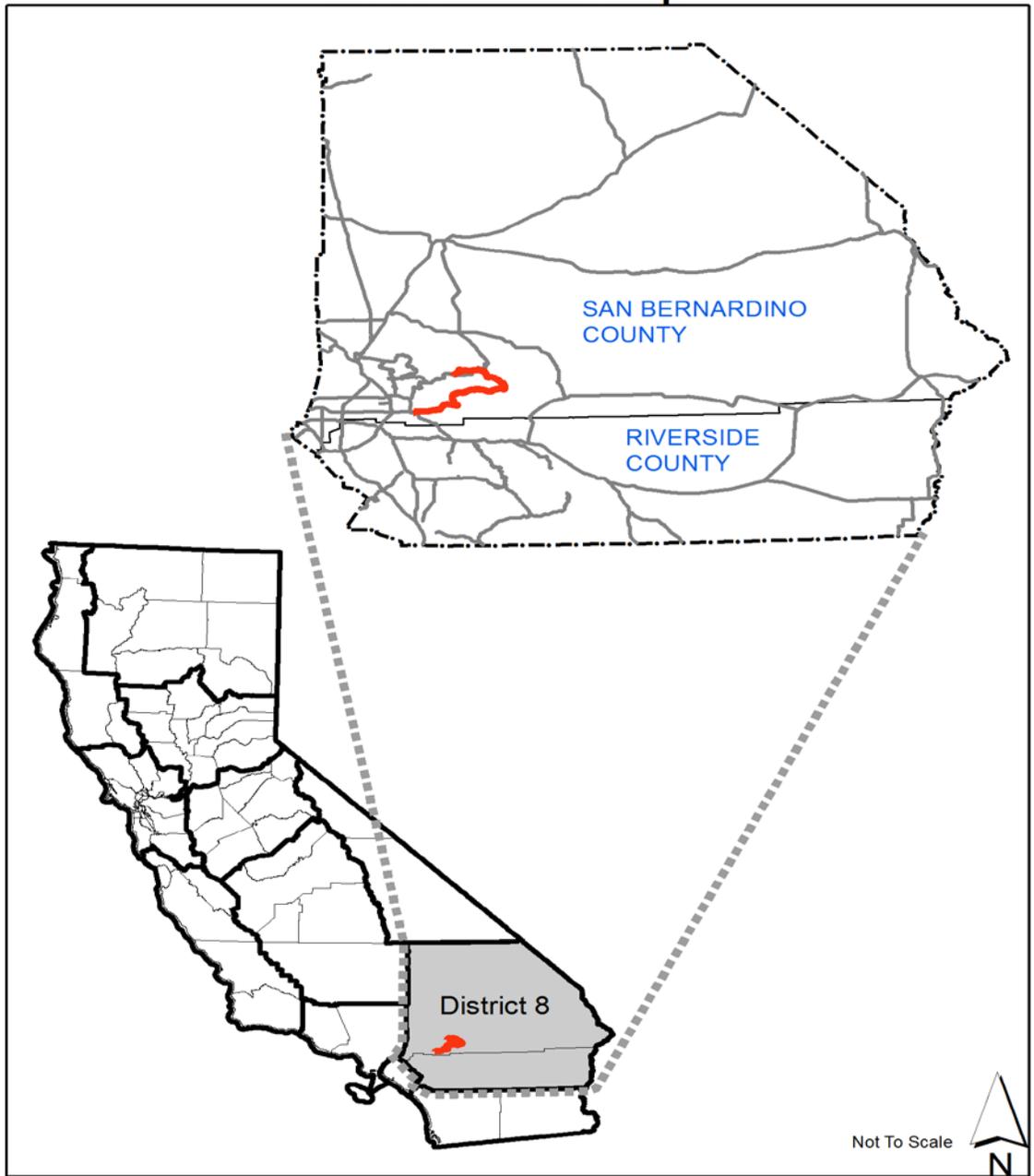
CONCEPT RATIONALE

Though SR-38 is forecast to operate below a Level of Service “D”, improvements to SR-38 is considered a low priority for the state because a benefit-cost analysis showed that improvement costs would be greater than the benefits received.

PROPOSED PROJECTS AND STRATEGIES

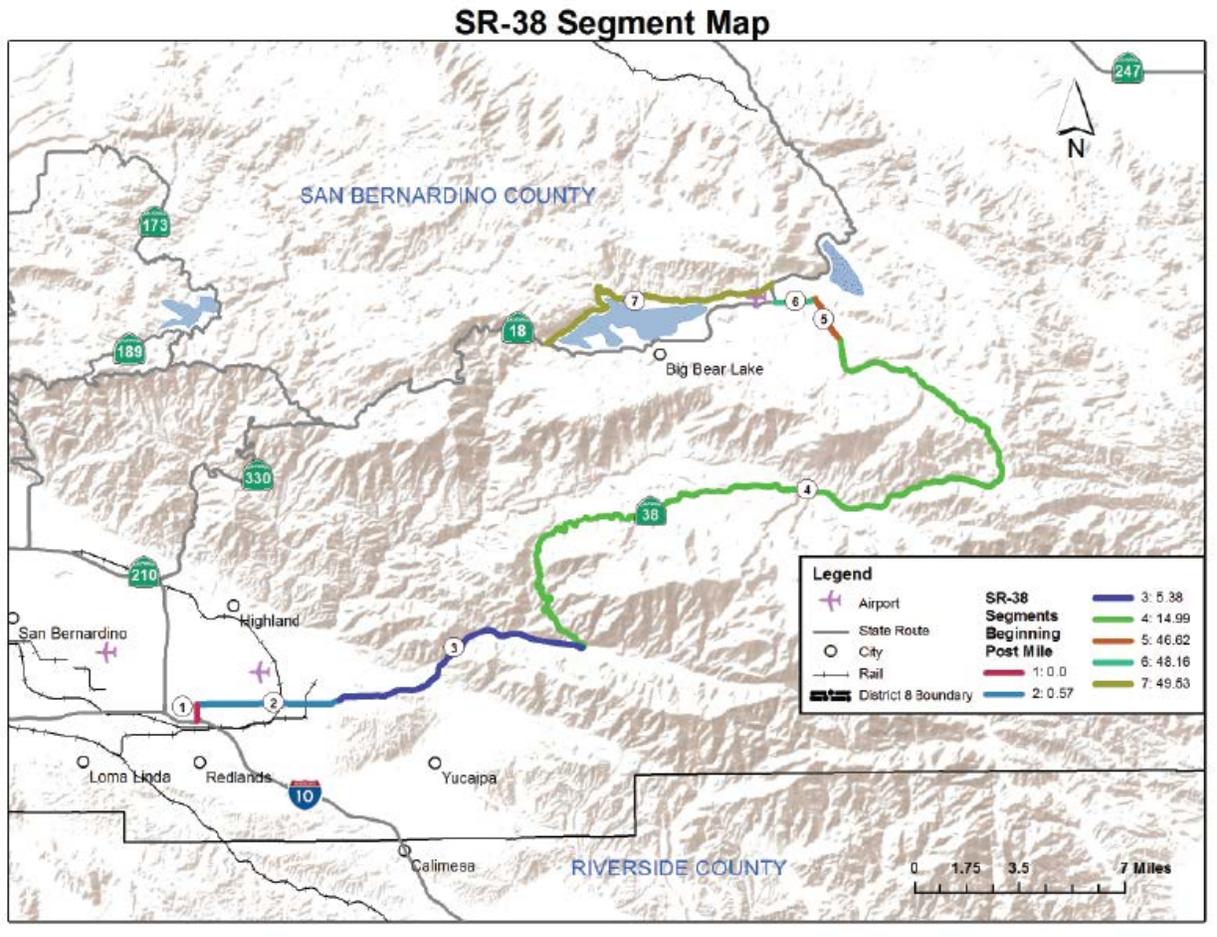
No capacity increasing or major operational improvement projects are planned or programmed for SR-38.

SR-38 Location Map



CORRIDOR OVERVIEW

ROUTE SEGMENTATION



Segment	Location Description	County_Route_Begin PM	County_Route_End PM
1	I-10 to Lugonia Avenue/Orange Street	SBd_38_0.00	SBd_38_0.57
2	Lugonia Avenue/Orange Street to Garnet Avenue	SBd_38_0.57	SBd_38_5.38
3	Garnet Avenue to Valley of the Falls Drive	SBd_38_5.38	SBd_38_14.99
4	Valley of the Falls Drive to State Lane	SBd_38_14.99	Sbd_38_46.62
5	State Lane to Big Bear Boulevard	SBd_38_46.62	Sbd_38_48.16
6	Big Bear Boulevard to South Jct. SR-18	SBd_38_48.16	SBd_38_49.50
Break-in-Route			
7	North Jct. SR-18 to SR-18 at Big Bear Dam	SBd_38_49.50	SBd_38_59.40

ROUTE DESCRIPTION

SR-38 traverses the urban area of Redlands including the unincorporated communities of Mentone and Big Bear City. The route also provides vital transportation linkages to rural areas of the San Bernardino Mountains. The entire length of SR-38 lies within District 8.

Route Location

Generally, SR-38 is an east-west directional highway. The route ascends from Mentone to Big Bear Lake and is one of the highest elevation highways in Southern California, reaching Onyx Summit at 8,443 feet. The highway traverses the southern face of the San Bernardino Mountains with a westerly terminus in the Riverside-San Bernardino Urbanized Area, city of Redlands and on easterly terminus in the San Bernardino Mountains at the Big Bear Dam.

Route Purpose

The SR-38 highway provides for the safe and efficient intra-regional mobility of people and goods. Also, SR-38 carries significant intra-regional traffic volumes through the city of Redlands, the community of Mentone, the city of Yucaipa, and the unincorporated mountain areas of Forest Falls, Big Bear City, and Fawnskin. SR-38 is a major route from the eastern San Bernardino Valley to the San Bernardino Mountains recreational areas. The route carries high volumes of summer and winter recreational traffic. Segments 1, 2, and 3 provide commuter traffic access to the San Bernardino Mountains and northeast Redlands-Yucaipa areas to I-10 near the State Route 210 in central Redlands.

Major Route Features

In accordance with Streets and Highway Code, Section 164.10 - 164.20, SR-38 is classified in the Interregional Road System (IRRS) as an "Other Priority Route" between the northeast area of the Riverside-San Bernardino Urbanized Area and the junction of SR-18 at the west end of Big Bear Lake. The entire length of SR-38 is eligible to be designated as a State Scenic Highway. The portion of Segment 4 from 0.01 miles east of South Fork Campground (P.M. 31.0) to 2.9 miles south of State Lane (P.M. 46.6) is officially designated as a State Scenic Highway.

Route Designations and Characteristics

Segment	1	2	3	4
Freeway & Expressway	Yes	Yes	Yes	Yes
National Highway System	No	No	No	No
Strategic Highway Network	No	No	No	No
Scenic Highway	No	No	Eligible	Eligible/ Designated
Interregional Road System	Yes	Yes	Yes	Yes
High Emphasis	No	No	No	No
Focus Route	No	No	No	No
Federal Functional Classification	P1M	P1M	P1M/MA	MA
Goods Movement Route	No	No	No	No
Truck Designation	No	No	No	No
Rural / Urban / Urbanized	Urbanized	Urbanized	Urbanized/Rural	Rural
Metropolitan Planning Organization	SCAG	SCAG	SCAG	SCAG
Regional Transportation Planning Agency	SCAG	SCAG	SCAG	SCAG
Congestion Management Agency	SANBAG	SANBAG	SANBAG	SANBAG
County Transportation Commission	SANBAG	SANBAG	SANBAG	SANBAG
Local Agency	Redlands	Redlands	San Bernardino County, Yucaipa	San Bernardino County
Tribes	San Manuel Band of Mission Indians and Morongo Band of Mission Indians			
Air District	SCAQMD	SCAQMD	SCAQMD	SCAQMD
Terrain	Level	Level	Level	Rolling

Segment	5	6	7
Freeway & Expressway	Yes	Yes	No
National Highway System	No	No	No
Strategic Highway Network	No	No	No
Scenic Highway	Eligible	Eligible	Eligible
Interregional Road System	Yes	Yes	Yes
High Emphasis	No	No	No
Focus Route	No	No	No
Federal Functional Classification	MA	MA	MA
Goods Movement Route	No	No	No
Truck Designation	No	No	No
Rural / Urban / Urbanized	Rural	Rural	Urbanized
Metropolitan Planning Organization	SCAG	SCAG	SCAG
Regional Transportation Planning Agency	SCAG	SCAG	SCAG
Congestion Management Agency	SANBAG	SANBAG	SANBAG
County Transportation Commission	SANBAG	SANBAG	SANBAG
Local Agency	San Bernardino County	San Bernardino County	San Bernardino County, Big Bear City
Tribes	San Manuel Band of Mission Indians and Morongo Band of Mission Indians		
Air District	SCAQMD	SCAQMD	SCAQMD
Terrain	Rolling	Rolling	Rolling

P1M = Extension of rural Minor Arterial into Urban Areas
MA = Minor Arterial

COMMUNITY CHARACTERISTICS

Existing demographic data demonstrates that the city of Redlands has the highest population along the route, followed by the unincorporated community of Big Bear City.

Jurisdiction	Total Population	Median Income	Drive Alone to Work
Redlands	68,747	\$79,569	79.3%
Mentone	8,720	\$54,135	83.0%
Big Bear Lake	5,019	\$32,229	88.1%
Big Bear City	12,304	\$40,765	75.7%

Source: 2010 U.S. Census

Throughout this conventional highway, the following examples are major recreational-trip generators that contribute to the increasing seasonal congestion:

- San Bernardino National Forest
- Thurman Flats Picnic Area
- Mill Creek Campgrounds
- Forest Falls
- Angelus Oaks
- Camp Cedar Falls
- Jenks Lake Junction Recreation Area
- Camp Taqhuitz
- Barton Flats Campground
- San Gorgonio Campground
- South Fork Campground
- Heart Bar Campground
- Onyx Peak
- Big Bear Lake
- Big Bear Lake Village
- Bear Mountain Resort
- Snow Summit Mountain Resort

LAND USE

Segments 1 through 2 serves primarily the commuters of the surrounding residential development, and provides access to local businesses at job centers. Segments 3 through 7 link the rural San Bernardino Mountains with urban areas of Southern California.

Segment	Place Type
1	Residential, Low to Medium Density; Retail Service: Hospitality; Employment: Industrial
2	Residential, Low to Medium Density; Retail Service: Hospitality; Employment: Industrial
3	Rural Residential, Low Density; Recreation; Vacant Undeveloped
4	Rural Residential, Low Density; Recreation; Vacant Undeveloped
5	Rural Residential, Low to Medium Density; Agriculture; Recreation; Vacant Undeveloped
6	Rural Residential, Low Density; Agriculture; Recreation; Vacant Undeveloped
7	Rural Residential, Low to Medium Density; Agriculture; Recreation; Vacant Undeveloped

SYSTEM CHARACTERISTICS

Segment	1	2	3	4	5
Existing Facility					
Facility Type	C	C	C	C	C
General Purpose Lanes	2	2 - 4	2	2	2
Lane Miles	1.2	9.6	19.2	63.3	3.1
Centerline Miles	0.6	4.7	9.6	31.6	1.5
HOV Lanes	-	-	-	-	-
HOT / Express Lanes	-	-	-	-	-
Truck Climbing Lanes	-	-	-	Yes	-
Concept Facility 2035					
Facility Type	C	C	C	C	C
General Purpose Lanes	2	2	2	2	2
Lane Miles	2.4	18.8	19.2	63.3	3.1
Centerline Miles	0.6	4.7	9.6	31.6	1.5
HOV Lanes	-	-	-	-	-
HOT / Express Lanes	-	-	-	-	-
Truck Climbing Lanes	-	-	-	Yes	-
TMS Elements					
TMS Elements 2008	-	-	-	-	-
TMS Elements 2035	-	-	CMS	-	-

Segment	6	7
Existing Facility		
Facility Type	C	C
General Purpose Lanes	2	2
Lane Miles	2.7	19.8
Centerline Miles	1.3	9.9
HOV Lanes	-	-
HOT / Express Lanes	-	-
Truck Climbing Lanes	-	-
Concept Facility 2035		
Facility Type	C	C
General Purpose Lanes	2	2
Lane Miles	2.7	19.8
Centerline Miles	1.3	9.9
HOV Lanes	-	-
HOT / Express Lanes	-	-
Truck Climbing Lanes	-	-
TMS Elements		
TMS Elements 2008	-	-
TMS Elements 2035	-	-

C = Conventional Highway
 CMS = Changeable Message Sign

BICYCLE FACILITY

No bicycle lanes are delineated on the highway. It is a shared facility. The shoulder width varies. The City of Redlands Community Based Bicycle Route Master Plan (2013) shows a Class II facility planned for Segments 1 and the portions of Segments 2 and 3 between Crafton Avenue and Bryant Street.

Segment	Bicycle Access Prohibited	Facility Type
1	No	Bicycles are permitted on this segment.
2	No	Bicycles are permitted on this segment.
3	No	Bicycles are permitted on this segment.
4	No	Bicycles are permitted on this segment.
5	No	Bicycles are permitted on this segment.
6	No	Bicycles are permitted on this segment.
7	No	Bicycles are permitted on this segment.

PEDESTRIAN FACILITY

Sidewalks exist along portions of Segments 1 through 3. As more development occurs, more sidewalks will be provided. Because Segments 4 through 7 traverse mountainous terrain, sidewalks are not planned.

Segment	Pedestrian Access Prohibited	Sidewalk Present
1	No	Pedestrians are permitted on this segment.
2	No	Pedestrians are permitted on this segment.
3	No	Pedestrians are permitted on this segment.
4	No	Pedestrians are permitted on this segment.
5	No	Pedestrians are permitted on this segment.
6	No	Pedestrians are permitted on this segment.
7	No	Pedestrians are permitted on this segment.

TRANSIT FACILITY

Omnitrans Route 8 provides service on Segment 1, Orange Street connecting the area to other employment in the region, including Loma Linda University Medical Center and Crafton Hills College. Omnitrans Route 15 provides service on Orange Street connecting transit users to Metrolink stations in San Bernardino County.

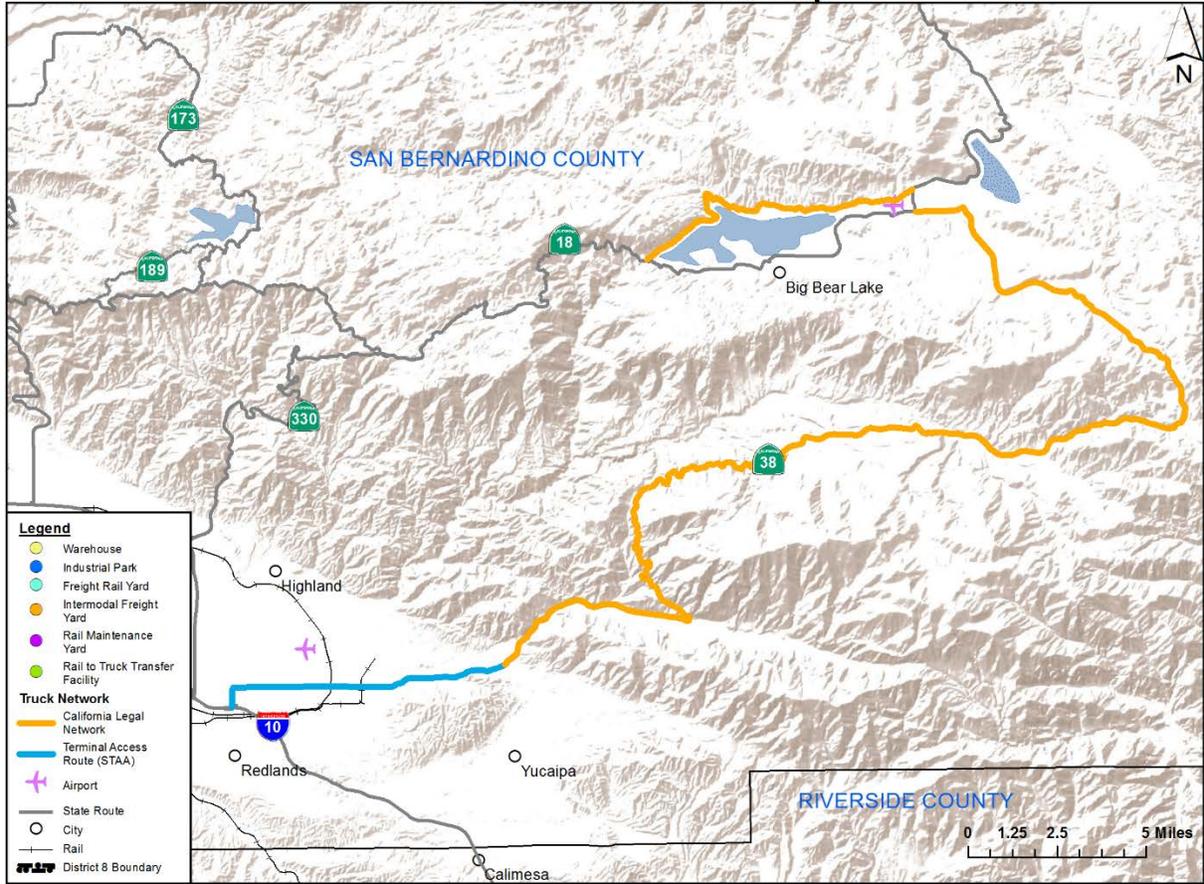
Mountain Transit provides Dial-a-Ride and fixed-route service throughout the rural San Bernardino Mountain communities of the Big Bear Valley, Crestline, Lake Arrowhead, and Running Springs. Mountain Transit also provides Off-the-Mountain (OTM) commuter service between these communities and the city of San Bernardino, providing connections to Omnitrans, Metrolink, and Greyhound. Mountain Transit transports between 12,000 and 15,000 passengers per month with fixed routes, Dial-A-Ride, and OTM services. Peak transportation times are between December and March due to the holiday season and skiers destined for the mountain resorts.

Segment	Mode & Collateral Facility	Name	Route End Points	Operating Period	Station Cities	Bikes Allowed On Transit	Location Description	# Parking Spaces*
1	Traditional Bus	Omnitrans	Redlands, Mentone	8am-7pm weekdays	San Bernardino, Loma Linda, Redlands, Mentone	2	N/A	N/A
2	Traditional Bus	Omnitrans	Redlands, Mentone	8am-7pm weekdays	San Bernardino, Loma Linda, Redlands, Mentone	2	N/A	N/A
3	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
5	Traditional Bus	Mountain Transit	Big Bear Valley	7am-8pm Mon. through Sat	Big Bear Valley	2	N/A	N/A
6	Traditional Bus	Mountain Transit	Big Bear Valley	7am-8pm Mon. through Sat	Big Bear Valley	2	N/A	N/A
7	Dial-a-Ride, Fixed Route	Mountain Transit	Big Bear City	5am-8pm Mon. through Sat.	Big Bear Valley, Rim Area	2	N/A	N/A
	Weekend Trolley	Mountain Transit	Big Bear City	7am-8pm Mon. through Sat.	Big Bear Valley	2	N/A	N/A

FREIGHT

No significant good-movement facilities exist along the SR-38 corridor. Freight traffic volumes are low.

SR-38 Goods Movement Map



CORRIDOR PERFORMANCE

Segment #	1	2	3	4	5	6
Basic System Operations						
AADT 2008	16,900	16,400	8,000	3,000	8,400	14,600
AADT 2035	24,800	27,800	12,600	5,700	8,900	15,300
LOS 2008	E	E	D	C	E	E
LOS 2035	E	E	D	C	E	D
LOS Concept	D	D	D	D	D	D
VMT 2008	10,140	77,080	76,992	95,748	12,630	19,019
VMT 2035	14,850	130,613	121,056	180,436	13,410	19,890
Truck Traffic						
Total Average Annual Daily Truck Traffic (AADTT) 2008	1,520	1,940	1,040	390	1,140	2,050
Total Trucks (% of AADT) 2008	9.0%	11.9%	13.0%	13.0%	13.5%	14.0%
5+ Axle Average Annual Daily Truck Traffic (AADTT) 2008	212	230	123	86	182	490
5+ Axle Trucks (% of AADT) 2008	14.0%	11.9%	11.9%	22.0%	16%	24%
Peak Hour Traffic Data						
Peak Hour Direction	WB	WB	WB	WB	WB	WB
Peak Hour Time of Day	AM	AM	AM	AM	AM	AM
Peak Hour Directional Split 2008	67%	68%	68%	68%	68%	68%
Peak Hour Directional Split 2035	50%	50%	51%	51%	51%	51%
Peak Hour % 2008	7.0%	7.0%	7.0%	7.0%	7%	7%
Peak Hour % 2035	6.2%	7.2%	7.1%	7.3%	7.7%	8.0%
Peak Hour V/C 2008	0.90	0.92	1.16	0.90	0.93	0.75
Peak Hour V/C 2035	0.86	0.86	0.95	0.91	0.82	0.95

Segment #	7
Basic System Operations	
AADT 2008	2,500
AADT 2035	3,130
LOS 2008	E
LOS 2035	C
LOS Concept	D
VMT 2008	24,750
VMT 2035	30,987
Truck Traffic	
Total Average Annual Daily Truck Traffic (AADTT) 2008	305
Total Trucks (% of AADT) 2008	12.2%
5+ Axle Average Annual Daily Truck Traffic (AADTT) 2008	21
5+ Axle Trucks (% of AADT) 2008	7.0%
Peak Hour Traffic Data	
Peak Hour Direction	WB
Peak Hour Time of Day	AM
Peak Hour Directional Split 2008	64%
Peak Hour Directional Split 2035	54%
Peak Hour % 2008	7.0%
Peak Hour % 2035	7.5%
Peak Hour V/C 2008	0.74
Peak Hour V/C 2035	0.96

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

KEY CORRIDOR ISSUES

Though SR-38 Segments 1, 2, and 5 are anticipated to operate at less than LOS “D”, improvements to the highway is consider a low priority for the state because a benefit-cost analysis showed that costs would be greater than the benefits received. State or federal funding is not anticipated to be available for major capacity projects. However, this does not preclude improvements resulting from local development contributions or the use of local government funds.

CORRIDOR CONCEPT

CONCEPT RATIONALE

Though SR-38 is forecast to operate below a Level of Service “D”, improvements to SR-38 is consider a low priority for the state because a benefit-cost analysis showed that improvement costs would be greater than the benefits received.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

No capacity increasing or major operational projects are currently programmed or planned for SR-38.

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

Seg.	Description	Location	Source
1	-	SBd 0.0-0.60	Caltrans District 8 DSMP 2016 Update
2	-	SBd 0.60-5.38	Caltrans District 8 DSMP 2016 Update
3	-	SBd 5.38-14.99	Caltrans District 8 DSMP 2016 Update
4	-	SBd 14.99-46.62	Caltrans District 8 DSMP 2016 Update
5	-	SBd 46.62-48.16	Caltrans District 8 DSMP 2016 Update
6	-	SBd 48.16-49.50	Caltrans District 8 DSMP 2016 Update
7	-	SBd 49.50-59.40	Caltrans District 8 DSMP 2016 Update

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
- 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 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.

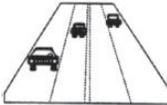
Facility Type – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

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:



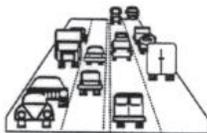
LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



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

- California State Transportation Improvement Program Project List 2014
- Caltrans Earth: <http://earth.dot.ca.gov/>
- Caltrans TASAS Highway Sequence Listing for Caltrans District 8
- Census 2010: <http://www.census.gov/2010census/>
- District 8 System Management Plan 2011
- Focus Routes: http://www.dot.ca.gov/hq/tpp/corridor-mobility/documents/library/List_of_Focus_Routes.doc
- GIS Data Library: <http://www.dot.ca.gov/hq/tsip/gis/datalibrary/gisdatalibrary.html>
- High Emphasis Routes: http://www.dot.ca.gov/hq/tpp/corridor-mobility/documents/library/Caltrans_High_Emphasis_Routes_HER.doc
- Interregional Transportation Strategic Plan 2015
- Metropolitan Planning Organizations and RTPAs Map: http://www.dot.ca.gov/hq/tpp/offices/orip/index_files/Updated%20Files/MPO_RTPA_Map_June_2012.pdf
- Regional Transportation Planning Contacts: http://www.dot.ca.gov/hq/tpp/offices/orip/list/agencies_files/regional_6-12.xls
- SCAG FY 2011-2012 Annual Listing of Obligated Projects for State and Local Highways
- SCAG 2012 Regional Transportation Plan: <http://rtpscscag.ca.gov/Pages/2012-2035-RTP-SCS.aspx>
- SCAG 2012 Regional Transportation Plan Level of Service Model
- Scenic Highway Routes: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm
- Streets and Highways Code §250-257: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=250-257>
- Truck Route List and Truck Network Maps: <http://www.dot.ca.gov/hq/traffops/trucks/truckmap/>

APPENDIX E: SYSTEM PLANNING FLOW CHART

