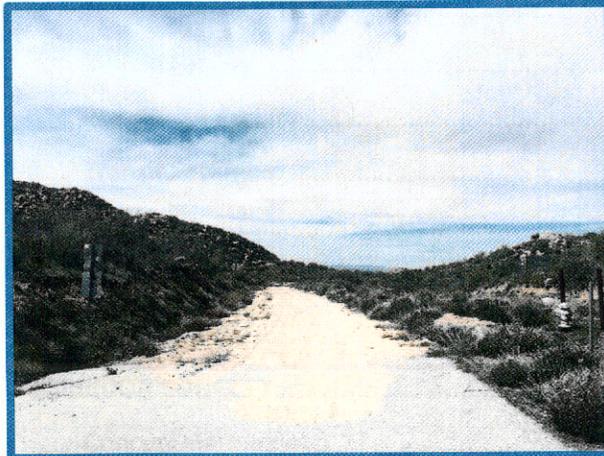
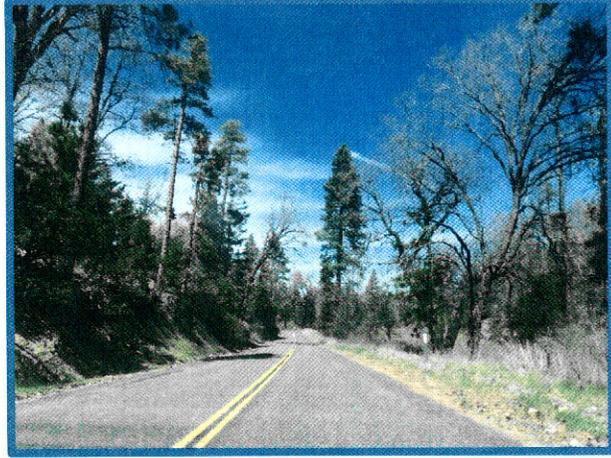




# Transportation Concept Report

## State Route 173

### 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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06/27/16  
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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 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 State Route 173 TCR involved stakeholders including representatives from cities bordering SR-173 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 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: the Southern California Association of Governments, the San Bernardino Associated Governments, the County of San Bernardino, and Native American tribes.

## EXECUTIVE SUMMARY

State Route 173 (SR-173) begins at its junction with State Route 138 (SR-138) near Silverwood Lake and ends at its junction with State Route 18 (SR-18), located south of the community of Lake Arrowhead. An unpaved portion of Segment 2 between post mile 7.7 and post mile 10.9 has been permanently closed to traffic since 2011.

### CONCEPT SUMMARY

| Seg. | Segment Description                      | Existing Facility | 2035                     |  |          |     |                  |     |                           |
|------|--|-------------------|--------------------------|--|----------|-----|------------------|-----|---------------------------|
|      |  |                   | Capital Facility Concept | System Operations and Management Concept | No-Build |     | Planned SCAG-RTP |     | Minimum to attain LOS "D" |
| 1    | SR-138 to Arrowhead Lake Road            | 2L, C             | Relinquish               | Relinquish                               | 2 MF     |     | 2 MF             |     |                           |
|      |  |                   |                          |  | V/C      | LOS | V/C              | LOS |                           |
|      |  |                   |                          |  | 0.16     | C   | 0.16             | C   |                           |
| 2*   | Arrowhead Lake Road to Grass Valley Road | 1-2L, C           | Relinquish               | Relinquish                               | 1-2 MF   |     | 1-2 MF           |     | 2 MFE                     |
|      |  |                   |                          |  | V/C      | LOS | V/C              | LOS |                           |
|      |  |                   |                          |  | N/A      | N/A | N/A              | N/A |                           |
| 3    | Grass Valley Road to North Bay Road      | 2L, C             | 2L, C                    | Maintain Only                            | 2 MF     |     | 2 MF             |     | 2 MFE                     |
|      |  |                   |                          |  | V/C      | LOS | V/C              | LOS |                           |
|      |  |                   |                          |  | 0.08     | B   | 0.08             | B   |                           |
| 4    | North Bay Road to Hook Creek Road        | 2L, C             | 2L, C                    | Maintain Only                            | 2 MF     |     | 2 MF             |     | 2 MFE                     |
|      |  |                   |                          |  | V/C      | LOS | V/C              | LOS |                           |
|      |  |                   |                          |  | 0.21     | C   | 0.21             | C   |                           |
| 5    | Hook Creek Road to SR-18                 | 2L, C             | 2L, C                    | Maintain Only                            | 2 MF     |     | 2 MF             |     | 2 MFE                     |
|      |  |                   |                          |  | V/C      | LOS | V/C              | LOS |                           |
|      |  |                   |                          |  | 0.42     | D   | 0.42             | D   |                           |

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

\* Permanently closed to vehicular traffic in 2011, under the recommendation of the District 8 Director.

C = Conventional Highway  
L = Number of mainline lanes

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

### CONCEPT RATIONALE

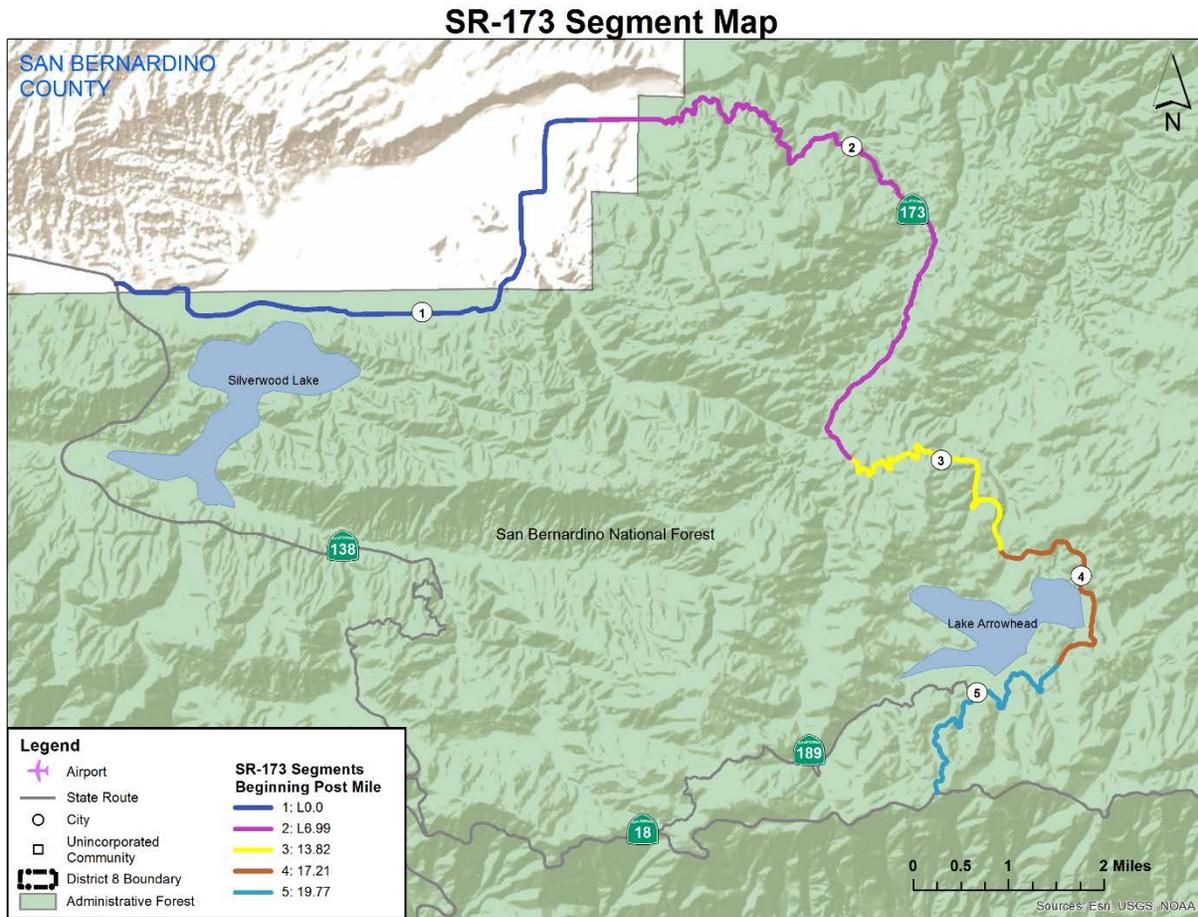
SR-173 Segment 1 is a two-lane Conventional Highway traversing the northern boundary of Silverwood Lake State Recreational Area and providing access to the lake, low density residential development, and the Mojave River Forks Regional Park. Traffic volumes are low. Segment 2 (mostly unpaved) is a one- to two-lane conventional highway, closed to traffic traversing the undeveloped northern slopes of the San Bernardino National Forest. SR-173 Segments 3, 4, and 5 provide access to and egress from the Riverside-San Bernardino Urbanized Area (via SR-138 and SR-18) for local residents and businesses, and tourists within the Lake Arrowhead area. These segments will operate at or above the concept Level of Service, LOS "D" through 2035.

### PROPOSED PROJECTS AND STRATEGIES

No capacity increasing or major operational improvements are planned or programmed. Segments 1 and 2 are recommended for relinquishment.

# CORRIDOR OVERVIEW

## ROUTE SEGMENTATION



| Segment | Location Description                     | County_Route_Begin PM | County_Route_End PM |
|---------|--|-----------------------|---------------------|
| 1       | SR-138 to Arrowhead Lake Road            | SBd_173_L0.0          | SBd_173_L6.9        |
| 2       | Arrowhead Lake Road to Grass Valley Road | SBd_173_L6.9          | SBd_173_13.8        |
| 3       | Grass Valley Road to North Bay Road      | SBd_173_13.8          | SBd_173_17.2        |
| 4       | North Bay Road to Hook Creek Road        | SBd_173_17.2          | SBd_173_19.7        |
| 5       | Hook Creek Road to SR-18                 | SBd_173_19.7          | SBd_173_23.0        |

## ROUTE DESCRIPTION

### Route Location

SR-173 is approximately 23 miles long. SR-173 begins at its junction with SR-138 in the Silverwood Lake area and travels east and south through the San Bernardino National Forest before ending at its junction with SR-18 in the community of Lake Arrowhead.

### Route Purpose

SR-173 Segment 1 is a two-lane Conventional Highway that provides a local connection between the Silverwood Lake area and SR-138 and the City of Hesperia, via Arrowhead Lake Road. Segment 2 which runs between the Silverwood Lake area with the community of Lake Arrowhead, is unpaved and permanently closed to vehicles between post mile 7.7 (Arrowhead Lake Road) and post mile 10.9 (Grass Valley Road). SR-173 (Segments 3, 4, and 5) is a two-lane Conventional Highway serving as a connection for both recreational and commuter uses between forest lands and the community of Lake Arrowhead and SR-18.

### Major Route Features

SR-173 provides local connectivity between residential and commercial areas, as well as recreational areas within the San Bernardino National Forest. Land uses along SR-173 are mainly residential and multiple-use National Forest with areas of commercial activity. On the northwest end, SR-173 provides a direct link from SR-138 to the City of Hesperia. On the southeast end, SR-173 provides a connection between SR-18 and bedroom community-regional tourist destination of Lake Arrowhead. Traffic volumes vary significantly during the year with recreational peaks occurring on holiday and/or summer weekends.

### Route Designations and Characteristics

| Segment                                 | 1   | 2                                 | 3                           | 4                           | 5                           |
|---|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Freeway & Expressway System             | No  | No                                | No                          | No                          | No                          |
| National Highway System                 | No  | No                                | No                          | No                          | No                          |
| Strategic Highway Network               | No  | No                                | No                          | No                          | No                          |
| 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       | Major Collector   | Major Collector                   | Minor Arterial              | Minor Arterial              | Minor Arterial              |
| Goods Movement Route                    | Yes   | No                                | Yes                         | Yes                         | Yes                         |
| Truck Designation                       | CA Legal Advisory Route <30   | No designation; closed to traffic | CA Legal Advisory Route <30 | CA Legal Advisory Route <30 | CA Legal Advisory Route <30 |
| Rural / Urban / Urbanized               | Rural   | Rural                             | Rural                       | Rural                       | Rural                       |
| 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                            | County of San Bernardino  | County of San Bernardino          | County of San Bernardino    | County of San Bernardino    | County of San Bernardino    |
| Tribes                                  | Morongo Band of Mission Indians; San Manuel Band of Mission Indians; Soboba Band of Luiseno Indians |                                   |                             |                             |                             |
| Air District                            | SCAQMD  | SCAQMD                            | SCAQMD                      | SCAQMD                      | SCAQMD                      |
| Terrain                                 | Rolling   | Mountainous                       | Rolling                     | Rolling                     | Rolling                     |

## **COMMUNITY CHARACTERISTICS**

| <b>Jurisdiction</b>        | <b>Lake Arrowhead</b> |
|----------------------------|-----------------------|
| <b>Total Population</b>    | 12,424                |
| <b>Median Income</b>       | \$62,768              |
| <b>Drive Alone to Work</b> | 74.7%                 |

Source: 2010 U.S. Census

Situated in the San Bernardino National Forest, SR-173, Segments 4 and 5 traverse the unincorporated community of Lake Arrowhead. The community population did not grow substantially between the 2000 and 2010 U.S. Census. Within the community of Lake Arrowhead, SR-173 provides access to clusters of homes and several commercial areas including the Lake Arrowhead Village and the lake marina. Lake Arrowhead and Lake Arrowhead Village both serve as the major trip generators as the economic engines and regional recreational attractions, especially on weekends and holidays.

In the Silverwood Lake area, SR-173 is surrounded by ample amounts of open space and very low density residential housing.

## **LAND USE**

Beginning at its junction with SR-138, SR-173 heads east along the north shore of Silverwood Lake. Land use surrounding Segment 1 is rural, primarily recreational with vacant land and a few homes and ranches, south of the Hesperia city limits. Land surrounding Segments 2 and 3 is undeveloped and unpopulated, steep mountains, with Deep Creek running roughly parallel on the north side of the highway.

The community of Lake Arrowhead is covered in San Bernardino County's Lake Arrowhead Community Plan. Residential and commercial areas are located throughout Segments 4 and 5, with the Arrowhead Lake Association marina located within Segment 4. The Lake Arrowhead Village shopping center is located within Segment 5.

The 2007 Lake Arrowhead Community Plan outlines anticipated growth trends related to land uses surrounding the mountain communities along with the importance of SR-173 and other state highways in the vicinity, SR-18 and SR-189. Not only do these highways accommodate local traffic during the weekdays, but also visitors traveling during weekends and holidays. The goals of the plan include traffic management through limiting "the location and extent of all land uses which generate increased levels of traffic beyond the design capacity of the existing and planned highways," (Goal LA/Circulation and Infrastructure 3, 3.3) as well as require traffic impact studies to identify impacts and mitigation strategies associated with proposed projects.

## **SYSTEM CHARACTERISTICS**

| <b>Segment</b>               | <b>1</b>     | <b>2</b>     | <b>3</b>     | <b>4</b>     | <b>5</b>     |
|------------------------------|--------------|--------------|--------------|--------------|--------------|
| <b>Existing Facility</b>     |              |              |              |              |              |
| <b>Facility Type</b>         | C            | C            | C            | C            | C            |
| <b>General Purpose Lanes</b> | 2            | 1-2          | 2            | 2            | 2            |
| <b>Lane Miles</b>            | 14.0         | 5.9          | 8.6          | 5.0          | 6.6          |
| <b>Centerline Miles</b>      | 7.0          | 5.9          | 4.3          | 2.5          | 3.3          |
| <b>HOV Lanes</b>             | 0            | 0            | 0            | 0            | 0            |
| <b>HOT/ Express Lanes</b>    | 0            | 0            | 0            | 0            | 0            |
| <b>Concept Facility 2035</b> |              |              |              |              |              |
| <b>Facility Type</b>         | C            | C            | C            | C            | C            |
| <b>General Purpose Lanes</b> | 2            | 1-2          | 2            | 2            | 2            |
| <b>Lane Miles</b>            | 14           | 5.9          | 8.6          | 5.0          | 6.6          |
| <b>Centerline Miles</b>      | 7            | 5.9          | 4.3          | 2.5          | 3.3          |
| <b>HOV Lanes</b>             | 0            | 0            | 0            | 0            | 0            |
| <b>HOT/ Express Lanes</b>    | 0            | 0            | 0            | 0            | 0            |
| <b>TMS Elements</b>          |              |              |              |              |              |
| <b>TMS Elements 2008</b>     | None         | None         | None         | None         | None         |
| <b>TMS Elements 2035</b>     | None planned |

C = Conventional Highway

SR-173 is a Conventional Highway between SR-138 near Silverwood Lake and SR-18 near Lake Arrowhead. There is a 5.9-mile unpaved segment of SR-173 that is closed to the public. The closed section has very tight curves with some sections, less than eight feet in width.

## **BICYCLE FACILITY**

| <b>Segment</b> | <b>Bicycle Access Prohibited</b> | <b>Facility Type</b>                   |
|----------------|----------------------------------|--|
| <b>1</b>       | No                               | Bicyclists are allowed in this segment |
| <b>2</b>       | Yes                              | Road closed                            |
| <b>3</b>       | No                               | Bicyclists are allowed in this segment |
| <b>4</b>       | No                               | Bicyclists are allowed in this segment |
| <b>5</b>       | No                               | Bicyclists are allowed in this segment |

Bicycles are permitted along SR-173 but there are no dedicated or designated bicycle facilities. The 2007 Lake Arrowhead Community Plan includes a Circulation and Infrastructure goal that recommends the feasibility analysis of a multi-use (Class I) bicycle trail along one side of SR-173, within or adjacent to the State right-of-way.

## PEDESTRIAN FACILITY

| Segment | Pedestrian Access Prohibited | Sidewalk Present |
|---------|------------------------------|------------------|
| 1       | No                           | No               |
| 2       | Yes                          | No               |
| 3       | No                           | No               |
| 4       | No                           | No               |
| 5       | No                           | No               |

Pedestrians are permitted along SR-173; highway shoulders are open for pedestrians. The Lake Arrowhead Community Plan (SR-173 Segments 4, and 5) identifies a goal to provide pedestrian facilities in areas of commercial activity to reduce vehicular use, along with a feasibility analysis of a multi-use trail (built to Class I bicycle path standards) along one side of SR-173, within or adjacent to the SR-173 right-of-way.

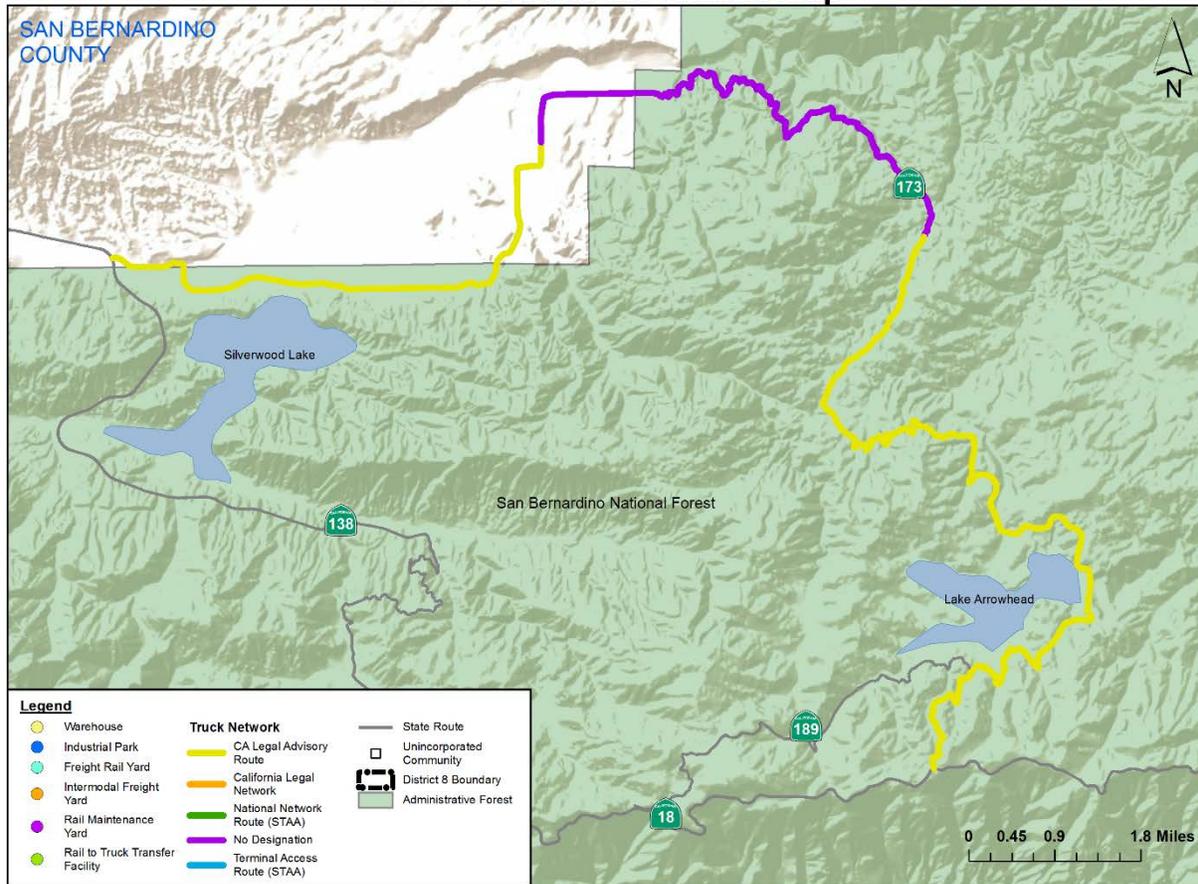
## TRANSIT FACILITY

| Segment | Mode & Collateral Facility | Name             | Route End Points                   | Operating Period              | Station Cities   | Bikes Allowed On Transit | Location Description | # Parking Spaces |
|---------|----------------------------|------------------|------------------------------------|-------------------------------|--|--------------------------|----------------------|------------------|
| 4-5     | Traditional Bus            | Mountain Transit | Lake Arrowhead to Running Springs  | 6:50am-7:10pm weekdays        | Unincorporated communities of Lake Arrowhead, Skyforest and Running Springs      | 12-33                    | N/A                  | N/A              |
| 5       | Traditional Bus            | Mountain Transit | Cedar Pines Park to Lake Arrowhead | 6:15am-7:05pm weekdays        | Unincorporated communities of Crestline, Twin Peaks, Blue Jay and Lake Arrowhead | 2                        | N/A                  | N/A              |
| 5       | Commuter Bus               | Mountain Transit | San Bernardino to Lake Arrowhead   | 5:25am-8:20pm Monday-Saturday | City of San Bernardino and unincorporated community of Lake Arrowhead            | 2                        | N/A                  | N/A              |

Alternative transportation modes available in Lake Arrowhead are provided by three Mountain Transit bus routes. The “Rim off the Mountain” route serves Lake Arrowhead only during commute periods.

## FREIGHT

## SR-173 Goods Movement Map



There are no freight facilities or major freight generators on or near the SR-173 corridor. A portion of Segment 2 (indicated in purple) between PM 7.7 and PM 10.9 is unpaved and permanently closed to traffic.

## CORRIDOR PERFORMANCE

SR-173 Segment 1 serves as a commuter route for residents traveling between SR-138 and the City of Hesperia. Segment 2 is closed to traffic. SR-173 Segments 3, 4, and 5 serve as an arterial for local residents and for people to travel to and from the tourist destination of the Lake Arrowhead area.

| Segment #  | 1          | 2          | 3     | 4     | 5      |
|--|------------|------------|-------|-------|--------|
| <b>Basic System Operations</b>                                 |            |            |       |       |        |
| <b>AADT 2008</b>   | 1,200      | *          | 600   | 2,800 | 5,400  |
| <b>AADT 2035</b>   | 1,500      | *          | 1,100 | 3,500 | 7,900  |
| <b>LOS Method</b>  | HCM        | *          | HCM   | HCM   | HCM    |
| <b>LOS 2008</b>  | C          | *          | A     | C     | C      |
| <b>LOS 2035</b>  | C          | *          | B     | C     | D      |
| <b>LOS Concept</b>   | Relinquish | Relinquish | D     | D     | D      |
| <b>VMT 2008</b>  | 8,400      | *          | 2,580 | 7,000 | 17,820 |
| <b>VMT 2035</b>  | 11,500     | *          | 4,730 | 8,600 | 26,070 |
| <b>Truck Traffic</b>   |            |            |       |       |        |
| <b>Total Average Annual Daily Truck Traffic (AADTT) 2008</b>   | 50         | *          | 130   | 600   | 1,200  |
| <b>Total Average Annual Daily Truck Traffic (AADTT) 2035</b>   | 60         | *          | 170   | 200   | 470    |
| <b>Total Trucks (% of AADT) 2008</b>                           | 4%         | *          | 21%   | 21%   | 22%    |
| <b>Total Trucks (% of AADT) 2035</b>                           | 4%         | *          | 15%   | 6%    | 6%     |
| <b>5+ Axle Average Annual Daily Truck Traffic (AADTT) 2008</b> | 1          | *          | 0     | 20    | 40     |
| <b>5+ Axle Trucks (% of AADT) 2008</b>                         | 0.1%       | *          | 0%    | 0.7%  | 0.7%   |
| <b>Peak Hour Traffic Data</b>                                  |            |            |       |       |        |
| <b>Peak Hour Directional Split 2008</b>                        | 78%        | *          | 55%   | 55%   | 55%    |
| <b>Peak Hour Directional Split 2035</b>                        | 65%        | *          | 50%   | 50%   | 55%    |
| <b>Peak Hour % 2008</b>  | 18%        | *          | 17%   | 12%   | 12%    |
| <b>Peak Hour % 2035</b>  | 15%        | *          | 14%   | 14%   | 12%    |
| <b>Peak Hour V/C 2008</b>                                      | 0.16       | *          | 0.06  | 0.15  | 0.29   |
| <b>Peak Hour V/C 2035</b>                                      | 0.14       | *          | 0.08  | 0.19  | 0.36   |

\* A portion of segment #2 between PM 7.7 through PM 10.9 is unpaved and permanently closed to traffic.

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

## KEY CORRIDOR ISSUES

SR-173 (Segment 1) serves as a commuter route for tourists and local residents of the Silverwood Lake area traveling between SR-138/I-15 and the City of Hesperia. Segment 2 between PM 7.7 and PM 10.9, between Silverwood Lake and Lake Arrowhead is unpaved and permanently closed to traffic. SR-173 (Segments 3, 4, and 5) serves local residents and businesses, and recreational visitors of Lake Arrowhead and the San Bernardino National Forest. SR-173 may need other projects to achieve strategic plan goals such as providing adequate shoulders for bicycle and pedestrian travel along the route.

The 2007 Lake Arrowhead Community Plan contains a Circulation and Infrastructure goal that prioritizes a feasibility analysis for a multi-use bicycle and pedestrian path to be constructed along one side of SR-173, as well as additional sidewalks near commercial activity centers to further reduce motor vehicle use.

# CORRIDOR CONCEPT

## CONCEPT RATIONALE

Higher volumes of traffic are experienced during weekends and holiday travel periods. The average daily traffic is relatively low during the rest of the year. The segments open to traffic are expected to operate at or above the concept Level of Service, LOS “D” through 2035. SR-173 is expected to remain a two-lane Conventional Highway along its paved portions with no significant growth or development projected for the community of Lake Arrowhead and adjacent rural areas of San Bernardino County. The unpaved portion of Segment 2 between PM 7.7 and PM 10.9 between Silverwood Lake and Lake Arrowhead is permanently closed. Segments 1 and 2 are recommended for relinquishment to the adjacent jurisdictions.

## PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

No capacity increasing or major operational improvement projects are planned or programmed for SR-173.

## PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

| Seg. | Description  | Location                              | Source   |
|------|--|---------------------------------------|--|
| 1-2  | Relinquish   | From SR-138 Jct. to Grass Valley Road | Caltrans District 8 Relinquishment Study, 2013 |
| 3-5  | Determine feasibility of constructing off-roadway pedestrian and bicycle trails and street crossings | Lake Arrowhead                        | 2007 Lake Arrowhead Community Plan             |

# APPENDICES

## APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

### Acronyms

- AADT** – Annual Average Daily Traffic
- AADTT** – Annual Average Daily Truck 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
- 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.

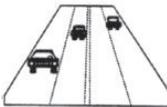
**Facility Type** – The facility type describes the state highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

**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**

- 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](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](http://www.dot.ca.gov/hq/tpp/corridor-mobility/documents/library/Caltrans_High_Emphasis_Routes_HER.doc)
- Interregional Transportation Strategic Plan 2015
- Lake Arrowhead Community Plan: <http://www.sbcounty.gov/Uploads/lus/CommunityPlans/LakeArrowheadCP.pdf>
- Mountain Area Regional Transit Authority routes: <http://www.mountaintransit.org>
- 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](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](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://rtpscs.scag.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](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/>



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