Transportation Concept Report

State Route 32
District 03
August 2014

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California Department of Transportation

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

Approvals:

Marlon Flournoy *District 3 Deputy Director* *Planning and Local Assistance*	8/29/14 Date	John Rodrigues *Acting District 3 Director*	8/29/14 Date

For questions and concerns about this Transportation Concept Report, please contact:

Caltrans District 3
Division of Planning and Local Assistance
Office of System and Freight Planning
703 B Street
Marysville, CA 95901
Email: D3_Office_of_System_Planning@dot.ca.gov or D3.Planning.and.Local.Assistance@dot.ca.gov

Further Transportation Concept Report Information:

Caltrans District 3 Website - http://www.dot.ca.gov/dist3/departments/planning
(Select System and Freight Planning, then Transportation Concept Reports)

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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 developing an integrated multimodal transportation system that meets Caltrans' goals of safety, mobility, delivery, stewardship, and service.

The System Planning process is primarily composed of four parts: the District System Management and Development Plan (DSMDP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMDP Project List. The district-wide **DSMDP** 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-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

Stakeholder participation was sought throughout the development of the TCR for State Route (SR) 32. Outreach efforts involved internal and external stakeholders, tribal governments, local and regional agencies. Stakeholders were contacted for initial input related to their particular specializations, and to verify data sources that were used and as well as data accuracy. As the document was finalized, stakeholders were asked to review the document for comments, edits, and for consistency with the intent of existing plans, policies, and procedures. Written comments were received and incorporated into the final document. The process of including and working closely with stakeholders adds value to the TCR, allows for outside input, provides an opportunity for ideas to be reflected in the document, increases credibility, and helps strengthen public support and trust.

STATE AND LOCAL RESPONSIBILITY

Improvements to the SHS are the responsibility of both Caltrans and local agencies. Developments that add cumulative impacts to this route and the regional State Highway System may necessitate that local jurisdictions provide nexus based, proportional fair-share funding for future highway improvements. Developments or local circulation changes that will have significant traffic impacts to the highway should provide improvements to mitigate those impacts.

EXECUTIVE SUMMARY

SR 32 is a west-east transitional and non-Interregional Road System (IRRS) route that primarily serves people and goods movement within the region. The region includes the City of Orland and the community of Hamilton City in Glenn County, as well as the City of Chico in Butte County. The route is primarily a two-lane conventional highway with sections of two-lane expressway, two-lane couplet, and four-lane conventional highway. In total, the route traverses approximately 48.6 miles in District 3 from the Interstate (I)-5 interchange in the City of Orland to the Tehama County line where it continues in District 2 northeast towards Lassen National Park, Lake Almanor, and Susanville, and ends at the intersection with SR 36 and SR 89. At the Tehama County line, the route's elevation reaches a high of 3800'. However, majority of the route's traffic is at 150' elevation where the route runs between the Cities of Orland and Chico. This segment of the route provides intra-regional connection between communities along SR 32 and interregional connections to I-5 and SR 99.

Concept Summary

Table 1 provides a summary of the SR 32 existing, build facility (20-year concept), and ultimate facility (post-20 year concept) for each of the 12 segments. The base year for this TCR is 2014 with a horizon year of 2034. The build facility scenario is the existing facility plus planned and programmed SHS projects with future traffic volumes. The ultimate facility identifies the facility needed to meet the concept Level of Service (LOS) standards for the route.

Table 1: SR 32 Concept Summary

Segment	Segment Description	Existing Facility*	Build Facility*	Ultimate Facility*
1	Interstate 5 to 6th Street	2C	2C	2C and Class II Bike Lanes
2	6th/Swift Street to County Road M	2C	2C	2C and Class II Bike Lanes
3	County Road M to SR 45	2C	2C	2C from County Road M to Orland city limits; 4C between Orland city limits and SR 45; Class II Bike Lanes
4	SR 45 to GLE/BUT County Line	2C	2C	4C with passing lanes and Class III Bike Lanes
5	GLE/BUT County Line to East Avenue	2C	2C	2C and Class II Bike Lanes
6	East Avenue to W. 8th Avenue	2C	2C	2C and Class II Bike Lanes
7	W. 8th Avenue to W. 1st Street	2C	2C	2C and Class II Bike Lanes
8	W. 1st Street to W. 9th Street	4C	4C	4C and Class II Bike Lanes
9	W. 9th Street at Walnut Avenue to Pine Street (Eastbound)	2 Lane Couplet	2 Lane Couplet	2 Lane Couplet and Class II Bike Lanes
9	W. 9th Street at Walnut Avenue to Pine Street (Westbound)	2 Lane Couplet	2 Lane Couplet	2 Lane Couplet and Class II Bike Lanes
10	Pine Street to Fir Street (Eastbound)	2 Lane Couplet	2 Lane Couplet and Class II Bike Lanes	2 Lane Couplet and Class II Bike Lanes
10	Pine Street to Fir Street (Westbound)	2 Lane Couplet	2 Lane Couplet and Class II Bike Lanes	2 Lane Couplet and Class II Bike Lanes
11	Fir Street to Yosemite Drive	2E	4E	4E and Class III Bike Route
12	Yosemite Drive to BUT/TEH County Line	2C	2C	2C and Class III Bike Route

** E=Expressway, C=Conventional. Some facility concepts do not apply to the entire segment. Please see Corridor Concept – Projects and Strategies, Tables 11 and 12 for the exact location of the bicycle facility, pedestrian facility, intersection improvements, road widening, and intersection modification.*

Concept Rationale

District 3's Concept Rationale is based on the concept LOS standards for acceptability in rural, urban clusters, and urbanized areas. Traditionally, concept LOS has been used in Caltrans TCRs to reflect the minimum level or quality of operations acceptable for each route segment within the 20-year planning period. District 3 LOS standards are as follow: LOS D in rural areas (population less than 2,500), LOS E in urban cluster (population 2,500 to 49,999), and LOS E urbanized areas (population over 50,000).

Proposed Projects and Strategies

There are two programmed and two planned projects that will affect capacity along SR 32. Projects that affect a roadway's capacity include widening projects, bus/carpool or high occupancy vehicle (HOV) lanes, road extensions, interchange modifications, and auxiliary lanes. The SR 32 road widening project consists of three phases, the first two phases are programmed and the third phase is planned. The road widening project will increase the existing roadway from 2 to 4 lanes between SR 99 and Yosemite Dr. in the City of Chico. In addition, the second planned project is the Eaton Road extension; this is a new proposed 4-lane facility that will expand W. Eaton Road to SR 32 at approximately Muir Road. This will create a second connection between SR 32 and SR 99. All of these projects are scheduled to be completed within the 20-year horizon period.

In addition, there are multiple planned, programmed, and conceptual projects that will improve the route's facility for vehicles, bicyclists, and pedestrians that affect the roadway's capacity; however, they do not affect its performance. These projects include roundabouts, bike lanes, maintenance and rehabilitation, and American Disability Acts (ADA) improvements such as sidewalks, curb ramps, and crosswalks. These improvements are focused along the route through the communities of Chico, Hamilton City, and Orland.

The Department strives to work with local agencies to meet the Concept Rationale for the route segments through feasible project enhancement and development, and/or Intelligent Transportation Systems (ITS) and operational improvements, which is consistent with the Department's goal of improving mobility through System Management strategies. Proposed projects and strategies are listed on pages 31 and 33.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

For the purpose of analysis, SR 32 is broken into 12 segments, which are identified in Table 2 and illustrated in Figure 4. Segments 9 and 10 are a couplet.

Table 2: SR 32 Route Segmentation

Segment	Location Description	County, Route, Beginning Postmile (PM)*	County, Route, End PM*
1	Interstate 5 to 6th Street	GLE_0.00	GLE_L0.46
2	6th/Swift Street to County Road M	GLE_0.46	GLE_1.30
3	County Road M to SR 45	GLE_1.30	GLE_9.63
4	SR 45 to GLE/BUT County Line	GLE_9.63	GLE_10.91
5	GLE/BUT County Line to East Avenue	BUT_0.00	BUT_6.24
6	East Avenue to W. 8th Avenue	BUT_6.24	BUT_7.11
7	W. 8th Avenue to W. 1st Street	BUT_7.11	BUT_8.37
8	W. 1st Street to W. 9th Street	BUT_8.37	BUT_8.87 (8.91)
9	W. 9th Street at Walnut Avenue to Pine Street (Westbound)	BUT_8.87	BUT_9.41
9	W. 8th Street at Walnut Avenue to Pine Street (Eastbound)	BUT_8.91	BUT_9.41
10	Pine Street to Fir Street (Westbound)	BUT_9.41	BUT_10.28
10	Pine Street to Fir Street (Eastbound)	BUT_9.41	BUT_10.28
11	Fir Street to Yosemite Drive	BUT_10.28	BUT_12.40
12	Yosemite Drive to BUT/TEH County Line	BUT_12.40	BUT_37.75

*Beginning and end postmiles for each segment are derived from the Caltrans Transportation System Network (TSN) Highway Sequence Listing using route breaks and district, county, and urban/rural boundaries[1]

ROUTE DESCRIPTION

Route Location:

SR 32 is a west-east transitional and non IRRS route as it does not primarily serve people or goods movement outside the immediate Butte and Glenn County region. As shown in Figure 1, the route begins in Glenn County at the I-5 interchange in the City of Orland, crosses Hamilton City, the City of Chico in Butte County, and ends at the Tehama County line. Through Orland, Hamilton City and Chico the route acts as a primary/main arterial as commuters and trucks use the route for connection within the region and outside of the region via I-5 and SR 99. In total, the route crosses approximately 48.7 miles with sections that vary from two-lane conventional highway, two-lane expressway, two-lane couplet, and four-lane conventional highway. Though, majority of the route is a two-lane conventional highway. A breakdown of each segment's designation and characteristics is identified in Table 3 below.

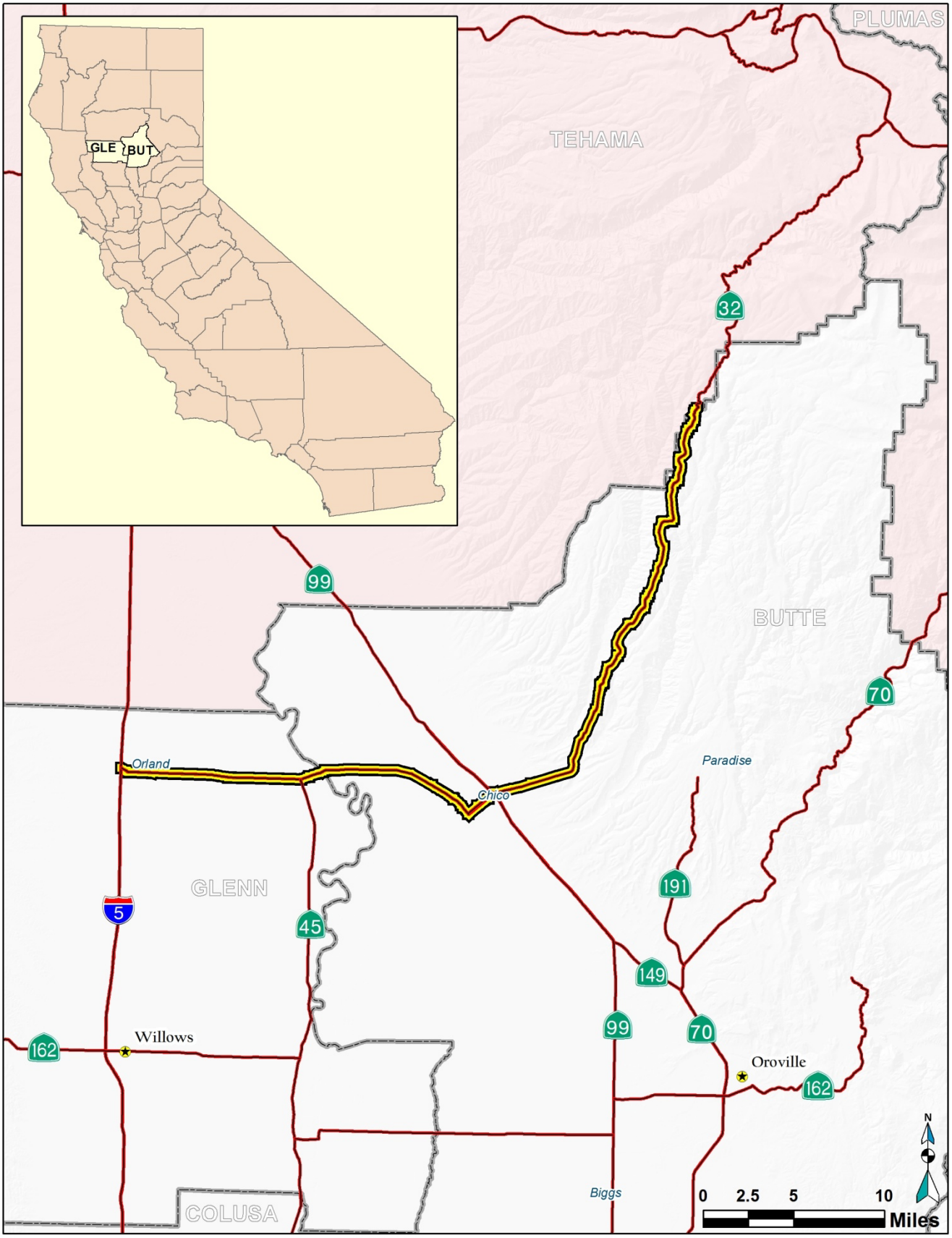


Figure 1: SR 32 Route Map

Major Route Features:

SR 32 is near Chico's downtown core, and the California State University Chico (Chico State) campus. The Chico State campus is a major trip generating facility along the route because of the student and faculty population that live in Chico and commute to the campus daily. In the fall of 2013, Chico State reported a student population of 16,356, 15,375 of which were full-time equivalent students. In addition, there were an additional 901 instructional faculty and 946 staff members (individuals who engage in non-instructional functions). Housing for Chico State's student and faculty population is spread out over the city. Specifically, along SR 32 (Nord Avenue) there is approximately 7,000 apartment housing occupied by students. Chico State's student and faculty members account for 20 percent of Chico's population and is a reason why Chico's median age is 5 years younger (29.1) than that of Butte County (34.7).

Table 3: SR 32 Route Designations and Characteristics

<table>
<tr><th>Segment</th><th>Freeway & Expressway[2]</th><th>National Highway System[3]</th><th>Strategic Highway Network</th><th>Scenic Highway[4]</th><th>Interregional Road System[5]</th><th>High Emphasis[6]</th><th>Focus Route[7]</th><th>Federal Functional Classification[8]</th><th>Goods Movement Route</th><th>Truck Designation[9]</th></tr>
<tr><td>1</td><td rowspan="10">No</td><td colspan="2" rowspan="10">Yes</td><td colspan="4" rowspan="14">No</td><td rowspan="10">Other Principal Arterial</td><td rowspan="14">Yes</td><td rowspan="12">Terminal Access (TA)</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td>5</td></tr>
<tr><td>6</td></tr>
<tr><td>7</td></tr>
<tr><td>8</td></tr>
<tr><td>9</td></tr>
<tr><td>10</td></tr>
<tr><td rowspan="2">11</td><td rowspan="2">Yes</td><td>PM 10.28-11.728: Yes</td><td>PM 10.28-11.728: Yes</td><td>PM 10.28-11.728: OPA</td></tr>
<tr><td>PM 11.728-12.40: No</td><td>PM 11.728-12.40: No</td><td>PM 11.728-12.40: Minor Arterial</td></tr>
<tr><td rowspan="2">12</td><td colspan="3" rowspan="2">No</td><td rowspan="2">Minor Arterial</td><td>PM 12.40-36.9: TA Route</td></tr>
<tr><td>PM 36.9-37.5: California Legal Advisory</td></tr>
</table>

Table 3: SR 32 Route Designations and Characteristics (Continued)

Segment	Rural/ Urban/ Urbanized[10]	Metropolitan Planning Organization (MPO)[11]	Regional Transportation Planning Agency (RTPA)[12]	Congestion Management Agency (CMA)	County Transportation Commission (CTC)[12]	Local Agency	Tribes[13]	Air District[14]	Terrain
1	Urban	N/A	Glenn County Transportation Commission (GCTC)	N/A	GCTC	City of Orland	N/A	Glenn County Air Pollution Control District	Flat
2									
3	Rural								
4						N/A			
5		Butte County Association of Governments (BCAG)	N/A		BCAG	N/A		Butte County Air Quality Management District	
6	Urbanized					City of Chico	Mechoopda Tribe of Chico Rancheria		
7							N/A		
8									
9									
10									
11									
12	Rural					N/A			Mountain-ous

COMMUNITY CHARACTERISTICS AND LAND USE

SR 32 crosses a variety of land uses through the community of Hamilton City and the cities of Chico and Orland, some of which include commercial, public and residential uses. The intensity and type of land uses varies between each community.

SR 32 through the City of Orland acts as a primary arterial. The route serves traffic from land uses that include commercial, heavy/light industrial, residential (low, medium, and high-density), public, and open space. These land uses are spread out over the city's grid pattern with primarily residential housing located off of the route, and commercial development adjacent to the route. Since the City is laid out in a grid pattern there are multiple controlled and uncontrolled intersections such local streets, and private and public driveways that disperse traffic across the route. A grid pattern usually makes an area more walk-able; however, because of missing/broken sidewalks along the route, pedestrian movement is restricted along certain sections.

Figure 2: SR 32 through the City of Orland

Based on the Concept Rational section, the City of Orland is classified as an urban cluster since it had a population of 7,683[15] in 2014 (California Department of Finance Demographic Profiles – E-1 Population Estimates Report). It will remain an urban cluster with a projected population growth by year 2030 of 11,385 (2010 Glenn County Regional Transportation Plan).

As the route continues east, it crosses the community of Hamilton City near the Butte County line. In comparison to Orland and Chico, Hamilton City has the smallest population and development along the route. The majority of Hamilton City's development is isolated to the south of SR 32, and includes predominately industrial and single-family residential land uses. However, adjacent to the route are portions of its community commercial development and Ella Barkley High School. The high-school is located north of the route which impacts commuter and pedestrian traffic as students cross the highway. Students can cross the route at two designated intersections: SR 32/SR 45 and at SR 32/Los Robles Avenue. Both of these intersections have designated crosswalks; however, only the SR 32/SR 45 intersection is a signalized controlled intersection.

Figure 3: Commercial Development along SR 32 in the City of Chico

The City of Chico is the largest community in Butte County along the SR 32 corridor. The City has historically served as the regional hub for base-level employment, agriculture, health care and education; however urbanized growth in other areas within the region has reduced the City's jobs and retail sales. In 2014 the City had a reported population of 88,389[15] and a projected a City population of 139,713 by the year 2030 (City of Chico 2030 General Plan). In terms of new housing, an estimated 16,376 additional dwelling units would be required to accommodate a population of 139,713. In response to the City's future housing and jobs needs, five Specific Planning Areas (SPA) are planned to be

developed across the City. Two of the five SPAs are located near SR 32 which will increase the intensity of land uses in the city and around SR 32. Currently, there is a large presence of commercial, residential and office mixed use development located around the route's corridor.

Outside of these three communities, land uses vary between county. SR 32 through Glenn County the land use is strictly intensive agriculture. These areas are used for commercial agriculture production which contributes to the county's economic base. Due to significant agricultural production, Glenn County currently has no plans of developing these areas within the horizon period. In contrast, Butte County has multiple land use outside of the City of Chico, which includes Foothill Residential, Resource Conservation and Timber Mountain and Agriculture. To the west of the City of Chico are agricultural areas, and further west are the Foothill Residential, Resource Conservation and Timber Mountain areas.

SYSTEM CHARACTERISTICS

Figures 5 through 16 show the location of Segments 1-12. The key system characteristics of each segment are described below and details are listed in Table 4.

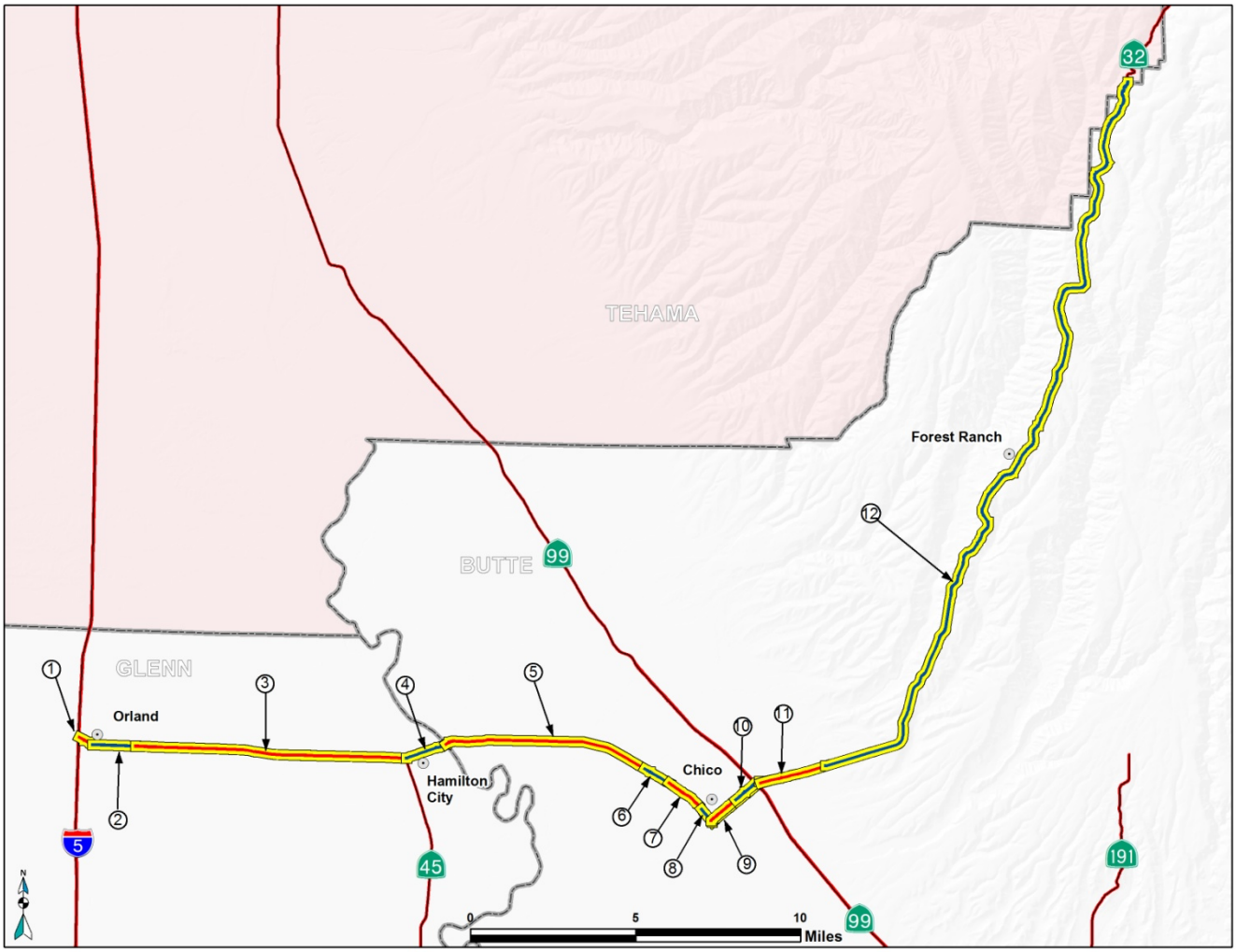


Figure 4: SR 32 Route Segmentation Map

Segment 1: is a two-lane conventional highway with turn pockets and multiple traffic signals between the I-5 interchange and 6th Street. Land uses are primarily commercial adjacent to the route. Pedestrian facilities included buffered sidewalks with streetscapes.

Figure 5: Segment 1 Map

Segment 2: is a two-lane conventional highway. This segment passes through the City of Orland which is traditionally a slow growth agriculturally based area. A portion of this segment passes through Orland's downtown where primarily commercial development is adjacent to the route. Sidewalks and crosswalks are continuous from the east of the railroad tracks up to Woodward Avenue. In addition, the City or Orland does not have bike facilities on SR 32 because of limited right-of-way due to on-street parallel parking.

Figure 6: Segment 2 Map

Segment 3: is a two-lane conventional highway from County Road M to State Route 45. The route is a direct east-west route with no curvatures between the City of Orland and Hamilton City. Local streets and private driveways connect to the route at various points. At certain intersections the route has dedicated right and two-way left turn lanes.

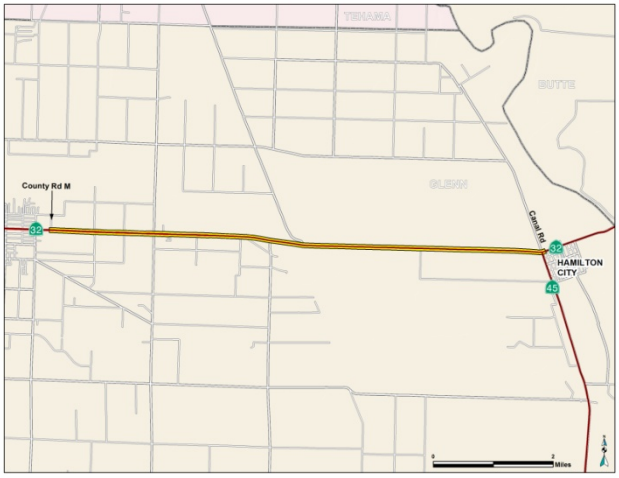


Figure 7: Segment 3 Map

Segment 4: is a two-lane conventional highway that begins near Hamilton City and ends at the Butte County line. The two-lane conventional highway design creates a short distance for pedestrians who cross the route in order to access the community's high school and portion of its commercial development.

Figure 8: Segment 4 Map

Segment 5: is a two-lane conventional highway that is immediately adjacent to the Sacramento River and located in a 100-year floodplain. The route crosses agriculture lands until it reaches the outer edge of the City of Chico. The edge of the City is where development becomes more apparent along the route. Before the segment ends at W East Ave. a new planned road extension from W. Eaton Rd. to approximately Muir Road will create a second connection with SR 99. This project is planned to be completed within the horizon period.

Figure 9: Segment 5 Map

Segment 6: is a two-lane conventional highway with continuous left-turn channelization except for the portion over Lindo Channel Bridge. This portion of SR 32, between East Avenue and W. 1st Street, is also known as Nord Avenue serves pedestrians, bicyclists, commuters and commercial truck traffic. In 2006 the Nord Avenue Corridor Plan (NACP) was developed with the goal of transforming the corridor into a "complete street".

Figure 10: Segment 6 Map

Segment 7: is the second part of Nord Avenue and is included in the Nord Avenue Corridor Plan. The two-lane conventional highway and Class II bike lanes from segment 6 continue through this segment. The Class II bike facility ends just before W. 1st Street. This is the only bike facility along SR 32. The Chico State campus is located east of the route.

Figure 11: Segment 7 Map

Segment 8: is a primarily commercial four-lane conventional highway, also known as Walnut Street, with continuous left-turn channelization between W. 1st Street and the beginning of the two-way couplet (two-city streets, two lanes in each direction) at 8th and 9th Streets. For the most part, sidewalks are paved in both directions of the route, except for a small portion in the eastbound direction near 9th Street.

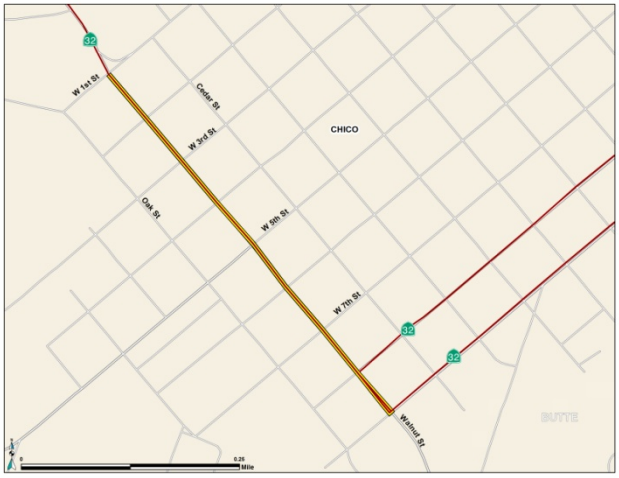


Figure 12: Segment 8 Map

Segment 9: operates as part of a couplet (two-city streets with two lanes in each direction) with segment 10. This segment is located between Walnut Avenue at W 8th Street and W 9th Street to Pine Street for both east and westbound traffic. Adjacent to the route is commercial and residential development that includes sidewalks and side street parallel parking. However, only the eastbound portion of this segment has continuous sidewalks.

Figure 13: Segment 9 Map

Segment 10: is the second part of the couplet between Pine Street and Fir Street on W 8th and W 9th Street. Both segments cross commercial and residential areas. This segment ends at the Chico park-and-ride lot, located directly east of the SR 99/SR 32 junction.

Figure 14: Segment 10 Map

Segment 11: begins one block east of the SR 99/32 junction at Fir Street. The segment begins as a four-lane facility and continues for approximately one quarter mile, where it transitions to a two-lane conventional facility. This segment is the location of the 2.6 mile SR 32 widening project between the SR 99 interchange and Yosemite Drive.

Figure 15: Segment 11 Map

Segment 12: is a two-lane conventional highway that climbs into the Sierra/Cascade foothills connecting the eastern portion of Chico to Forest Ranch. The terrain is mountainous with an elevation high of 3,800 feet. Development along this segment is limited to foothill homes at Forrest Ranch. In the mountainous parts the route becomes narrower and incorporates more curvatures. This segment connects to SR 36 which is the primary route to Lassen National Park.

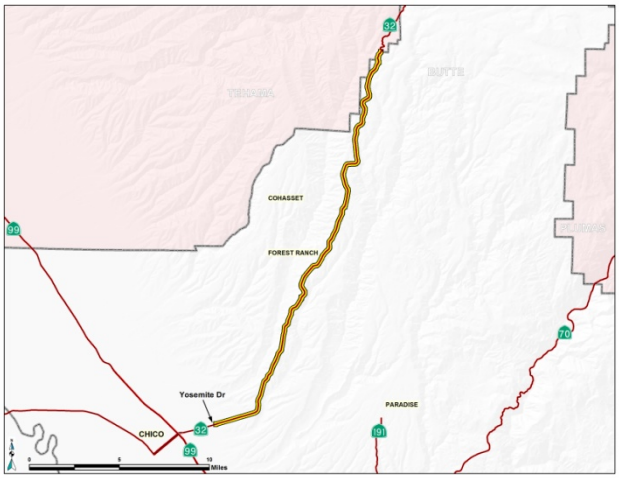


Figure 16: Segment 12 Map

Table 4: SR 32 System Characteristics and Concept Facility

Segment	Existing Facility (BY)*			
	Facility Type*	General Purpose Lanes	Lane Miles	Centerline Miles
1	C	2	0.46	0.92
2			0.84	1.68
3			8.33	16.66
4			1.28	2.56
5			6.24	12.48
6			0.87	1.74
7			1.26	2.52
8		4	0.50 (0.54)	1.00 (1.08)
9	Couplet	2	0.54	1.08
9			0.50	1.00
10			0.87	1.74
10			0.87	1.74
11	E		2.12	2.24
12	C		25.35	50.70
Segment	**Build Facility (HY)***			
	Facility Type*	**General Purpose Lanes**	**Lane Miles**	**Centerline Miles**
1	C	2	0.46	0.92
2			0.84	1.68
3			8.33	16.66
4			1.28	2.56
5			6.24	12.48
6			0.87	1.74
7			1.26	2.52
8		4	0.50 (0.54)	1.00 (1.08)
9	Couplet	2	0.54	1.08
9			0.50	1.00
10			0.87	1.74
10			0.87	1.74
11	E	4	2.12	8.48
12	C	2	25.35	50.70
Segment	**Ultimate Facility***			
	Facility Type*	**General Purpose Lanes**	**Lane Miles**	**Centerline Miles**
1	C	2	0.46	0.92
2			0.84	1.68
3		2 to Orland City limits, 4 to SR 45	8.33	16.66
4		4C	1.28	5.12
5		2	6.24	12.48
6			0.87	1.74
7			1.26	2.52
8		4	0.50 (0.54)	1.00 (1.08)
9	Couplet	2	0.54	1.08
9			0.50	1.00
10			0.87	1.74
10			0.87	1.74
11	E	4	2.12	8.48
12	C	2	25.35	50.70

* BY= Base Year 2014, HY= Horizon Year 2034, E = Expressway, C = Conventional

BICYCLE FACILITY

As shown in Table 5, bicyclists are allowed on all SR 32 segments. Existing bike facilities along the route are limited to Segments 6 and 7. These segments include a Class II Bicycle Lane facility between W. East Avenue and the Big Chico Creek Bridge. This section is also known as Nord Avenue. In 2006, the Butte County Association of Governments (BCAG), Butte County, the City of Chico and Caltrans sponsored the Nord Avenue (SR 32) Corridor Plan (NACP) with the goal of transforming the area into a "complete street" in order to shift users to other modes of transportation: walking, bicycling or transit use. The Plan includes strategies and projects designed for each specific mode over a short, mid and long-term period, specifically for bicyclist due to the corridor's high traffic volumes and speeding issues across certain segments, the Plan proposes to enhance the existing facility by developing bicycle-friendly roads, providing clear bike route information, and developing new bicycle paths on separate right-of-ways to major trip generating facilities such as Chico State.

Outside of the existing bike facilities in Chico, the rest of the route is non-designated and classified as Highway Open – Shoulder Varies (2013 *Caltrans District 3 State Highway Bicycle Facility Plan* (SHBFP)). In Segments 8 through 10, the SHBFP recommends upgrading the SR 32 to include a Class II Bicycle Lane facility from W. 1st Street to SR 99 and a Class III Bicycle Route facility in Segments 10 (portion) through 12 from SR 99 to the Butte/Tehama County line.

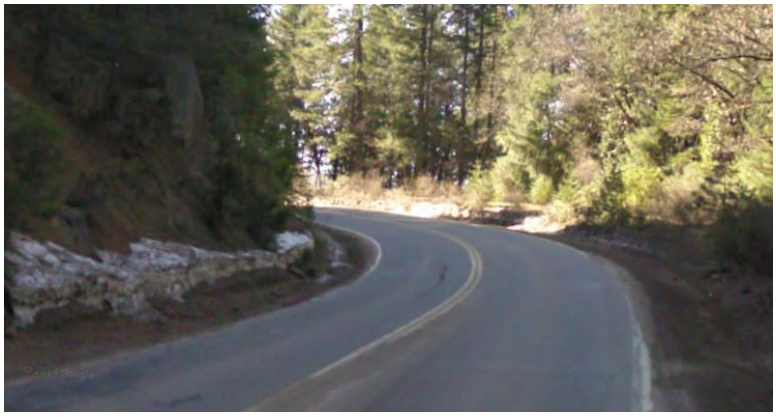


Figure 17: Shoulder widths along SR 32 in Segment 12

In recent years, SR 32 in Chico has seen an increase in bicycles along the facility. BCAG's ultimate goal is to upgrade their entire portion of SR 32 to a Class II facility (2011 Butte County Bike Plan). This includes sections of the route that range in elevation from 150' to 3800'. Portions of the route in higher elevations face geological challenges that restrict the road's right-of-way and environmental constraints, which may make the implementation of Class II facilities difficult along certain sections. Due to these challenges and constraints, the District 3 SHBFP recommends upgrading the portion of SR 32 east of Chico in Butte County to a Class III Bike Route.

In comparison to the range of elevation Butte County faces with SR 32, the route through Glenn County in Segments 1 through 4 is completely flat which makes it ideal for bicyclists. The Glenn County Transportation Commission (GCTC) has expressed a desire to complete a comprehensive countywide bikeway master plan that focuses on connectivity to activity centers and neighboring facilities. Currently, the GCTC is recommending upgrading SR 32 from the I-5 interchange to 6th Street a Class II facility. The SHBFP recommends extending the Class II Bicycle Lane further east to Linwood Drive as well as a Class III Bicycle Route facility from SR 45 to the Glenn/Butte County line.

Since a majority of the route does not have bike facilities, bicyclists share the road or ride on the route's shoulders. Depending on the location, shoulder and travel lane widths vary. Between Orland and Chico the route is relatively flat with adequate shoulder widths; whereas, between Chico and the Tehama County line, portions of the route's shoulders are narrower because of geological restrictions as the route's elevation increases. These sections are where bicyclists share the roadway with vehicles, which can create congestion.

Caltrans will continue to work with local agencies and address these issues as they arise. For more information on the recommended bicycle facilities along SR 32, the District 3 SHBFP can be found at:
http://www.dot.ca.gov/dist3/departments/planning/bike/D3SHBFP_June2013.pdf

Table 5: SR 32 Bicycle Facility Existing Conditions

Segment	State Bicycle Facility				Parallel Bicycle Facility			
	County, Post Mile	Location Description	Bicycle Access Prohibited	Facility Type*	Parallel Facility Present	Name	Location Description	Facility Type*
1	GLE_0.00-L0.46	Interstate 5 to 6th Street	No	Non-Designated	No	N/A		
2	GLE_ 0.46-1.30	6th/Swift Street to County Road M						
3	GLE_1.30-9.63	County Road M to SR 45						
4	GLE_9.63-10.91	SR 45 to GLE/BUT County Line						
5	BUT_0.00-6.24	GLE/BUT County Line to East Avenue						
6	BUT_6.24-7.11	East Avenue to W. 8th Avenue		Class II				
7	BUT_7.11-8.37	W. 8th Avenue to W. 1st Street		Class II				
8	BUT_8.37-8.87 (8.91)	W. 1st Street to W. 9th Street		Non-Designated	Yes	Oak St.	West 1st St. to West 9th St.	Class III
9	BUT_8.87-9.41	W. 9th Street at Walnut Avenue to Pine Street (Westbound)				West 7th St.	Cherry St. to Willow St.	
	BUT_8.91-9.41	W. 8th Street at Walnut Avenue to Pine Street (Eastbound)						
10	BUT_9.41-10.28	Pine Street to Fir Street (Westbound)				West 7th St.	Cherry St. to Willow St.	Class III
	BUT_9.41-10.28	Pine Street to Fir Street (Eastbound)				Bidwell Park Path	Willow St. to Fir St.	Class 1
11	BUT_10.28-12.40	Fir Street to Yosemite Drive				18th St. Path	Fir St. to El Dorado St.	
						Little Chico Creek Path	Humbolt Rd./SR 99 to El Monte Av.	
12	BUT_12.40-37.75	Yosemite Drive to BUT/TEH County Line			No	N/A		

*Bicycle Facility Type indicates the type of bicycle facility on that segment. Class I Bike paths are separate ROWs for bicycles and pedestrians. Class II bike lanes are separate lanes for bicyclists. Class III Bike routes are roadways with signs designating the roadway for shared bicycle use. Alternate route indicates that a designated local road is to be used when the facility is closed to bicyclists. Finally, non-designated means that while the facility is not prohibited to bicyclists; there is no designated bicycle facility on the corridor.

PEDESTRIAN FACILITY

Table 6 shows the segments where pedestrians are permitted and prohibited on SR 32. Based on Caltrans freeway restriction order list, pedestrians are permitted on all segments of SR 32. Pedestrian movement along the route is more apparent in the populated communities where pedestrian facilities such as pathways, sidewalks, bridges, and crosswalks are located. These facilities vary based on the community.

The pedestrian facilities through the City of Orland include sidewalks in both directions and crosswalks at signalized intersection points between the I-5 connection and Woodward Avenue. However, between Woodward Avenue and Orland's city limits, sidewalks in both directions have missing and broken sections. Filling in the missing pedestrian gaps is an opportunity for improvement in order to enhance the corridor's pedestrian connectivity and sense of place.

In contrast to Orland, Hamilton City's pedestrian facilities are very limited along the route. There are two intersections: the SR 32 and SR 45 signalized controlled intersection and the uncontrolled intersection at Los Robles Avenue. These intersections connect the residential areas south of the route to Hamilton City's high school north of the route. The intersections do not have a paved sidewalk connection between them and only certain corners of the intersections are paved. Improving the connectivity through paved sidewalks between the intersections should be addressed as warranted.

Figure 18: Sidewalk and crosswalk conditions at the SR 32/SR 45 intersection in Hamilton City

The pedestrian facilities in Chico are the most extensive because the route cuts through the City's core which includes commercial, mixed-use, and residential areas adjacent to the route. Sections of Nord Avenue, portions of the couplet, and a small portion of segment 8 near 9th Street have broken/missing sidewalk paths. Improving sidewalks should be addressed as warranted.

BCAG, local agencies, and Caltrans have already taken steps to improving facilities along SR 32. As discussed in the Bicycle Facility section, BCAG along with local and state partners developed the NACP which looks at improving the corridors facilities through "complete street" strategies. This section of SR 32 was targeted because of the amount of people who live along the corridor (approximately 11,000) and the number of individuals who begin or end a public transportation trip along the corridor daily (approximately 4,000). Current conditions such as high traffic volumes, speeding along some segments, missing or broken sidewalks, numerous curb cuts and difficult crossings are not favorable to pedestrians. Strategies outlined in the NACP plan to improve and mitigate these conditions by incorporating buffered sidewalks through planting strips and transit shelters, high visibility crosswalks, crossing islands and medians, and traffic calming measures by narrowing travel lanes and adding more vertical features such as trees. These strategies will enhance the pedestrian environment by creating a sense of place and connectivity that promotes walking.

As part of Caltrans effort to promote alternative modes of travel, District 3 is currently in the process of developing a Complete Streets Implementation Plan as part of Deputy Directive DD-64-R1 Complete Streets which directs the Department to "view all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognize bicycle, pedestrian and transit modes as integral elements of the transportation system". Similar to the District 3 SHBFP, the District's *Complete Streets*

Implementation Plan (scheduled completion, Fall 2014) highlights and recommends areas where these opportunities can best be implemented.

Table 6: SR 32 Pedestrian Facilities Existing Conditions

Segment	County, Post Mile	Location Description	Pedestrian Access Prohibited	Sidewalk Present
1	GLE_0.00-L0.46	Interstate 5 to 6th Street	No	Yes
2	GLE_0.46-1.30	6th/Swift Street to County Road M	No	Missing/Broken between Woodward Ave and County Rd. M
3	GLE_1.30-9.63	County Road M to SR 45	No	No
4	GLE_9.63-10.91	SR 45 to GLE/BUT County Line	No	Missing/Broken in Hamilton City
5	BUT_0.00-6.24	GLE/BUT County Line to East Avenue	No	Missing/Broken sections
6	BUT_6.24-7.11	East Avenue to W. 8th Avenue	No	Missing/Broken sections
7	BUT_7.11-8.37	W. 8th Avenue to W. 1st Street	No	Missing/Broken sections
8	BUT_8.37-8.87 (8.91)	W. 1st Street to W. 9th Street	No	Missing/Broken at the end of the segment along the eastbound lane
9	BUT_8.87-9.41	W. 9th Street at Walnut Avenue to Pine Street (Westbound)	No	Missing/Broken at the beginning segment along the eastbound lane
9	BUT_8.91-9.41	W. 8th Street at Walnut Avenue to Pine Street (Eastbound)	No	Yes
10	BUT_9.41-10.28	Pine Street to Fir Street (Westbound)	No	Missing/Broken sections
10	BUT_9.41-10.28	Pine Street to Fir Street (Eastbound)	No	Missing/Broken sections
11	BUT_10.28-12.40	Fir Street to Yosemite Drive	No	No
12	BUT_12.40-37.75	Yosemite Drive to BUT/TEH County Line	No	No

TRANSIT FACILITY

A complete summary of the transit operations along SR 32 are listed on Table 7. SR 32 is used by two transit services – the Glenn County transit service (Glenn Ride) and the Butte County transit service (B-Line).
Glenn Ride is an intercity fixed-route service operating between Willows and Orland in the Glenn County, with connections to Chico in Butte County. Glenn Ride operates six days of the week and runs seven trips on weekdays along SR 32. In contrast to Glenn Ride, the B-Line is a regional service that operates between Butte County communities such as Chico, Gridley and Oroville. Along SR 32, B-Line routes use sections of SR 32 that include Nord Avenue and portions of W 8th Street and W 9th Street. These sections are used daily as B-Line transit vehicles connect to the city's transit center near the Chico State campus.

In addition to the B-Line, Caltrans has a park-and-ride location at Fir Street, near the SR 99 and SR 32 junction. The park-and-ride facility provides a convenient and safe location for riders to transfer from a single passenger

vehicle to a local or regional transit bus. This park-and-ride lot is supported by the B-Line system. Two routes service the park-and-ride lot: Route 5 which connects to areas along 8th Street and Chico's Transit Center, and Route 20 which provides regional service between Chico and Oroville. In total, the lot includes 141 parking spaces and 16 bike lockers. Currently, phase 3 of the SR 32 Multi-Modal Improvements/SR 99 Corridor Bikeway is planned to enhance the park-and-ride's existing transit facilities and bicycle lockers, while also providing additional overflow parking along Fir Street. In addition, the project will enhance the pedestrian movements along the edges of the park-and-ride facility from west of Fir Street through the SR 99 overcrossing and to Bartlett Street to the west.

An out of State rail connection is also located in Chico, near SR 32 Chico's Amtrak Station for the Coast Starlight route which runs from Los Angeles to Seattle. The Coast Starlight is the only direct passenger rail service that crosses through Butte and Glenn County. Two trains stop in Chico daily: one northbound and one southbound. The Amtrak Coast Starlight line runs parallel to Nord Avenue and has at grade crossings at W 8th Street and W 9th Street. The grade crossing can create congestion problems along local roads as vehicles are unable to cross. In rare occasions, when trains are forced to stop, even longer delay occurs. Chico has expressed a need to improve some of the intersections by construction over or under-crossings to mitigate the problem.

Figure 19: Amtrak station in the City of Chico

Table 7: SR 32 Transit Facilities Existing Conditions

Segment	Mode & Collateral Facility	Name	Route End Points	Stations	# of Parking Spaces
				Cities	
1-8	Traditional Bus	Glenn Ride	Willows to Chico	Orland, Hamilton City and Chico	-
7		B-Line	Nord Avenue	Chico	
			Chico Downtown to North Valley Plaza		
9			Chico to Paradise		
			Chico to Magalia		
10			Chico Downtown to Forest Xfer/Chico Mall		
			Chico to Oroville		
8	Rail	Amtrak Coast Starlight	Los Angeles, CA to Seattle, WA		
8	Park & Ride	Amtrak	Redding to Sacramento/Stockton		
10/11		B-Line	Chico Downtown to Forest Xfer/Chico Mall		141
			Chico to Oroville		

FREIGHT

Table 8: SR 32 Freight Facilities Existing Conditions

Segment	PM	Facility Type/Freight Generator	Location	Mode	Name	Comments/Issues
1-11	GLE_0.00 to BUT_12.40	Highway	I-5 interchange in City of Orland to Yosemite Dr. in the City of Chico	Truck	SR 32 (Terminal Access)	-Varying shoulder widths from 0-6 feet -Flat terrain
12	BUT_ 12.40 – 36.9	Highway	Yosemite Dr. to BUT/THE County Line	Truck	SR 32 (Terminal Access)	-Varying shoulder widths from 0-6 feet -Elevation reaches a high of 3800' -Narrow travel lanes along certain sections
	BUT_ 36.9 – 37.75	Highway			SR 32 (CA Legal Advisory)	

As identified in Table 8 above, truck transport is the primary method for transportation goods into and through the Butte and Glenn County region. Through the region, SR 32 is primarily classified as a Terminal Access (TA) route with a small segment classified as CA Legal Advisory (CLA) route near the Tehama County line. The truck network classifications restrict certain trucks based on their overall length, semitrailer, and Kingpin-to-rear-axle (KPRA). As listed in Table 9, TA routes have no truck restrictions, whereas CLA routes restrict access to "Green" STAA Trucks, but allow "Black" California Legal Trucks. However, "Black" California Legal Trucks are advised not to travel on an advisory route unless their KPRA is no more than the posted length, which is 30 feet on most routes.

Larger trucks may face difficulties traveling up and down SR 32 between the City of Chico and the Tehama County line due to the route's slope, mountainous terrain, and curvatures. Due to these elements, larger trucks can present a safety hazard due to geometric turning limitations on sections of the road with narrow travel lanes, multiple turns and limited shoulder widths. The rest of the route does not deal with these elements as the route is flat between the cities of Orland and Chico. However, the two-lane conventional highway design does increase the potential of congestion and a strain on the system due to slow moving trucks. However, because of the flat terrain and sections with long straight-away, vehicles do have opportunities to pass slow-moving trucks.

Figure 20: Straight-away section of SR 32

Trucks trips are generated from various facilities across each county. A portion of the trucks trips are generated from the Chico Municipal Airport (CMA) as air cargo is transported to Chico then transported by ground to their end destination or moved to another mode of transportation such as heavy rail lines like the Union Pacific Railroad (UPR) and the California Northern Pacific Railroad Company (CFNR). The UPR operates two mainlines in Butte County, one of which crosses SR 32 in Chico as it moves between the Sutter County and Tehama County lines. Specialized rail cars such as flatbeds, refrigerated box cars, fuel tankers, and piggyback cars are used to move a large variety of goods through the area. Depending on the number of rail cars and time of day, a train

can create delay along the roads by queuing traffic at the grade crossings. BCAG and the City of Chico are aware of this issue. The City of Chico continues to monitor funding opportunities for grade crossing projects.

Similar to Chico, rail lines through Orland and Hamilton City cross at grade level. The CFNR has two mainlines that cross SR 32 in Orland and Hamilton City. The CFNR rail line through Orland runs parallel to I-5 and crosses SR 32 between 6th and 5th Street, and the CFNR rail line through Hamilton City crosses SR 32 between Walsh Avenue and Shasta Ave. Specifically for Orland, the GCTC Regional Transportation Plan (RTP) recommends that more local rail services should continue to be explored in order to determine if construction of local railroad freight depot in Orland (rather than carload service only) would improve transportation option to Glenn County businesses.

District 3 Goods Movement Plan

In 2013, Caltrans District 3 was fully underway in creating a district-wide Goods Movement Plan. The Plan will synthesize the findings of other goods movement related plans in the District and State, conduct a district-wide assessment of the District 3 Goods Movement network, propose a prioritization framework to identify and prioritize projects, and propose a list of prioritized projects for potential funding that will sustain or improve goods movement throughput. The plan will require significant outreach, collaboration, and consensus with stakeholders, including public agencies such as the Sacramento Area Council of Governments (SACOG), and trucking industry groups. Findings from the study will be included in the Statewide Freight Mobility Plan, and will be transferrable to other Caltrans Districts statewide for implementation. The *District 3 Goods Movement Plan* is scheduled to be completed in 2015. More information can be found at: https://sites.google.com/site/d03goodsmovement/.

Table 9: SR 32 Truck Categories

Lengths	"GREEN" STAA TRUCKS	
OVERALL LENGTH	Unlimited	Unlimited
SEMITRAILER	53 feet MAX	48 feet MAX
KPRA (kingpin-to-rearmost-axle distance)	40 feet MAX (for two-axle semitrailer); 38 feet MAX (for single-axle semitrailer)	Unlimited
Lengths	**"BLACK" CALIFORNIA LEGAL TRUCKS**	
OVERALL LENGTH	65 feet MAX	
SEMITRAILER	Unlimited	
KPRA (kingpin-to-rearmost-axle distance)	40 feet MAX (for two-axle semitrailer); 38 feet MAX (for single-axle semitrailer)	

AIRPORT FACILITIES

There are two airports within 5 miles of SR 32 in District 3, including Haigh Field in the City of Orland and Chico Municipal in the City of Chico.

Haigh Field (Orland)

Haigh Field's functional class is Community; it supports business, sport, and agriculture uses. Ultra-light aircraft, gliders, and radio controlled model aircraft also use the field. Airport services include: aircraft fuel sales, rental car service, and major aircraft maintenance. There are 41 aircraft based there, and 20,000 operations for the 12 month period ending November 30, 2013.

Chico Municipal (Chico)

Chico Municipal is D3's smaller commercial service airport; its functional class is Primary-Non-Hub-Regional-Business/Corporate. The airport is an important regional firefight facility, and maintenance repair for the firefighting air craft. Other airport services include: a museum, on airport restaurant, law enforcement and medical evacuation, sport flying, aircraft rental and sales, major aircraft repair, fuel sales, cargo, flight training, disaster/emergency service, and rental car service. Several wetland areas are located on the airport. Enplanements for 2013 were 18,376. There are 96 based aircraft, and 48,467 operations for the 12 month period ending April 30, 2013.

CORRIDOR PERFORMANCE

Tables 10A, 10B, and 10C below detail SR 32 corridor performance data for BY 2014, HY 2034 "No-build" and "Build" scenarios, and the "Ultimate Facility Concept" (post-20-year facility, provided only for LOS). The performance measures are divided into three categories including basic system operations, truck traffic data (BY only due to data availability constraints), and peak hour traffic data. The basic facility operations data provides a general overview of the system performance for all vehicle types and times of day, while the truck traffic data isolates the performance of the facility for commercial trucks, and the peak hour traffic data indicates the performance of the facility when traffic demand is highest, during the morning and evening commuting hours.

Taken together, these corridor performance measures provide an assessment of how well the each facility segment functions based on existing conditions (BY) and 20-year forecasted conditions with (Build scenario) and without (No-build scenario) facility improvements. The Ultimate Facility Concept LOS details the post-20-year anticipated performance of the facility with planned, programmed, and conceptual improvements.

LOS is a particularly important performance measure for the District to assess corridor system operations, monitor facility impacts, and evaluate improvements opportunities. LOS is a qualitative measure describing operational conditions within a traffic stream and perception of condition by users. Operational conditions are defined in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. LOS is categorized into six levels ranging from A to F. LOS A represents the best operating conditions wherein there is ample maneuverability without speed restriction or delay, while LOS F represents the worst operating conditions, indicating traffic congestion, significant delay, and little maneuverability.

As owner and operator of the SHS, Caltrans District 3 defines the minimum acceptable LOS for each TCR segment as LOS D in rural areas (population less than 2,500), LOS E in urban cluster (population 2,500 to 49,999), and LOS E urbanized areas (population over 50,000). However, these minimums may vary depending on unique corridor conditions. A local agency may set a higher minimum acceptable LOS consistent with community wishes and other local concerns, but should not set a minimum acceptable LOS lower than that of District 3[16]. The ultimate facility concept LOS reflects the improvements and strategies necessary for a particular segment to meet the District's minimum acceptable LOS particularly in cases where the build facility falls below this minimum.

Segment 1 is the shortest segment and has one of the smaller base year average annual daily traffic (AADT) out of all the segments. The base year AADT for this segment is 9,752 with a LOS D. Of the 9,752 trips, 687 of them are truck traffic with 317 of those trips generated by 5+ axle trucks. The base year peak hour volume is 890 and is projected to grow to 1,344 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 14,720. The current LOS is D, but is projected to decrease to LOS E in the horizon period.

Segment 2 base years AADT is 11,448 with a LOS E. Of the 11,448 trips, 687 of them are truck traffic with 317 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,039 and is projected to grow to 1,568 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 17,280. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 3 base years AADT is 9,434 with a LOS E. Of the 9,434 trips, 746 of them are truck traffic with 344 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,113 and is projected to grow to 1,680 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 14,240. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 4 base years AADT is 13,568 with a LOS C. Of the 13,568 trips, 877 of them are truck traffic with 338 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,378 and is projected to grow to 2,080 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 20,480. The current LOS is C, but is projected to decrease to LOS D in the horizon period.

Segment 5 base years AADT is 13,585 with a LOS E. Of the 13,585 trips, 843 of them are truck traffic with 169 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,515 and is projected to grow to 2,103 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 18,850. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 6 base years AADT is 15,888 with a LOS C. Of the 15,888 trips, 843 of them are truck traffic with 169 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,691 and is projected to grow to 2,063 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 19,375. The current LOS is C, but is projected to decrease to LOS D in the horizon period.

Segment 7 base years AADT is 19,584 with a LOS D. Of the 19,584 trips, 843 of them are truck traffic with 169 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,938 and is projected to grow to 2,280 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 23,040. The current LOS is D and is projected to remain LOS D in the horizon period.

Segment 8 base years AADT is 23,358 with a LOS D. Of the 23,358 trips, 1,178 of them are truck traffic with 296 of those trips generated by 5+ axle trucks. The base year peak hour volume is 2,193 and is projected to grow to 2,580 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 27,480. The current LOS is D, but is projected to decrease to LOS E in the horizon period.

Segment 9A base years AADT is 17,407 with a LOS E. Of the 17,407 trips, 1,548 of them are truck traffic with 194 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,442 and is projected to grow to 1,820 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 21,970. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 9B base years AADT is 17,407 with a LOS E. Of the 17,407 trips, 1,548 of them are truck traffic with 194 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,648 and is projected to grow to 2,080 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 21,970. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 10A base years AADT is 19,656 with a LOS E. Of the 19,656 trips, 1,548 of them are truck traffic with 194 of those trips generated by 5+ axle trucks. The base year peak hour volume is 1,768 and is projected to grow to 2,380 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 26,460. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 10B base years AADT is 22,776 with a LOS E. Of the 22,776 trips, 1,548 of them are truck traffic with 194 of those trips generated by 5+ axle trucks. The base year peak hour volume is 2,184 and is projected to grow to 2,940 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 30,660. The current LOS is E and is projected to remain LOS E in the horizon period.

Segment 11 base years AADT is 21,546 with a LOS D. Of the 21,546 trips, 480 of them are truck traffic with 93 of those trips generated by 5+ axle trucks. The base year peak hour volume is 2,052 and is projected to grow to

4,320 in the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 46,267. Over the 20-year horizon period, the segment's LOS is projected to decrease to LOS F in the No Build scenario and remain LOS D in the Build scenario.

Segment 12 base years AADT is 7,596 with a LOS E. Of the 7,596 trips, 480 of them are truck traffic with 93 of those trips generated by 5+ axle trucks. The base year peak hour volume is 696 and is projected to grow to 1,023 in the No Build scenario and 1,033 in the Build scenario within the horizon year. Overall the segment's capacity is projected to increase over the 20-year horizon period to a maximum of 11,160 in the Build scenario and 11,272 in the No Build scenario. Over the 20-year horizon period, the segment's LOS is projected to remain at LOS E for all scenarios.

Table 10A: SR 32 Corridor Performance Measures

BASIC SYSTEM OPERATIONS*											
Segment	County, PM	Average Annual Daily Traffic (AADT)			Level of Service (LOS)				Vehicle Miles Traveled (VMT)		
		Base Year (BY)	No Build Horizon Year (HY)	Build (HY)	BY	No Build (HY)	Build (HY)	Ultimate Concept	BY	No Build (HY)	Build (HY)
1	GLE_0.00-L0.46	9,752	14,720	N/A	D	E	N/A	E	2,576	4,122	N/A
2	GLE_0.46-1.30	11,448	17,280		E	E		E	9,072	14,515	
3	GLE_1.30-9.63	9,434	14,240		E	E		E/D	71,891	115,026	
4	GLE_9.63-10.91	13,568	20,480		C	D		D	16,435	26,296	
5	BUT_0.00-6.24	13,585	18,850		E	E		D	80,258	116,374	
6	BUT_6.24-7.11	15,888	19,375		C	D		E	13,626	17,032	
7	BUT_7.11-8.37	19,584	23,040		D	D		E	25,462	30,554	
8	BUT_8.37-8.87 (8.91)	23,358	27,480		D	E		E	10,319	12,383	
9	BUT_8.87-9.41	17,407	21,970		E	E		E	7,484	9,730	
9	BUT_91-9.41	17,407	21,970		E	E		E	7,943	19,693	
10	BUT_9.41-10.28	19,656	26,460		E	E		E	15,148	11,120	
10	BUT_9.41-10.28	22,776	30,660		E	E		E	14,380	20,132	
11	BUT_10.28-12.40	21,546	45,360	46,267	D	F	D	E	34,286	82,286	83,932
12	BUT_12.40-37.75	7,596	11,160	11,272	E	E	E	E/D	64,902	100,598	101,604

*The Corridor Performance Measures table is based on Base Year (BY) 2014 traffic data and estimates a Horizon Year (HY) of 2034.

Table 10B: SR 32 Corridor Performance Measures

PEAK HOUR TRAFFIC DATA*													
Segment	County, PM	Volume			Directional Split			Volume/Capacity (V/C)			VMT		
		BY	No Build (HY)	Build (HY)	BY	No Build (HY)	Build (HY)	BY	No Build (HY)	Build (HY)	BY	No Build (HY)	Build (HY)
1	GLE_0.00-L0.46	890	1,344	N/A	60%	60%	N/A	N/A			207	331	N/A
2	GLE_0.46-1.30	1,039	1,568		60%	60%					823	1,317	
3	GLE_1.30-9.63	1,113	1,680		60%	60%		0.45	0.67	N/A	8,130	13,008	
4	GLE_9.63-10.91	1,378	2,080		59%	59%		N/A			1,669	2,671	
5	BUT_0.00-6.24	1,515	2,103		51%	51%		0.52	0.72	N/A	8,334	12,084	
6	BUT_6.24-7.11	1,691	2,063		51%	51%		N/A			1,428	1,785	
7	BUT_7.11-8.37	1,938	2,280		51%	51%					2,359	2,831	
8	BUT_8.37-8.87 (8.91)	2,193	2,580		55%	55%					1,004	1,205	
9	BUT_8.87-9.41	1,442	1,820		55%	55%					789	1,026	
9	BUT_91-9.41	1,648	2,080		55%	55%					733	1,914	
10	BUT_9.41-10.28	1,768	2,380		55%	55%					1,472	1,026	
10	BUT_9.41-10.28	2,184	2,940		55%	55%					1,409	1,972	
11	BUT_10.28-12.40	2,052	4,320	4,406	55%	55%	55%				3,051	7,322	7,468
12	BUT_12.40-37.75	696	1,023	1,033	65%	65%	65%	0.31	0.46	0.46	9,639	14,941	15,091

*The Corridor Performance Measures table is based on Base Year (BY) 2014 traffic data and estimates a Horizon Year (HY) of 2034.

Table 10C: SR 32 Corridor Performance Measures

TRUCK TRAFFIC DATA*					
Segment	**County, PM**	**Average Annual Daily Truck Traffic (AADTT) (BY)**	**Total Trucks (% of AADT) (BY)**	**5+ Axle AADTT (BY)**	**5+ Axle Total Truck (% of AADT) (BY)**
1	GLE_0.00-L0.46	687	12.26%	317	5.66%
2	GLE_0.46-1.30	687	12.26%	317	5.66%
3	GLE_1.30-9.63	746	8.67%	344	4.00%
4	GLE_9.63-10.91	877	7.76%	338	2.99%
5	BUT_0.00-6.24	843	4.39%	169	0.88%
6	BUT_6.24-7.11	843	4.39%	169	0.88%
7	BUT_7.11-8.37	843	4.39%	169	0.88%
8	BUT_8.37-8.87 (8.91)	1,178	5.48%	296	1.37%
9	BUT_8.87-9.41	1,548	4.58%	194	1.15%
9	BUT_91-9.41	1,548	4.58%	194	1.15%
10	BUT_9.41-10.28	1,548	4.58%	194	1.15%
10	BUT_9.41-10.28	1,548	4.58%	194	1.15%
11	BUT_10.28-12.40	480	3.35%	93	0.65%
12	BUT_12.40-37.75	480	3.35%	93	0.65%

*The Corridor Performance Measures table is based on Base Year (BY) 2014 traffic data and estimates a Horizon Year (HY) of 2034.

KEY CORRIDOR ISSUES

A key corridor issue is accommodating for future traffic growth along the route. SR 32 is the main east-west arterial for the cities of Orland and Chico, the community of Hamilton City, and interregional connection via the major SHS routes of I-5 and SR 99. Based off the performance measures, all the segments, except for Segment 5 (GLE/BUT County line to East Ave.), will be able to accommodate the projected traffic growth. However, sections of the route where it is a two-lane conventional highway design through communities such as Hamilton City in Segment 4 and Segment 5 should continue to be analyzed on the possibility of enhancing the pedestrian, bicycle, and roadway facilities as warranted.

Another corridor issue is that existing right-of-way width of SR 32 is limited to 40 feet in portions of Segments 1 and 2 in the City of Orland, which deters the potential to widen the highway to four lanes. However, the Ultimate Concept LOS E can still be achieved with the existing two-lane facility.

Improving facilities that promote multiple modes of transportation are important to community development and improving the route's performance. Filling in the gaps in the bicycle and pedestrian facilities along the route and along parallel facilities will create a more complete system that is accessible for all modes of transportation. Creating a sense of place through connectivity can help revitalize an area and remove vehicles from the roadway.

One of many benefits of fewer cars on the roadway is less wear and tear on the road. Continuing to monitor the roadways conditions and implement maintenance and rehabilitation projects as warranted is important, especially since SR 32 is a main arterial for the cities of Orland and Chico.

CORRIDOR CONCEPT

CONCEPT RATIONALE

The route's 12 segments include areas that range between rural, urban clusters, and urbanized areas. Most of the route is classified as rural, except for the cities of Orland (urban cluster) and Chico (urbanized area). Based off the performance measures, all the segments meet the minimum LOS standards set by Caltrans District 3, except for Segment 5. Projects to improve the corridor's LOS should still be considered in order to plan ahead for future growth beyond the horizon period. Projects and strategies should include operational improvements, ITS, Transportation Demand Management, active multimodal corridor management strategies, and reduction of travel demand on the SHS by developing parallel local roads and improving pedestrian and bicycle facilities in order to increase the use of multiple modes of transportation (i.e. transit, walking and biking). Caltrans District 3 continues to promote multiple modes of transportation through plans such as the *District 3 SHBFP* and *District 3 Bike Guide*, as well as the *District 3 Complete Streets Plan*, *ITS/Operational Improvements* Plan, and *Concept of Operations Plan*, all three of which are forthcoming.

PROJECTS AND STRATEGIES

Projects and strategies to achieve the facility concept have two categories of funding status: fiscally constrained and fiscally unconstrained.

Fiscally constrained projects and strategies are projects that can be implemented using committed, available, or reasonably available revenue sources.[17]

Fiscally unconstrained projects and strategies are conceptual transportation improvements without an identified funding source and may be funded if reasonable additional resources become available.[18]

In addition to the funding status categories, there are three types of transportation improvements or actions: programmed, planned, and conceptual. Projects and strategies to achieve SR 32 facility concept are grouped into (1) planned and programmed projects, and (2) conceptual projects.

Planned and Programmed Projects and Strategies

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

Programmed Project: A programmed improvement or action is a project in a near-term programming document that identifies funding amounts by year, such as the State Transportation Improvement Program of the State Highway Operations and Protection Program (SHOPP).

A list of Planned and Programmed projects and strategies is contained in Table 11 below.

Table 11: SR 32 Planned and Programmed Projects and Strategies

Segment	Description	Planned or Programmed	Location, County, Route, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
1-2	Construct pedestrian infrastructure	Planned	City of Orland, GLE 32: 0.00-1.32	Caltrans	10-year SHOPP	Pedestrian Improvements	1,300	2015
3	Construct Passing Lanes	Planned	County Road (CR) P to CR S, GLE 32: 3.00-R5.085	Caltrans	2011 SR 32 TCCR	Operational Improvements	2,500	2020
3	Intersection Improvement when warranted	Planned	At CRs P & S, GLE 32: 3.00 & GLE 32: R5.085	Caltrans	2011 SR 32 TCCR	Operational Improvements	1,000	2034
Var	Signal Synchronization; Install adaptive traffic signal control	Planned	BUT 32: Varies	Caltrans	D3 2014 Intelligent Transportation System /Operations Plan (ITS/Ops Plan)	Operational Improvements	N/A	2034
Var	CAPM Follow-up locations – upgrade curb ramps (ADA)	Programmed	BUT 32: Varies	Caltrans	10-year SHOPP	Pedestrian Improvements	2,900	2028
5	Eaton Road Extension	Planned	Approximately at Muir Rd in the City of Chico, BUT 32: 4.358	City of Chico	2012 BCAG MTP	Operational Improvements	N/A	2034
5	Construct Class II Bike Lane	Planned	Glenn County line to the City of Chico, BUT 32: 0.00-6.24	BCAG	2011 Butte County Bicycle Plan	Bicycle Improvements	N/A	2034
5-10	Construct sidewalks, curb-ramps and crosswalks	Programmed	Near Chico, from Kennedy Avenue to SR 99/32 separation, BUT 32: 6.00-10.2	Caltrans	10-year SHOPP	Pedestrian Improvements	4,002	2016
6	Construct Roundabout	Planned	SR 32 at W. Lindo Avenue, BUT 32: 6.457	City of Chico	Nord Ave (SR 32) Corridor Plan	Operational Improvements	N/A	2030
6	Construct Roundabout	Planned	SR 32 at W. 8th Avenue, BUT 32: 7.092	City of Chico	Nord Ave (SR 32) Corridor Plan	Operational Improvements	N/A	2030
6/7	Provide (retrofit or construct) detached sidewalks with planters	Planned	SR 32 from W. East Ave. to W. First St., BUT 32: 6.238-8.367	City of Chico	Nord Ave (SR 32) Corridor Plan	Pedestrian Improvements	N/A	2020
7	Construct Roundabout	Planned	SR 32 at W. Sacramento Avenue, BUT 32: 7.710	City of Chico	Nord Ave (SR 32) Corridor Plan	Operational Improvements	N/A	2030
7	Enhance Big Chico Creek Bridge and make a new off-street trail	Planned	SR 32 at Big Chico Creek Bridge (BR#12-43), BUT 32: 8.134	City of Chico	Nord Ave (SR 32) Corridor Plan	Bicycle Improvements	N/A	2030
7	Construct Roundabout	Planned	SR 32 at W. First Street, BUT 32: 8.367	City of Chico	Nord Ave (SR 32) Corridor Plan	Operational Improvements	N/A	2030

Table 11: SR 32 Planned and Programmed Projects and Strategies (continued)

Segment	Description	Planned or Programmed	Location, County, Route, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
8-10	Upgrade curb ramps and pedestrian facilities (City of Chico Phase II)	Programmed	North of 8th Street to just west of Pine Street, BUT 32: 8.80-9.54	Caltrans	2012 BCAG MTP	Pedestrian Improvements	3,800	2014
9	Install traffic signal at each intersection, upgrade ADA, repave intersection	Programmed	SR 32 at Ivy St., BUT 32: 9.13-9.17	Caltrans	Caltrans	Operational Improvements	1,077	2021
9	Signal Modifications	Programmed	SR 32/9th St. at Main St., 9th St at Oroville St., 9th St at Park Ave., and 9th St. at Humboldt, BUT 32: Varies	Caltrans	SHOPP	Operational Improvements	1,100	2017
10	Multi-Modal Improvements	Programmed	SR 32 at 1st St., BUT 32: 10.24R	City of Chico	2012 Federal Transportation Improvement Program	Multi-Modal Improvements	3,500	2015
10/11	Widen SR 32 from 2 lane to 4 lanes (Phase 2)	Programmed	On SR 32 from SR 99 to El Monte Avenue, BUT 32: 10.187-11.270	City of Chico	2012 BCAG MTP	Operational Improvements	3,500	2019
10/11	Construct sidewalks, curb-ramps, and crosswalks	Programmed	SR 32 from Poplar Street to SR 99/32 separation, BUT 32: 9.54-10.187	Caltrans	SHOPP	Pedestrian Improvements	4,002	2022
10-12	Construct Class II Bicycle Lanes	Planned	SR 32 from SR 99 to the BUT/TEH County line, BUT 32: 10.187-37.749	BCAG	2011 Butte County Bicycle Plan	Bicycle Improvements	N/A	2034
11	Widen SR 32 from 2 lane to 4 lanes (Phase 1)	Programmed	SR 32, 0.3 miles east of SR 99 to El Monte Ave., BUT 32: 10.280-11.270	City of Chico	2012 BCAG MTP	Operational Improvements	6,425	2018
11	Widen SR 32 from 2 lane to 4 lanes (Phase 3)	Planned	SR 32 from El Monte Ave. to Yosemite Dr., BUT 32: 11.27-12.40	City of Chico	2012 BCAG MTP	Operational Improvements	N/A	2020

***** Total Cost Estimate and Proposed Completion Year are from listed source. Additional project details and programming information can be found in the listed source. Note, RTPs included separate fiscally unconstrained section. Please see appendix B-Resources for more information regarding the listed source.

Conceptual Projects and Strategies

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 fiscally 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.

Caltrans District 3 has completed the *Caltrans District 3 Intelligent Transportation Systems/Operational Improvement (ITS/Ops) Plan.* This plan provides critical guidance to optimize the State Highway System within the District by identifying and managing ITS and other operational strategies that yield a very high return on investment. Further information on the planning and deployment of ITS and operational improvements within District 3 can be reviewed in the *District 3 ITS/Ops Plan*. For more information visit: http://www.dot.ca.gov/dist3/departments/planning/.

All projects are considered a priority for the SR 32 corridor pursuant to identification of funding sources. Conceptual projects and strategies that will help SR 32 meet the Ultimate LOS Concept are listed in Table 12.

Table 12: SR 32 Conceptual Projects and Strategies

Segment	Description	Location, County, Route, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
1/2	Realign and widen SR 32 to 4 to 5 lanes	Orland to BUT County line, GLE 32: 1.020-10.910	GCTC	2009/10 GCRTP	Operational Improvements	N/A	2035
1-3	Construct Class II Bicycle Lanes	I-5/SR 32 Interchange to Linwood Dr., GLE 32: 0.00-1.404	City of Orland	2013 District 3 (D3) State Highway Bicycle Facility Plan (SHBFP)	Bicycle Improvements	480	2035
4	Construct Class III Bicycle Route	Canal Rd. to Butte County line, GLE 32: 9.626-10.91	GCTC	2013 D3 SHBFP	Bicycle Improvements	N/A	2035
5/6	Construct Class II Bicycle Lanes	Meridian Rd to W. Eighth Ave., BUT 32: 4.166-7.110	BCAG	2012 BCAG MTP	Bicycle Improvements	75	2035
6/7	Construct Class II Bicycle Lanes	W. Lindo & Glennwood to W. 1st St., BUT 32: 6.436-R8.367	City of Chico	2011 Butte County Bike Plan & 2013 D3 SHBFP	Bicycle Improvements	N/A	2035
7-10	Construct Class II Bicycle Lanes	W. 1st St to SR 99, BUT 32: R8.367-10.187	City of Chico	2011 Butte County Bicycle Plan & 2013 D3 SHBFP	Bicycle Improvements	N/A	2035
10-12	Construct Class III Bicycle Route	SR 32 from SR 99 to the BUT/TEH County line, BUT 32: 10.187-37.749	BCAG	2013 D3 SHBFP	Bicycle Improvements	N/A	2035

***** Total Cost Estimate and Proposed Completion Year are from listed source. Additional project details and programming information can be found in the listed source. Note, RTPs included separate fiscally unconstrained section. Please see appendix B-Resources for more information regarding the listed source.

APPENDICES

APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

Acronyms and Important Abbreviations

AADT- Annual Average Daily Traffic
ADA – Americans with Disabilities Act of 1990
ADT- Average Daily Traffic
BCAG – Butte County Association of Governments
B-Line – Butte County Transit Service
BY- Base Year
CALTRANS – California Department of Transportation
CCTC – Colusa County Transportation Commission
CEQA – California Environmental Quality Act
CFNR – California Northern Pacific Railroad Company
CHP – California Highway Patrol
CLA – California Legal Advisory
CLN – California Legal Network
CMA – Congestion Management Agencies
COL – Colusa
CSMP – Corridor System Management Plan
CT – Caltrans
CTC – County Transportation Commission
DSMP – District System Management Plan
DSMDP – District System Management and Development Plan
DU - Density Unit
EDCTC - El Dorado County Transportation Commission
EIP - Environmental Improvement Program
FHWA - Federal Highway Administration
GCTC – Glenn County Transportation Commission
GHG – Green House Gas
GLE – Glenn
Glenn Ride – Glenn County Transit Service
GP – General Plan
HCM – Highway Capacity Manual
HCP – Habitat Conservation Plan
HOV – High Occupancy Vehicle
HY – Horizon Year
I - Interstate
IGR – Intergovernmental Review
IRRS – Interregional Road System
ITS - Intelligent Transportation System
ITS/Ops – Intelligent Transportation Systems/Operational Improvement
KPRA – Kingpin-to-rear-axle
LOS – Level of Service
MAP-21 – Moving Ahead for Progress in the 21st Century Act
MPO- Metropolitan Planning Organizations
MPR – Mobility Performance Report

MTIP - Metropolitan Transportation Improvement Program
MTP - Metropolitan Transportation Plan
N/A – Not Applicable
NACP – Nord Avenue Corridor Plan
NB – Northbound
NEPA – National Environmental Policy Act
PID – Project Initiation Document
PM – Post Mile
PSR – Project Study Report
ROW – Right of Way
RTIP – Regional Transportation Improvement Program
RTP- Regional Transportation Plan
RTPA- Regional Transportation Planning Agencies
SACOG – Sacramento Area Council of Governments
SB – Southbound
SCS- Sustainable Community Strategies
SHBFP – State Highway Bicycle Facility Plan
SHOPP- State Highway Operation Protection Program
SHS – State Highway System
SR- State Route
STAA – Service Transportation Assistance Act of 1982
STIP – State Transportation Improvement Program
TA – Terminal Access
TCR – Traffic Concept Report
TDM – Transportation Demand Management
TMPO - Tahoe Metropolitan Planning Organization
TOS – Traffic Operations Systems
TRPA - Tahoe Regional Planning Agency
TSN- Transportation System Network
TTD - Tahoe Transportation District
V/C – Volume Capacity
VMT – Vehicle Miles Traveled
YOL – Yolo

Definitions

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.

Base year – The year that the most current data is available to the Districts.

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.

Bottlenecks – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

California Legal Truck – A truck tractor-semitrailer (or double) that can travel on virtually any route in California, as described below:

<u>California Legal Truck Tractor – Semitrailer</u>
Semitrailer length: no limit
KPRA : 40 feet maximum for two or more axles,
38 feet maximum for single-axle trailers
Overall length : 65 feet maximum

<u>California Legal Truck Tractor - Semitrailer - Trailer (Doubles)</u>
Option A
Trailer length : 28 feet 6 inches maximum (each trailer)
Overall length : 75 feet maximum
Option B
Trailer length : 28 feet 6 inches maximum (each trailer)
Overall length : 75 feet maximum

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.

Concept LOS – The minimum acceptable LOS over the next 20 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 fiscally 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 as informational purposes and not analyzed in the TCR.

Build Facility – Describe the facility and strategies that may be needed within 20 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.

Fiscally Constrained Projects and Strategies – A project or strategy that can be implemented using committed, available, or reasonably available revenue sources.

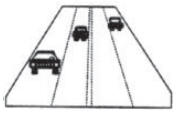
Fiscally Unconstrained Projects and Strategies – A project or strategy without an identified funding source and may be funded if reasonable additional resources become available.

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.

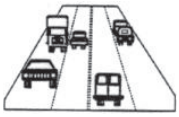
Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

Horizon Year – The year that the future (20 years) data is based on.

LOS – Level of Service 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. Six levels of 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 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.

Multi-modal – 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 6 percent and 10 percent of the ADT. The lower values are generally found on roadways with low volumes.

Peak Period – Is a part of the day during which traffic congestion on the road is at its highest. Normally, this happens twice a day, once in the morning and once in the evening; the time periods when the most people commute. Peak Period is defined for individual routes, not a District or statewide standard.

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

Ultimate Facility () – In general, the Ultimate Facility concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-year horizon. The Ultimate Facility 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 – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a count to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The milepost 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, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the reminder of the route within the county will remain unchanged.

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

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), Scenic Highway System,

Railroad Class I – The Surface Transportation Board (STB) defines a Class I railroad in the U.S. as a carrier having annual operating revenues of $250 million or more. This class includes the nation's major railroads. In California, Class I railroads include Union Pacific Railroad (UP) and Burlington Northern Santa Fe Railway (BNSF).

Railroad Class II – STB defines a Class II railroad in the U.S. as having annual carrier operating revenues of less than $250 million but more than $20 million. Class II railroads are considered mid-sized freight-hauling railroad

in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads.

Railroad Class III – Railroads with annual carrier operating revenues of $20 million or less. The typical Class III is a short line railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad.

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), Scenic Highway System,

Rural – Fewer than 2,500 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau

Segment – A portion of a facility between two points.

TDM – Transportation Demand Management 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.

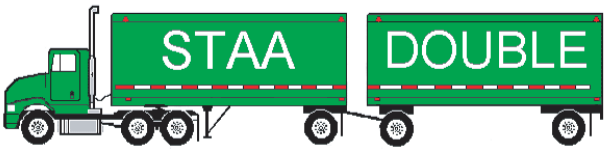
TMS – Transportation Management System is the business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, 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.

(Interstate) STAA Truck – A truck tractor-semitrailer (or double) that conforms to the requirements of the STAA, as described below:

<u>Interstate "STAA" Truck Tractor – Semitrailer</u>
Semitrailer length: 48 feet maximum
KPRA : no limit
Overall length : no limit

Semitrailer length: over 48 feet up to 53 feet maximum
KPRA : 40 feet maximum for two or more axles,
: 38 feet maximum for single-axle trailers
Overall length : no limit



<u>Interstate "STAA" Truck Tractor–Semitrailer–Trailer (Doubles)</u>
Trailer length : 28 feet 6 inches maximum (each trailer)
Overall length : no limit

Urban Cluster– 2,500 to 49,999 in population designates an urban cluster. Limits are based upon population density as determined by the U.S. Census Bureau.

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

VMT – Is the total number of miles traveled by motor vehicles on a road or highway segments.

APPENDIX B: RESOURCES

Butte County Association of Governments, *Nord Avenue (SR 32) Corridor Plan*, *December 2012.*

Butte County Association of Governments Metropolitan Transportation Plan, December 2012.

Butte County Bike Plan, 2011

California Department of Transportation, District 3, *Caltrans District 3 State Highway Bicycle Facility Plan*, July 2013.

California Department of Transportation, District 3, *Caltrans District 3 Freight Planning Fact Sheet*, June 2012.

California Department of Transportation, District 3, *District System Management and Development Plan*, January 2013. Website: http://www.dot.ca.gov/dist3/departments/planning/systemplanningDSMDP.htm

California Department of Transportation, District 3, *District System Management Plan Project List*, July 2013. M:\Plan\Shared\File Structure Project\System Planning\DSMDP\2012-13 Update\DSMP Project List

California Department of Transportation, District 3, *Goods Movement Study*. Website: http://www.dot.ca.gov/dist3/departments/planning/systemplanning.htm or https://sites.google.com/site/d03goodsmovement/

California Department of Transportation, District 3, *Intelligent Transportation Systems/Operational Improvement (ITS/Ops) Plan*, (draft) 2013. Website: http://www.dot.ca.gov/dist3/departments/planning/systemplanningITS_OPS.htm

California Department of Transportation, District 3, *State Highway Bicycle Facility Plan*, June 2013. Website: http://www.dot.ca.gov/dist3/departments/planning/systemplanning.htm

California Transportation Commission, *2010 California Regional Transportation Plan Guidelines*, April 2010. Website: http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/

City of Chico 2030 General Plan, April 2011

City of Orland General Plan, February 2012

Glenn County Transportation Commission Regional Transportation Plan, March 2010

U.S. Census Bureau

Endnotes:

[1] http://onramp.dot.ca.gov/tsi/ohsip/seqlisting.php
[2] http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=250-257
[3] http://www.dot.ca.gov/hq/tsip/hseb/map21nhs.html
[4] http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm
[5] http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=163-164.56
[6] http://www.dot.ca.gov/hq/tpp/corridor-mobility/documents/library/Caltrans_High_Emphasis_Routes_HER.doc
[7] http://www.dot.ca.gov/hq/tpp/corridor-mobility/documents/library/List_of_Focus_Routes.doc
[8] http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/
[9] http://www.dot.ca.gov/hq/traffops/engineering/trucks/truckmap/truckmap-d03.pdf
[10] http://www.dot.ca.gov/hq/tsip/gis/datalibrary/gisdatalibrary.html

[11] http://www.dot.ca.gov/hq/tpp/offices/orip/index_files/Updated%20Files/MPO_RTPA_Map_June_2012.pdf
[12] http://www.dot.ca.gov/hq/tpp/offices/orip/list/agencies_files/regional_6-12.xls
[13] http://dot.ca.gov/hq/tpp/offices/ocp/nalb/District_Contacts_and_Maps.html
[14] http://www.arb.ca.gov/ei/gislib/gislib.htm
[15] www.dof.ca.gov and www.census.gov
[16] January 2013. Caltrans District 3 System Management and Development Plan, p. 33
[17] 2010 California Regional Transportation Plan Guidelines, California Transportation Commission, p. 97-99
http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index_files/2010%20RTPGuidelines_Jan2011_Technical_Change.pdf
[18] ibid