Transportation Concept Report

State Route 70
District 3
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.

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Further Transportation Concept Report Information:

Caltrans District 3 Website: http://www.dot.ca.gov/dist3/departments/planning
(Select System 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 **DSMDP 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) 70. Outreach efforts involved internal and external stakeholders, tribal governments, and regional and local agencies. During the initial information resource gathering for the TCR, stakeholders were contacted for initial input related to their particular specializations, and to verify data sources used and 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

Along with SR 99, SR 70 is one of the primary north-south transportation corridors for the eastern Sacramento Valley. The District 3 portion of SR 70 traverses Sutter, Yuba, and Butte Counties, totaling approximately 81 miles. The route begins approximately 14 miles north of the City of Sacramento, at the junction of SR 99 and SR 70. It continues north, bisecting the City of Marysville in Sutter County, the City of Oroville in Butte County, and then continues northeast through the Lake Oroville State Recreation Area and Lassen National Forest in Butte County, terminating at the Butte/Plumas County boundary. SR 70 ultimately terminates in District 2 at the junction of US 395 in Plumas County.

SR 70 accommodates regional, interregional, recreational, and commercial truck traffic, in addition to serving local traffic within Marysville, Oroville, and numerous unincorporated communities. SR 70 serves as a major commuter route between Marysville and Sacramento and constitutes a portion of the primary commuter route between Chico and Oroville. SR 70 carries substantial recreational traffic through Yuba and Butte Counties, and is a parallel easterly alternative route to SR 99 for most trip purposes. SR 70 plays an important role in goods movement, particularly for transporting local agricultural products to market and to processing plants in the region. In addition, SR 70 serves as an emergency alternative route for Interstate 80 (I-80) across the Sierra Nevada Mountains when I-80 is closed or impaired due to weather conditions or other significant incidents. A majority of SR 70 is four-lane conventional highway or expressway, with a few sections of freeway.

The SR 70 TCR evaluates current and projected future traffic conditions along the route. Existing conditions are derived from 2012 base year (BY) data, while 2035 serves as the 20-year planning horizon year (HY).

Concept Summary

Table 1 provides a summary of the SR 70 existing facility, build facility (20-year concept), and ultimate facility (post-20-year concept) for each of the 13 segments. The build facility scenario is the existing facility plus planned and programmed SHS projects with future traffic volumes. The ultimate facility is the facility needed to meet the concept Level of Service (LOS) standards for the route.

Table 1: SR 70 Concept Summary

Segment	Segment Description	Existing Facility	Build Facility	Ultimate Facility
1	SR 99/ SR70 Junction to Sutter/Yuba Co Line	4E	4E, maintain	4F, maintain
2	Sutter/Yuba Co Line to McGowan Pkwy	4E	4E, new interchange	4F, new interchange, widen overpass, install signals, new bicycle/pedestrian crossing
3	McGowan Pkwy to South end of Yuba River Bridge	4F	4F, maintain	4F, Ramp metering, new bicycle/pedestrian crossing, new interchange
4	South end of Yuba River Bridge to 1st St	4F	4F, maintain	4F, improved bicycle/pedestrian access
5	1st St to 3rd St in Marysville	4C	4C, maintain	2E (new alignment), Class II bicycle facility
6	3rd St to 9th St in Marysville	4C	4C, operational improvements, roadway rehabilitation	2E (new alignment), operational improvements, roadway rehabilitation, adaptive signal control, Class II bicycle facility
Break in Route				
7	12th St to 24th St in Marysville	4C/2C	4C/2C, roadway rehabilitation	2E (new alignment), roadway rehabilitation, adaptive signal control, Class II bicycle facility
8	24th St to Yuba/Butte Co Line	2C	2C with passing lanes, bridge replacement	2E (new alignment)/4C, bridge replacement, Class III bicycle route faciliity
9	Yuba/Butte Co Line to East Gridley Rd	2C	4C, new bridges	4C, new bridges
10	East Gridley Rd to Ophir Rd	2C	4C	4C
11	Ophir Rd to SR 162	4E	4E, maintain	4E, new interchange
12	SR 162 to SR 149	4F	4F, maintain	4F, interchange widening, ramp widening & install turn lanes or roundabout, signalization, Class III bicycle route facility
13	SR 149 to Butte/Plumas Co Line	4F/2E/4E/2C	4F/2E/4E/2C, bridge replacement & seismic retrofit	4F/2E/4E/2C, bridge replacement & seismic retrofit, Class III bicycle route facility, rehabilitate vista point

Notes: F=Freeway, E=Expressway, C=Conventional. Some facility concepts do not apply to the entire segment. See Tables 10 and 11 for the exact location of the programmed, planned, and conceptual projects and strategies.

Concept Rationale

SR 70 is a vital north-south transportation facility that provides interregional, regional and local movement and connectivity of people and goods to and through the urban and rural areas of the Central Valley, North State, and Sierra Nevada. Population growth over the past several decades in the urban areas adjacent to SR 70 has led to increases in vehicle traffic and congestion. The expressway and freeway gaps along the route contribute to an overall lack of adequate capacity to meet the minimum acceptable LOS along some segments, as defined in District 3's DSMDP, without implementing the proposed programmed, planned, and conceptual projects and strategies outlined in Tables 11 and 12.

The SR 70 concept rationale is based on District 3's minimum acceptable LOS for a rural area, urban cluster, and urbanized area. Minimum acceptable LOS is the minimum level or quality of system operations acceptable for each route segment. The District's minimum acceptable LOS is D in a rural area and LOS E in an urban cluster or

urbanized area. As defined by the United States Census Bureau, an urbanized area encompasses 50,000 or more people, an urban cluster contains least 2,500 and less than 50,000 people (at least 1,500 of which reside outside of institutional group quarters), and a rural area consists of a population of fewer than 2,500 people.

As displayed in Table 3B, Segments 3 through 7 are within an urbanized area, while Segments 1, 9, 10, and 13 are within rural areas. Segment 2 spans an urbanized area, urban cluster, and rural area. Segment 8 spans an urbanized and rural area and Segments 11 and 12 span an urban cluster and rural area.

The proposed build and ultimate facility concepts seek to balance the character of communities adjacent to SR 70, regional and interregional travel demand, and minimum acceptable LOS. Improvements as identified below are essential to providing and maintaining a sustainable, safe, integrated, and efficient transportation system that will enhance California's economy and livability.

Proposed Projects and Strategies

The proposed projects and strategies to achieve the facility concept include improving the facility to freeway and expressway standards along some segments, and maintaining conventional highway standards along others. These also include providing increased capacity in growth areas such as southern Butte County and northern Yuba County, improving operations by constructing alternative alignments and interchanges, and improving system operations and management, such as adaptive traffic signal control and ramp metering. Another important component of the facility concept is to improve the pedestrian and bicycling environment consistent with Complete Streets and Context Sensitive concepts by reducing conflict points with vehicular traffic. Programmed, planned, and conceptual projects and strategies are detailed in Tables 11 and 12.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

For the purpose of analysis, SR 70 is divided into 13 segments based on logical termini including intersections, jurisdiction, changes in land use, and facility characteristic. These segments are identified in Table 2, delineated in Figure 1, and are examined in depth in the System Characteristics section of this document.

Table 2: Route Segmentation

Segment	Location Description	County, Route, Beginning Post Mile (PM)*	County, Route, End PM*
1	SR 99/ SR70 Junction to Sutter/Yuba Co Line	SUT_70_R0.051	SUT_70_8.298
2	Sutter/Yuba Co Line to McGowan Pkwy	YUB_70_0.00	YUB_70_R7.345
3	McGowan Pkwy to South end of Yuba River Bridge	YUB_70_R7.345	YUB_70_13.604
4	South end of Yuba River Bridge to 1st St	YUB_70_13.604	YUB_70_14.083
5	1st St to 3rd St in Marysville	YUB_70_14.083	YUB_70_14.25
6	3rd St to 9th St in Marysville	YUB_70_14.25	YUB_70_14.7
Break in Route			
7	12th St to 24th St in Marysville	YUB_70_14.71	YUB_70_15.35
8	24th St to Yuba/Butte Co Line	YUB_70_15.35	YUB_70_25.822
9	Yuba/Butte Co Line to East Gridley Rd	BUT_70_0.0	BUT_70_4.06
10	East Gridley Rd to Ophir Rd	BUT_70_4.06	BUT_70_11.55
11	Ophir Rd to SR 162	BUT_70_11.55	BUT_70_13.901
12	SR 162 to SR 149	BUT_70_13.901	BUT_70_R20.97
13	SR 149 to Butte/Plumas Co Line	BUT_70_R20.97	BUT_70_48.076

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

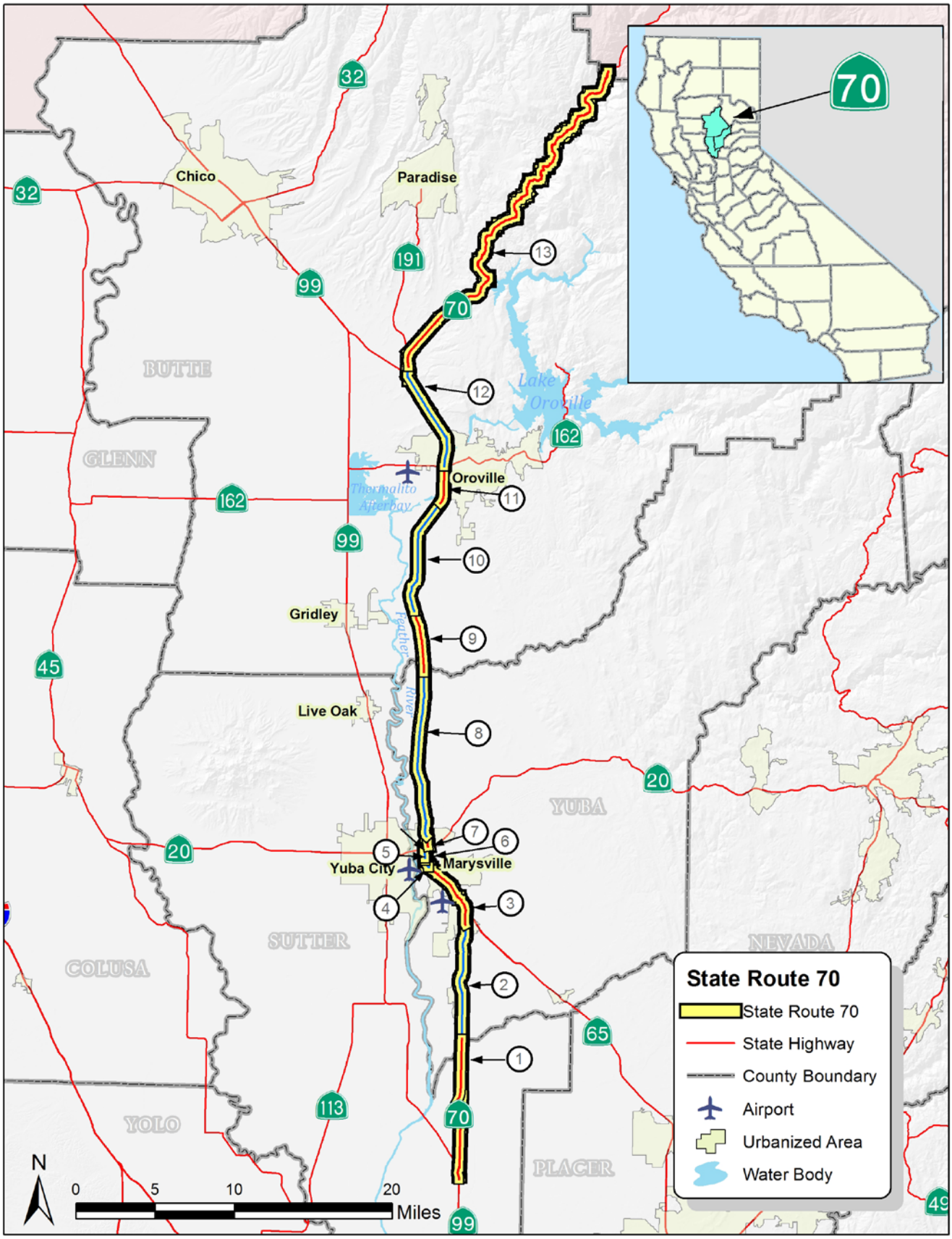


Figure 1: SR 70 Route Segmentation Map

ROUTE DESCRIPTION

Along with SR 99, SR 70 is one of the primary north-south transportation corridors for the eastern Sacramento Valley. The District 3 portion of SR 70 traverses Sutter, Yuba, and Butte Counties, totaling approximately 81 miles. The route begins approximately 14 miles north of the City of Sacramento, at the junction of SR 99 and SR 70 (PM R0.051) near Catlett Road in southeastern Sutter County. It continues north, bisecting the City of Marysville in Sutter County, the City of Oroville in Butte County, and then continues northeast through the Lake Oroville State Recreation Area and Lassen National Forest in Butte County, terminating at the Butte/Plumas County boundary (PM 48.076).

A majority the existing route is a mix of four-lane conventional highway and expressway, with some sections of freeway. Two route sections are built to expressway and freeway standards and four-lanes: SR 99/70 junction to the City of Marysville (Segments 1-4), and from the Ophir Road to Concow Road in Butte County (Segments 11-13). Otherwise the route is conventional highway, including: four-lanes from 1st Street to 14th Street in Marysville (Segments 5-10), two-lanes from 14th Street to Ophir Road in Oroville (Segments 7-10), and two-lanes from Concow Road until the end of the route (Segment 13).

Flat, agricultural land predominates along the route from SR 99/70 junction to SR 162 in the City of Oroville (Segments 1-11). This is interspersed with rural, low-density residential development in unincorporated communities and somewhat higher-density residential and commercial development within the City of Marysville, as well as within the City of Oroville. North of SR 162 to the route terminus (Segments 12-13), the terrain transitions from flat to rolling, and then mountainous. In this route section, the land use also changes to mostly to recreational and open space, passing through the State and Federal park lands and a few unincorporated communities. The Native American tribal lands of the Tyme Maidu of Berry-Creek Rancheria, Concow Maidu of Mooretown Rancheria, and Enterprise Rancheria are also adjacent to the route near the City of Oroville (Segments 11-12).

SR 70 accommodates regional, interregional, recreational, and commercial truck traffic, in addition to serving local traffic within Marysville, Oroville, and numerous unincorporated communities. SR 70 serves as a major commuter route between Marysville and Sacramento and constitutes a portion of the primary commuter route between Chico and Oroville. The route carries substantial recreational traffic through Yuba and Butte Counties, and is a parallel easterly alternative route to SR 99 for most trip purposes. SR 70 plays an important role in goods movement, particularly for transporting local agricultural products to market and to processing plants in the region. In addition, SR 70 serves as an emergency alternative route for I-80 across the Sierra Nevada Mountains when I-80 is closed or impaired due to weather conditions or other significant incidents.

SR 70 is designated as an Interregional Road System (IRRS)[2] route, providing access to, and a link between economic centers, major recreational areas, and urban and rural regions. The whole route is identified a high-emphasis route, and all except for a portion of the route, from SR 149 to the Butte/Plumas County boundary (Segment 13), is designated as a focus route (Segments 1-12). A focus route is Caltrans' highest priority route designation for completion to minimum facility standards (four-lane expressway, gap closures) within a twenty-year period to assure that a statewide trunk system is in place and complete for higher volume interregional trip movements. Additionally, the portion of the route which winds through the Lassen National Forest, between SR 149 to the end of the route (Segment 13), is eligible for official designation as a Scenic Highway.[3]

A complete breakdown of each segment's designation and characteristics is identified in Tables 3A and 3B below.

Table 3A: Route Designations and Characteristics

Segment	Freeway & Expressway	National Highway System	Strategic Highway Network	Scenic Highway	Interregional Road System	High Emphasis	Focus Route	Federal Functional Classification	Goods Movement Route	Truck Designation
1	Yes	Yes	No	No	Yes	Yes	Yes	Other Principal Arterial	No	Terminal Access
2								Other Principal Arterial/ Other Freeway or Expressway		
3								Other Freeway or Expressway		
4										
5								Other Principal Arterial		
6										
7										
8										
9										
10										
11								Other Freeway or Expressway		
12								Other Freeway or Expressway/ Other Principal Arterial		
13		No		Eligible			No	Minor Arterial		Terminal Access/ California Legal Network

Table 3B: Route Designations and Characteristics

Segment	Rural Area/ Urban Cluster/ Urbanized Area	Metropolitan Planning Organization	Regional Transportation Planning Agency	Congestion Management Agency	Local Agency	Tribes	Air District	Terrain
1	Rural Area	SACOG	SACOG	Sutter County Public Works	Sutter County		Feather River Air Quality Management District	Flat
2	Urban Cluster/ Rural/Urbanized Area			Yuba County Public Works	Yuba County			
3	Urbanized Area							
4					Yuba County, City of Marysville			
5								
6								
7								
8	Urbanized Area/ Rural Area							
9	Rural Area	BCAG	BCAG	BCAG	Butte County		Butte County Air Quality Management District	
10								
11	Urban Cluster				Butte County, City of Oroville	Tyme Maidu of Berry-Creek Rancheria, Concow Maidu of Mooretown Rancheria, Estom Yumeka Maidu Tribe of the Enterprise Rancheria		
12	Urban Cluster/ Rural Area					Tyme Maidu of Berry-Creek Rancheria, Concow Maidu of Mooretown Rancheria, Estom Yumeka Maidu Tribe of the Enterprise Rancheria		Rolling
13	Rural Area				Butte County			Rolling/ Mountainous

COMMUNITY CHARACTERISTICS

Sutter County

In Sutter County, SR 70 runs adjacent to the rural, unincorporated communities of East Nicolaus, Trowbridge, and Rio Oso to the east and Nicolaus further to the west (Segment 1), which are surrounded by agricultural land. Based on 2013 State of California, Department of Finance (DOF) estimates, the unincorporated population of Sutter County is 21,669, while the total County population is 95,851.[4] Based on 2013 projections, the population is expected to increase 60 percent by 2035.[5] As of 2008, the unincorporated portion of Sutter County had 5,075 employees and 6,912 dwelling units.[6] Based on forecasts, the number of employees and dwelling units are expected to grow by 51.2 percent and 60.1 percent respectively by 2035.

As of 2010, over half of Sutter County's population is White alone (50.4 percent), over a quarter is Hispanic or Latino of any race (28.8 percent), 14.2 percent is Asian alone, and 1.8 percent is Black alone, 1 percent are American Indian and/or Alaska Native alone, and 3.4 percent is of two or more races.[7] Based on 2007-2011 estimates, median household income in Sutter County is $50,010, while 12.3 percent of family incomes are below the poverty line.[8]

Yuba County

In Yuba County, SR 70 is adjacent to unincorporated established communities of Linda and Olivehurst, and the developing communities of Plumas Lake, North Arboga, and East Linda. Based on 2010 US Census data, Plumas Lake is an urban cluster. North of these communities, the route runs through the City of Marysville. Agricultural land, with some low-density residential development, extends from Marysville City boundary to the Yuba/Butte County line (Segment 8). Linda, Olivehurst, and the City of Marysville are within the Yuba City Urbanized Area.

According to 2013 estimates, Yuba County's population is 73,439, with 57,696 living in unincorporated communities.[9] Based on 2013 projections, the population is expected to increase 55.9 percent by 2035.[10] Based on 2008 data, unincorporated Yuba County contains 14,202 employees and 19,558 dwelling units.[11] By 2035, this area is expected to grow to 75.6 percent employees and 50.7 percent dwelling units. The City of Marysville, the County's largest city, has a population of 12,250. As of 2008, Marysville contained 8,284 employees and 5,263 housing units. By 2035, these numbers are expected to grow to 12.3 percent and 8.7 percent, respectively.

As of 2010, Yuba County's population is over half White alone (58.8 percent), over a quarter is Hispanic or Latino of any race (25 percent), 6.5 percent is Asian alone, 2.9 percent is Black alone, 1.7 percent is American Indian and/or Alaska Native alone, and 4.5 percent is of two or more races.[12] Based on 2007-2011 estimates, the County's median household income is $46,617, while 15.1 percent of family incomes are below the poverty line.[13] The median household in the City of Marysville is $37,836, while 21 percent of family incomes are below the poverty line.

Butte County

In Butte County, the route is adjacent to the City of Oroville (an urban cluster), and the rural, unincorporated communities of Oak Grove, Palermo, Thermalito, and South Oroville – south of the City; and Pentz, Cherokee, Yankee Hill, Concow, and Pulga – north of the City. Additional, the tribal lands of the Tyme Maidu of Berry-Creek Rancheria, Concow Maidu of Mooretown Rancheria, and Estom Yumeka Maidu Tribe of the Enterprise Rancheria are in the Oroville area. Both the Tyme Maidu of Berry-Creek Rancheria and Concow Maidu of Mooretown Rancheria operate casinos on their land.

According to 2013 estimates, Butte County's population is 221,485, with 83,357 living in unincorporated communities.[14] Based on 2013 projections, the County's population is expected to increase to 38.7 percent by 2035.[15] As of 2010, unincorporated Butte County contained 84,302 employees and 37,199 housing units.[16]

Based on BCAG's medium scenario forecast, by 2035 the number of employees is expected to increase by 57 percent and housing units by 49 percent. The population of the City of Oroville is 15,979.

Butte County's population is predominately White alone (75.2 percent), while 14.1 percent of the population is Hispanic or Latino of any race, 4.3 percent is Asian alone, 1.4 percent is Black alone, 1.5 is American Indian and/or Alaska Native alone, and 3.3 percent is of two or more races.[17] Median household in Butte County is $42,971, while 12.4 percent of family incomes are below the poverty line.[18] Median household is $35,678 in the City of Oroville, while 22 percent of family incomes are below the poverty line.

Economic Drivers and Traffic Generators

A number of economic drivers and traffic generators are located along SR 70. Given that much of the land along SR 70 in District 3 is designated as Prime Farmland or Farmland of Statewide Importance,[19] agriculture is a dominant economic driver in all three counties. As such, farms are significant trip generators along the route as farmers transport their commodities to markets and processing plants, making this route a vital economic link. The Sleep Train Amphitheater at Plumas Arboga Road across the highway from Plumas Lake in Yuba County (Segment 2), seats 18,500 and hosts various live music events throughout the year. In Yuba County, Beale Air Force Base, one of the largest employers in the Yuba-Sutter region, draws a number of area commuters (Segment 2).[20] A number of recreational areas and destinations in Butte County draw visitors. These include the Lake Oroville State Recreation Area, which houses the Oroville Dam and is the starting point for the State Water Project near the City of Oroville, Gold Country and Feather Falls Casinos, and Lassen National Forest. Additionally, SR 70 is a gateway route used to access multiple recreational destinations in the Sierra-Nevada Mountains, and it is an alternative route when I-80 is closed due to weather or other incident. Proposed development in Yuba and Butte Counties, add to the list of traffic generators (see Land Use section for more details).

LAND USE

Agricultural land use predominates along the route from SR 99/70 junction to SR 162 in the City of Oroville (Segments 1-11). This is interspersed with rural, low-density residential development in unincorporated communities and somewhat higher-density development and more diverse land use within the Cities of Marysville and Oroville. North of SR 162 to the route terminus (Segments 12-13), the land use changes to mostly recreational and open space, passing through the State and Federal park lands and a few unincorporated communities. The tribal lands of the Tyme Maidu of Berry-Creek Rancheria, Concow Maidu of Mooretown Rancheria, and the Estom Yumeka Maidu Tribe of the Enterprise Rancheria are also adjacent to the route in the Oroville area (Segments 11-12). Several major development projects that have either been adopted or are under review adjacent to the SR 70 corridor are listed in Table 4 and summarized below.

Sutter County

In Sutter County, the southern portion of route is primarily composed of agricultural land interspersed with low-density residential development in the rural, unincorporated communities of East Nicolaus, Trowbridge, and Rio Oso to the east and Nicolaus further to the west (Segment 1). The land use from the SR 70/99 junction to the just north of East Nicolaus and Trowbridge is designated by the Sutter County General Plan 2030 as Agriculture - 80 Acre Minimum Parcel Size, and from there north to the Sutter/Yuba County line as Agriculture - 20 Acre Minimum Parcel Size (2011).

Sutter County General Plan 2035 identifies growth adjacent to SR 70 (3-3, 3-4). One area of potential growth is a rural planned community overlapping the communities of East Nicolaus and Trowbridge, totaling 1,647 acres (3-5). This area is subject to future comprehensive planning to establish a new mixed-use community (3-15). Another growth area is an employment corridor along SR 99 to the east of SR 70 in East Nicolaus, totaling 20

acres (3-5). The Sutter Pointe Specific Plan area,[21] one of the largest growth areas in the County, is composed of 7,528 acres and is located along SR 99 near Riego Road just south of the SR 70/99 junction. The Plan, approved in June 2009, proposes the development of mixed-use urban community that will eventually become an incorporated city (3-4). Sacramento Area Council of Government's (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) 2035 attributes much of the projected growth in unincorporated Sutter County from construction of this development, a fraction of its full build-out of 17,500 housing units and 55,018 employees (60-61).

Yuba County

The land use from just north of the Yuba/Sutter County line to the Marysville city limits is designated as Valley Neighborhood and is surrounded by a Valley Growth boundary based on the Yuba County General Plan 2030 (2011). Commercial mixed use and public/quasi-public land uses intersperse this area. From the Yuba/Sutter County line to just south of McGowan Parkway (Segment 2), the western portion of the route is predominately low-density residential within the communities of Plumas Lake, and Arboga, with some agricultural land interspersed. The eastern portion of this route section is primarily agricultural land and is designated as Natural Resources land use. From the just south of McGowan Parkway to the Marysville City boundary (Segments 3-7), the residential and commercial densities increase as the route passes through the Yuba City Urbanized Area, the unincorporated areas of Olivehurst, Linda and Beale Air Force Base, and the City of Marysville. Primarily agricultural land, with some low-density residential development, extends from Marysville City boundary to the Yuba/Butte County line (Segment 8); this area is designated as Natural Resources land use.

According to the SACOG's MTP/SCS forecast, a majority of the growth in unincorporated Yuba County along SR 70 is planned to occur in the Developing Communities of Plumas Lake, East Linda, North Arboga, and within the SR 65 Employment Area; this is largely attributed to the existing build-out capacities of specific plans and study areas in these communities, including North Arboga Study Area,[22] Plumas Lake Specific Plan,[23] East Linda Specific Plan,[24] and Magnolia Ranch Specific Plan[25] (Table 4). SACOG's forecasts attribute the following growth statistics to these areas: 4,577 new dwelling units and 2,999 new employees in Plumas Lake, 2,855 new dwelling units and 1,267 new employees in East Linda, 282 new dwelling units in North Arboga, and 2,507 new employees in the new Highway 65 employment area (68). The proposed Enterprise Rancheria Gaming Facility and Hotel near Forty Mile Road and SR 65A, a short distance from Sleep Train Amphitheater, could impact travel demand on SR 70. Most of remaining growth is forecasted to take place in Beale AFB, and in Linda and Olivehurst.

Butte County

From Yuba/Butte County line to East Gridley Road is mostly agricultural land interspersed with rural, low-density residential development. From East Gridley Road to the Oroville northern city boundary and urban cluster (Segments 10-12), residential densities increase slightly especially in and near the unincorporated communities of Oak Grove, Palermo, and Thermalito, and within the City of Oroville. From Oroville to SR 162, the amount of agricultural land decreases as the terrain transitions becomes rolling and mountainous, passing through the State and Federal park lands, Lake Oroville State Recreation Area, and Lassen National Forest. The unincorporated communities of Oregon City, Pentz, Cherokee, Yankee Hill, Concow, and Pulga dot this stretch of the route. Additional, the tribal lands of Berry Creek Rancheria of Maidu Indians, Mooretown Rancheria of Maidu Indians, and Tyme Maidu of Berry-Creek Rancheria are along these route segments.

Much of the forecasted growth along SR 70 in Butte County is expected to take place in or near the City of Oroville, while some peripheral growth is proposed in outlying areas. Existing and proposed plans covering new growth areas include (with build-out capacity): South Ophir Specific Plan (1,500 dwelling units and business park), Rio D'Oro Specific Plan (2,700 dwelling units), and Oro Bay Specific Plan (2,400 dwelling units). These planning areas are south of SR 162 and north of Palermo Road. Rio D'Oro and Oro Bay Specific Plan would require the City of Oroville annex land for these developments to be completed. Berry Creek Area Plan (300 dwelling units) is east of the City of Oroville, in the unincorporated community of Berry Creek, near SR 162,

while Southeast Paradise Specific Plan (800 dwelling units) is near the Town of Paradise, off of SR 191. While the two proposed plans are not immediately adjacent to SR 70, the routes to which they are adjacent, SR 162 and SR 191, can be accessed via SR 70. Thus, if constructed, the developments could impact travel demand along SR 70.

Table 4: SR 70 Land Use

Segment	County	Development	Description	Status
1	SUT	Sutter Pointe Specific Plan	• Envisions eventual establishment of a city • 3,600 acres of commercial/ industrial • 17,500 dwelling units of various densities (2,900 acres) • 1,000 acres of parks, recreation, open space, and community facilities	Adopted June 2009
2	YUB	Magnolia Ranch Specific Plan	• 1,039 acre planning area • 3,302 dwelling units of various densities (734.5 acres) • 70 acres of commercial and business professional • 130 acres of parks, open, schools • 104 of roads	Under Review
2	YUB	Plumas Lake Specific Plan	• 5,263-acre planning area • 1,168 low density residential dwelling units (584 acres) • 10,626 medium density residential dwelling units (2,658 acres) • 750 medium high density residential dwelling units (75 acres) • 483 high density residential dwelling units (23 acres) • 474 acres of Commercial/Industrial/Business Park • 611 acres of Parks & Open Space • 839 acres of buffers, schools, roads and other uses	Adopted September 1993
2-3	YUB	North Arboga Study Area	• Approximately 1,300-acre planning area • Approximately 2,500 dwelling units • 205 acres of industrial use • 10-20 acres of commercial use	Adopted November 1992
3	YUB	East Linda Specific Plan	• 1,328-acre planning area • 6,017 dwelling units • 114-acres business and commercial • 176-public/quasi public	Adopted May 1990
10	BUT	South Ophir Specific Plan	• 784-acre planning area • mixed use business/technology park complex for clean industry • maximum of 1,500 dwelling units • industrial and commercial retail uses	In Development
10	BUT	Rio D'Oro Specific Plan	• 650-acre planning area • 2,700 dwelling units • Includes annexation proposal	Under Review
11	BUT	Oro Bay Specific Plan	• 410-acre planning area • 2,400 dwelling units • Includes annexation proposal	July 2007
13	BUT	Berry Creek Area Plan (Planned Unit Development)	• 50,153-acre planning area • maximum of 300 dwelling units at rural residential densities • 20 acres of retail and office uses	In Development
13	BUT	Southeast Paradise Specific Plan	• 1,206-acre planning area • 800 dwelling units • 5-acres retail	In Development

SYSTEM CHARACTERISTICS

For the purpose of analysis, SR 70 is divided into 13 segments based on logical termini including intersections, jurisdictional boundaries, and changes in land use and facility characteristics. The key system characteristics of each segment are described below and details are listed in Tables 5A, 5B, and 5C. The location of each segment is displayed in Figures 2 through 14.

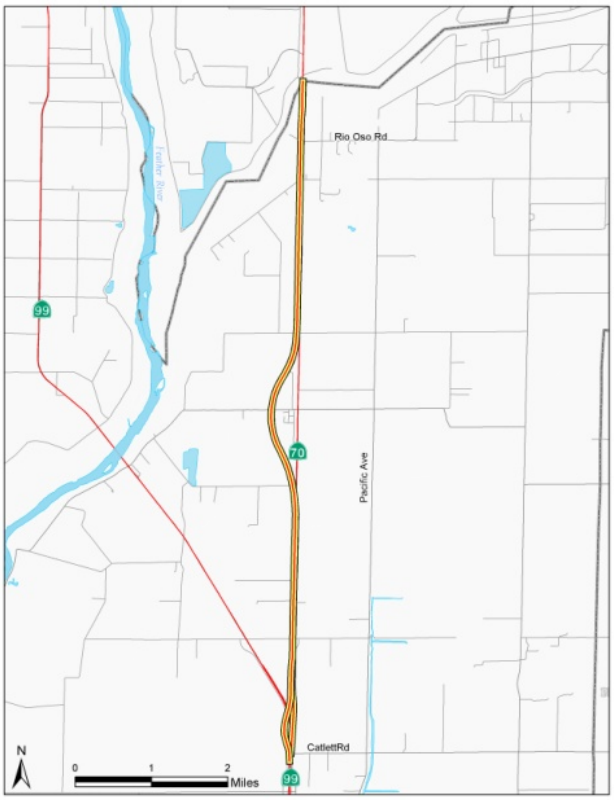


Figure 2: Segment 1 Map

Segment 1 is a four-lane expressway facility consisting of 8.2 centerline miles and is the only segment within Sutter County. The segment begins at the SR 99 and SR 70 Junction and terminates at the Sutter/Yuba County line (PM SUT 70 R0.051-8.298). Intelligent Transportation System (ITS) elements along this segment include extinguishable message signs (EMS), closed circuit television (CCTV), and traffic management systems (TMS). The build facility concept is to maintain the facility type and capacity, while the ultimate facility concept is to upgrade the facility to freeway standards and maintain four-lanes.

Segment 2 is a four-lane expressway facility consisting of 7.3 centerline miles and is the first of eight segments within Yuba County. This segment begins at the Sutter/Yuba County Boundary and ends at McGowan Parkway (PM YUB 70 0.0-R7.345). ITS elements along this segment include TMS and CCTV. The build facility concept maintains the facility type and capacity, while the ultimate facility concept upgrades the facility to freeway standards and maintains capacity.

Figure 3: Segment 2 Map

Figure 4: Segment 3 Map

Segment 3 is a four-lane freeway facility consisting of 4.6 centerline miles. This segment begins at McGowan Parkway and terminates at the southern end of Yuba River Bridge (PM YUB 70 R7.345-13.604). The build and ultimate facility concepts maintain the facility type and capacity.

Figure 5: Segment 4 Map

Segment 4 is a four-lane freeway facility consisting of 0.5 centerline miles. This segment begins at the southern end of the Yuba River Bridge and continues to 1st Street (PM YUB 70 13.604-14.083). This segment contains CCTV. The build facility concept maintains the facility type and capacity, while the ultimate facility concept maintains the facility type and increases capacity to six lanes.

Figure 6: Segment 5 Map

Segment 5 is a four-lane conventional highway facility consisting of 0.2 centerline miles. This segment is an urban arterial serving as a Main Street facility for downtown Marysville. The segment begins at 1st Street and ends at 3rd Street in Marysville, which connects to the 5th Street Bridge, linking Marysville to Yuba City and ultimately to SR 99 (PM YUB 70 14.083-14.25). This segment consists of short city blocks, driveways, and signalized intersections. The build facility concept maintains the facility type and capacity, while the ultimate facility concept is two-lane expressway (See Alternative Alignments section, Feather River Expressway for details).

Segment 6 is a four-lane conventional highway facility consisting of 0.5 centerline miles. This segment begins at 3rd Street and terminates at 9th Street in Marysville (PM YUB 70 14.25-14.7). This segment is an urban arterial serving as a main street for the City of Marysville. It also intersects 5th Street which connects to the 5th Street Bridge, linking Marysville to Yuba City. This segment consists of short city blocks, numerous driveways, and signalized intersections. The build facility concept maintains the facility type and capacity, while the ultimate facility concept is two-lane expressway (See Alternative Alignments section, Feather River Expressway for details).

Figure 7: Segment 6 Map

Figure 8: Segment 7 Map

Segment 7 is a four-lane conventional highway facility which transitions to two-lanes near 15th Street in Marysville; it consists of 0.5 centerline miles. This segment begins at 12th Street and terminates at 24th Street in Marysville (PM YUB 70 14.71-15.35). This segment consists of short city blocks, numerous driveways, and signalized intersections. The build facility concept maintains the facility type and capacity, while the ultimate facility concept is two-lane expressway (See Alternative Alignments section, Feather River Expressway for details).

Segment 8 is a two-lane conventional highway facility consisting 10.5 centerline miles and is the final segment within Yuba County. This segment begins at 24th Street and ends at the Yuba/Butte County line (PM YUB 70 15.35-25.822). Numerous residences and farms maintain driveway access along this segment. The build facility concept maintains the facility type and adds capacity by constructing passing lanes and center two-way left turn lane. For a portion of this segment, the ultimate facility concept is two-lane expressway (See Alternative Alignments section, Feather River Expressway for details), while a majority maintains the facility type and capacity.

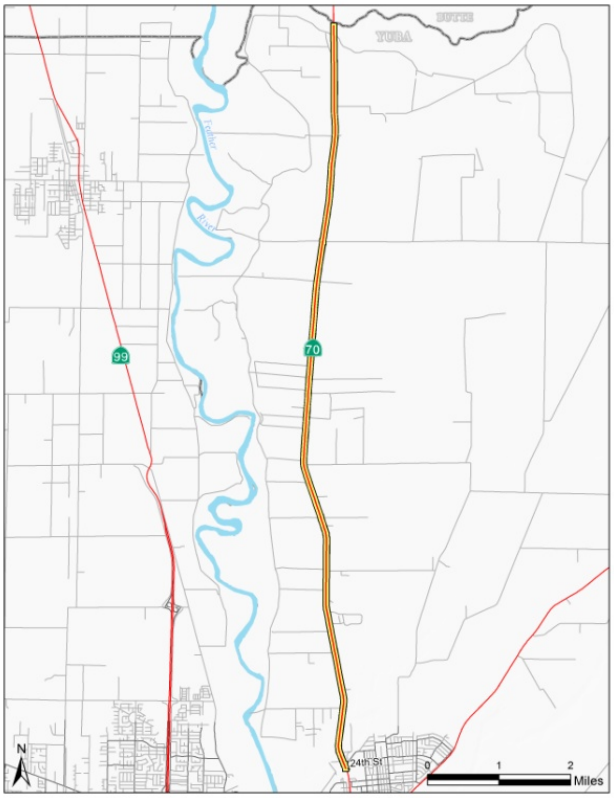


Figure 9: Segment 8 Map

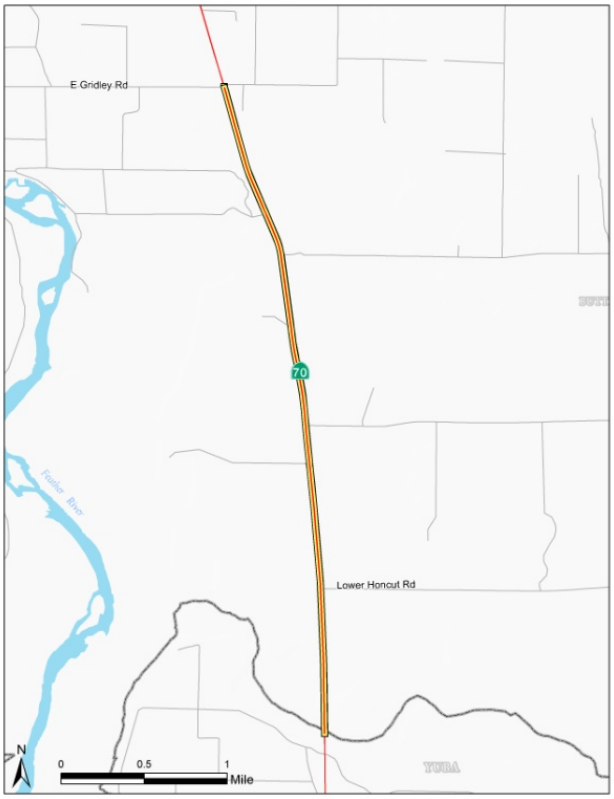


Figure 10: Segment 9 Map

Segment 9 is a two-lane conventional highway facility consisting 4.1 centerline miles and is the first of five segments within Butte County. The segment begins at the Yuba/Butte County line and continues to East Gridley Road (PM BUT 70 0.0-4.06). A few residences and farms maintain driveway access along this segment. A passing lane project was recently completed in 2013 spanning Central House Road to Cox Lane. The build facility concept is to increase the facility to four-lanes, maintaining the conventional facility type. The ultimate facility concept is to maintain capacity and facility type.

Segment 10 is a two-lane conventional highway facility consisting 7.5 centerline miles. This segment begins at East Gridley Road terminates at Ophir Road, just south of the City of Oroville (PM BUT 70 4.06-11.55). Numerous residences and farms maintain driveway access along this segment. The build facility concept is to increase the facility to four-lanes, maintaining the conventional facility type. The ultimate facility concept is to maintain capacity and facility type.

Figure 11: Segment 10 Map

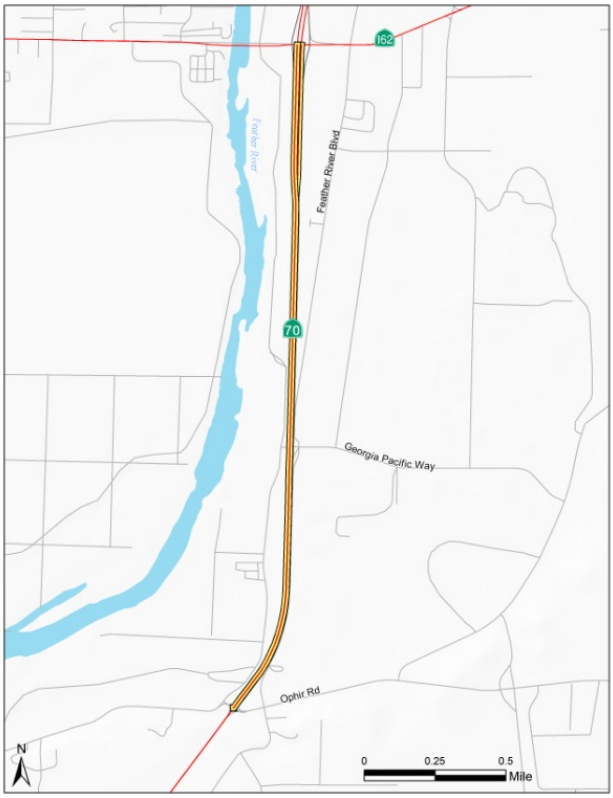


Figure 12: Segment 11 Map

Segment 11 is a four-lane expressway facility, due to a recently completed widening project, consisting 2.4 centerline miles. This segment begins at Ophir Road and ends at SR 162 (PM BUT 70 11.55-13.901). The build and ultimate facility concepts are to maintain capacity and facility type.

Segment 12 is a four-lane freeway facility consisting of 6.2 centerline miles. This segment begins at SR 162 and continues to SR 149 (PM BUT 70 13.901-R20.97). This segment contains Changeable Message Signs (CMS). The build and ultimate facility concepts are to maintain capacity and facility type.

Figure 13: Segment 12 Map

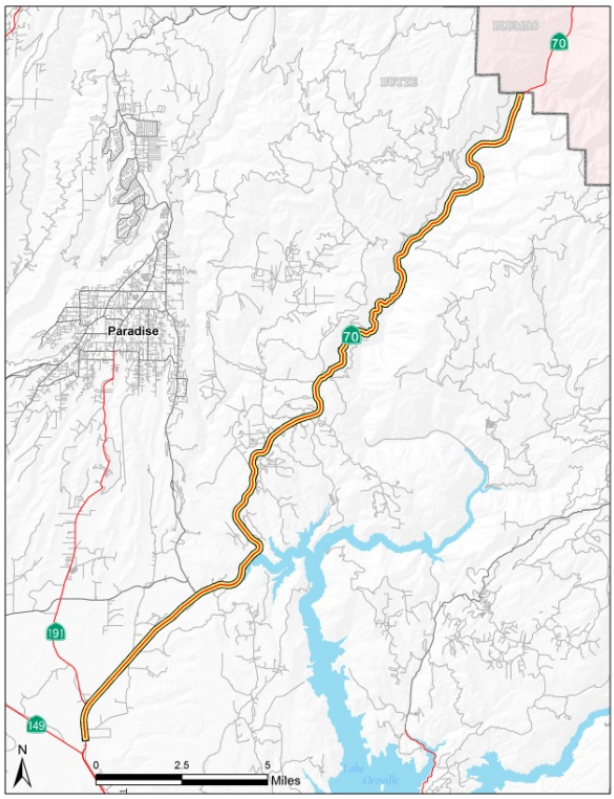


Figure 14: Segment 13 Map

Segment 13 is the final segment within Butte County and of the route, beginning at SR 149 and terminating at the Butte/Plumas County line; it consists of 28 centerline miles (PM BUT 70 R20.97-48.076). This segment varies between four-lanes and two-lanes and between freeway, expressway, and conventional highway facilities. The facility is a four-lane freeway from SR 149 to SR 191, a two-lane expressway from SR 191 to near the West Branch Feather River Bridge, a four-lane expressway from the West Branch Feather River Bridge to just east of Concow Road, and a two-lane conventional highway from Concow Road to the Butte/Plumas County line. The build and ultimate facility concepts are to maintain the facility as-is. This segment contains Highway Advisory Radio (HAR).

Figure 15: View from Vista Point at Lunt Road

Figure 16: Shady Rest Day Use Area near Rock Creek-Cresta Hydroelectric Project

Table 5A: SR 70 System Characteristics and Concept Facility - Existing Facility

Segment	Existing Facility (BY)*						
	Facility Type	General Purpose Lanes	Lane Miles	Centerline Miles	Auxiliary Lanes	Passing Lanes	Truck Climbing Lanes
1	E	4	33.0	8.247	0.00%	0.00%	0.00%
2	E	4	29.4	7.345	0.00%	0.00%	0.00%
3	F	4	18.5	4.637	0.00%	0.00%	0.00%
4	F	4	1.9	0.479	0.00%	0.00%	0.00%
5	C	4	0.7	0.167	0.00%	0.00%	0.00%
6	C	4	1.8	0.45	0.00%	0.00%	0.00%
Break in Route							
7	C	4/2	1.9	0.64	0.00%	0.00%	0.00%
8	C	2	20.9	10.472	0.00%	7.76%	0.00%
9	C	2	8.1	4.06	0.00%	58.50%	0.00%
10	C	2	15.0	7.49	0.00%	14.73%	0.00%
11	E	4	9.4	2.351	0.00%	0.00%	0.00%
12	F	4	24.8	6.196	0.00%	0.00%	0.00%
13	E/C	4/2	74.7	28.011	0.53%	0.00%	0.00%

* BY= Base Year 2012, HY= Horizon Year 2035, F = Freeway, E = Expressway, C = Conventional

Table 5B: SR 70 System Characteristics and Concept Facility - Build and Ultimate Facility

Segment	Build Facility (HY)*							Ultimate Facility*
	Facility Type	General Purpose Lanes	Lane Miles	Centerline Miles	Auxiliary Lanes	Passing Lanes	Truck Climbing Lanes	
1	E	4	32.988	8.247	0.00%	0.00%	0.00%	4F
2	E	4	29.38	7.345	0.00%	0.00%	0.00%	4F
3	F	4	18.548	4.637	0.00%	0.00%	0.00%	4F
4	F	4	1.916	0.479	0.00%	0.00%	0.00%	4F/2E (new alignment)
5	C	4	0.334	0.167	0.00%	0.00%	0.00%	2E (new alignment)
6	C	4	0.9	0.45	0.00%	0.00%	0.00%	2E (new alignment)
Break in Route								
7	C	4/2	1.28	0.64	0.00%	0.00%	0.00%	2E (new alignment)
8	C	2	41.888	10.472	0.00%	49.18%	0.00%	2E (new alignment)/ 4C
9	C	4	16.24	4.06	0.00%	58.50%	0.00%	4C
10	C	4	29.96	7.49	0.00%	14.73%	0.00%	4C
11	E	4	9.404	2.351	0.00%	0.00%	0.00%	4E
12	F	4	24.784	6.196	0.00%	0.00%	0.00%	4F
13	F/E/C	4/2	56.022	28.011	0.53%	0.00%	0.00%	4F/2E/4E/2C

* BY= Base Year 2012, HY= Horizon Year 2035, F = Freeway, E = Expressway, C = Conventional

Table 5C: SR 70 System Characteristics and Concept Facility – Intelligent Transportation Systems (ITS) Elements

Segment	Existing Facility (BY)**									
	County, PM	CCTV	CMS	EMS	ETR	HAR	RMS	RWIS	TMS	Grand Total
1	SUT_R0.051/8.298	1		4					1	**6**
2	YUB_0.000/R7.345	1							1	**2**
3	YUB_R7.345/13.604			2					2	**4**
4	YUB_13.604/14.083	1								**1**
5	YUB_14.083/14.250									**0**
6	YUB_14.250/14.700									**0**
Break in Route										
7	YUB_14.710/15.350									**0**
8	YUB_15.350/25.822									**0**
9	BUT_0.000/4.060									**0**
10	BUT_4.060/11.550									**0**
11	BUT_11.550/13.901									**0**
12	BUT_13.901/20.479		1							**1**
13	BUT_20.479/48.076					1				**1**
TOTAL		**3**	**1**	**6**	**0**	**1**	**0**	**0**	**4**	**15**
Segment	**Build Facility (HY)****									
	County, PM	**CCTV**	**CMS**	**EMS**	**ETR**	**HAR**	**RMS**	**RWIS**	**TMS**	**Grand Total**
1	SUT_R0.051/8.298	1		4					1	**3**
2	YUB_0.000/R7.345	1							1	**2**
3	YUB_R7.345/13.604			2					2	**0**
4	YUB_13.604/14.083	1								**1**
5	YUB_14.083/14.250									**0**
6	YUB_14.250/14.700									**0**
Break in Route										
7	YUB_14.710/15.350									**0**
8	YUB_15.350/25.822									**0**
9	BUT_0.000/4.060									**0**
10	BUT_4.060/11.550									**0**
11	BUT_11.550/13.901									**0**
12	BUT_13.901/20.479		1							**1**
13	BUT_20.479/48.076					1				**1**
TOTAL		**3**	**1**	**6**	**0**	**1**	**0**	**0**	**4**	**15**

** BY= Base Year 2012, HY= Horizon Year 2035. ITS Elements Inventoried April 2013: CCTV = Closed Circuit Television, CMS = Changeable Message Sign, EMS = Extinguishable Message Sign, ETR = Electronic Tag Reader, HAR = Highway Advisory Radio, RMS = Ramp Metering Stations, RWIS = Road Weather Information System, TMS = Traffic Management Systems.

BICYCLE FACILITY

Bicyclists are permitted along much of SR 70 where bicycle access is not restricted. In these cases, the facility has no bikeway designation, meaning that the highway is open for bicyclist use and shoulders may vary. Along some portions of SR 70, which are designated as a freeway or expressway, bicycle access is prohibited. In a majority of these bicycle access prohibited instances and in some cases where bicyclist access is not prohibited, parallel bicycle facilities are present. The locations of existing State and local parallel bicycle facilities within each segment are listed in Table 6.

The Caltrans District 3 *2013 State Highway Bicycle Facility Plan* (D3 SHBFP) recommends certain classification changes to the route. The D3 SHSBFP is a comprehensive plan that identifies a vision and framework for bicycle facility improvements on the SHS in District 3. It provides information regarding bicycling on the SHS along with recommended changes to improve connectivity and convenience. Direction is provided for Caltrans, regional, and local agency staff to facilitate the use of the SHS by bicyclists, consistent with the Caltrans mission to, "Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability." The plan can be found at the District 3 System and Freight Planning website: http://www.dot.ca.gov/dist3/departments/planning/systemplanning.htm.

Additional existing and proposed bicycle facilities were identified in the *2013 Sacramento Area Council of Governments Bicycle-Pedestrian-Trials Master Plan* and in the *2011 Butte County Bicycle Plan.* A summary of proposed improvements include the following:

- In Yuba County:
  - Construct bicycle and pedestrian overcrossings of SR 70 between McGowan Parkway and 1st Street in Marysville (Yuba County projects).
  - Upgrade the facility to Class II from near 1st to 24th Streets in Marysville (Segments 5-7) due to the level of existing development. A Class II facility provides a striped lane for one-way bike travel on a street or highway.
  - Designate the segment from 24th Street to the Yuba Butte County line (Segment 8) as a Share the Road Facility due to low ridership.[26] Yuba County proposes that this portion of the route be upgraded to a Class III facility.[27] A Class III facility provides for shared use with pedestrian or motor vehicle traffic.
- In Butte County:
  - Upgrade the facility to Class III from Table Mountain Boulevard to Cherokee Road (Segments 12-13). Butte County Public Works proposes that this section be upgraded to a Class II facility,[28] while Caltrans recommends that this segment be upgraded to a Class III facility, due to project cost and low ridership.[29]

Table 6: SR 70 Bicycle Facilities Existing Conditions

Segment	State Bicycle Facility				Parallel Bicycle Facility		
	County, Post Mile	Location Description	Bicycle Access Prohibited	Facility Type*	Parallel Facility Present	Location Description	Facility Type
1	SUT_R0.051/0.995	Jct SR 99 to Striplin Rd	No	Non-Designated	No		
	SUT_0.995/7.020	Striplin Rd to Berry/Kempton Rd	Yes		Yes	El Centro Blvd. - 4th Ave., 4th Ave. - to Rio Oso Rd.	Non-Designated
	SUT_7.020/8.298	Berry/Kempton to Sutter/Yuba Co Boundary	No	Non-Designated	No		
2	YUB_0.0/R0.4	Sutter/Yuba Co Boundary to Feather River Blvd	No	Non-Designated	No		
	YUB_R0.4/R7.345	Feather River Blvd to McGowan Pkwy	Yes		Yes	Morrison Rd. - McGowan Pkwy.	Non-Designated
						River Oaks Blvd.	Class II
						Rancho Rd. - SR 70	Non-Designated
3	YUB_R7.345/13.604	McGowan Pkwy to South end of Yuba River Bridge	Yes		Yes	SR 70 - Arboga Rd.	Class II
						Lindhurst Ave.	Class II
						McGowan Pkwy. - Feather River Blvd.	Non-Designated
						Arboga Rd. - North Beal Rd.	Non-Designated
						SR 70 - Hammonton Smartville Rd.	Non-Designated
						N Beal Rd - Simpson Lane	Non-Designated
4	YUB_13.604/14.083	South end of Yuba River Bridge to 1st St	No	Non-Designated	Yes	Hammonton Smartville Rd.	Non-Designated
5	YUB_14.083/14.25	1st St to 3rd St in Marysville	No	Non-Designated	Yes	Simpson Lane	Class II
						Marysville Levee	Class I
6	YUB_14.25/14.7	3rd St to 9th St in Marysville	No	Non-Designated	Yes	Simpson Lane	Class II
						Marysville Levee	Class I
						Ramirez Street	Class II
7	YUB_13.971/15.35	12th St to 24th St in Marysville	No	Non-Designated	No	Marysville Levee	Class I
						14th Street	Class II
						E. 17th Street	Class II
8	YUB_15.35/25.818	24th St to Yuba/Butte Co Boundary	No	Non-Designated	No		
9	BUT_0.0/4.06	Yuba/Butte Co Boundary to East Gridley Rd	No	Non-Designated	No		

* 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. Alternative 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.

Table 6: SR 70 Bicycle Facilities Existing Conditions (continued)

Segment	State Bicycle Facility				Parallel Bicycle Facility		
	County, Post Mile	Location Description	Bicycle Access Prohibited	Facility Type*	Parallel Facility Present	Location Description	Facility Type
10	BUT_4.06/11.55	East Gridley Rd to Ophir Rd	No	Non-Designated	No		
11	BUT_11.55/12.5	Ophir Rd to Georgia Pacific Way	No	Non-Designated	No		
	BUT_12.5/13.901	Georgia Pacific Way to SR 162	Yes		Yes	Georgia Pacific Way - SR 162	Non-Designated
12	BUT_ 13.901/R20.97	SR 162 to SR 149	Yes		Yes	SR 162 - Montgomery Street	Non-Designated
						SR 162 - Table Mountain Blvd.	Non-Designated
						Montgomery Street - Table Mountain Overcrossing	Non-Designated
13	BUT_R20.97/21.9	SR 149 to SR 191	Yes		Yes	Table Mountain Rd.	Non-Designated
	BUT_21.9/48.076	SR 191 to Butte/Plumas Co Boundary	No	Non-Designated	No		

* 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. Alternative 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

While pedestrian access is not prohibited on a majority of SR 70, pedestrian facilities, such sidewalks, coincide with segments that are both conventional highway facilities and adjacent to urban development. Thus, sidewalks are only present along the route with in the developed portion of the City of Marysville (Segments 4-7), from the south end of Yuba River Bridge to 18th Street at Marysville High School. In many cases, route overcrossings provide sidewalks for pedestrians to cross over the route. Table 7 summarizes existing pedestrian facilities along SR 70.

Complete streets and context sensitive solutions are especially important and necessary in within the City of Marysville (Segments 5-7), as SR 70 serves as a Main Street through the center of the city. High volumes of traffic, including commercial trucks and a curvilinear alignment along these segments, pose conflicts between pedestrians and vehicles. Improved turning radius for trucks proposed at 9th and E Streets and at 12th and B Streets, would help to prevent vehicles from tracking onto sidewalks and from posing pedestrian conflicts. Additional pedestrian infrastructure improvements will be addressed by the Marysville Forward Roadway Rehabilitation project, currently underway and scheduled to be completed by 2015. Located between 6th and 13th Streets on SRs 70 and 20, the project will: upgrade curb ramps, cross walks, sidewalks and signal accessibility to Americans with Disabilities Act (ADA) standards; improve traffic operations; and provide streetscaping, such as new trees and improved street lighting. In lieu of an alternative alignment, such as the Feather River Expressway or Yuba River Parkway (see Additional Alignments section) that would bypass Marysville, these improvements will help to improve the pedestrian environment along the route within the City.

Based on current and future development patterns, a few locations along the route may require pedestrian additional or improved pedestrian infrastructure. Proposed projects include additional and/or improved bicycle and pedestrian overcrossings between McGowan Pkwy and 1st Street (Segments 3-4).

District 3 is in the process of developing a Complete Streets Master Plan which will assess existing conditions and deficiencies of the pedestrian infrastructure along the SHS in the District. It will also prioritize and guide investment in pedestrian improvement projects in the District.

Figure 17: 12th and B Streets in City of Marysville

Table 7: SR 70 Pedestrian Facilities Existing Conditions

Segment	County, Post Mile	Location Description	Pedestrian Access Prohibited	Sidewalk Present
1	SUT_R0.051/0.995	Jct SR 99 to Striplin Rd.	No	No
	SUT_0.995/7.020	Striplin Rd. to Berry/Kempton Rd.	Yes	No
	SUT_7.020/8.298	Berry/Kempton to Sutter/Yuba Co Boundary	No	No
2	YUB_0.0/R0.4	Sutter/Yuba Co Boundary to Feather River Blvd.	No	No
	YUB_R0.4/R7.345	Feather River Blvd. to McGowan Pkwy.	Yes	No
3	YUB_R7.345/13.604	McGowan Pkwy. to South end of Yuba River Bridge	Yes	No
4	YUB_13.604/14.083	South end of Yuba River Bridge to 1st St.	No	Yes
5	YUB_14.083/14.25	1st St. to 3rd St. in Marysville	No	Yes
6	YUB_14.25/14.7	3rd St. to 9th St. in Marysville	No	Yes
7	YUB_14.71/15.160	12th St. to 18th St. in Marysville	No	Yes
	YUB_15.160/15.350	18th St. to 24th St. in Marysville	No	No
8	YUB_15.35/25.822	24th St. to Yuba/Butte Co Boundary	No	No
9	BUT_0.0/4.06	Yuba/Butte Co Boundary to East Gridley Rd.	No	No
10	BUT_4.06/11.55	East Gridley Rd. to Ophir Rd.	No	No
11	BUT_11.55/12.5	Ophir Rd. to Georgia Pacific Way	No	No
	BUT_12.5/13.901	Georgia Pacific Way to SR 162	Yes	No
12	BUT_13.901/R20.97	SR 162 to SR 149	Yes	No
13	BUT_R20.97/21.9	SR 149 to SR 191	Yes	No
	BUT_21.9/48.076	SR 191 to Butte/Plumas Co Boundary	No	No

TRANSIT FACILITY

A number of transit options are available along SR 70, including transit routes and Park and Ride lots, which are identified in Table 8. Yuba-Sutter Transit, Butte Regional Transit (B-Line), and Amtrak provide bus service along the route. Yuba-Sutter and B-Line provide fixed-route, commuter, dial-a-ride, and paratransit service in their service areas. Adjacent to SR 70, Yuba-Sutter Transit provides local service within and between Marysville, Yuba City, Linda and Olivehurst. It provides limited service connections between Yuba City and/or Marysville and the outlying areas of Live Oak, Wheatland, and the foothill communities of Brownsville, Oregon House, Willow Glen and Loma Rica. It also provides commuter service between Marysville/Yuba City and Sacramento. Yuba-Sutter Transit also operates the North Beale Transit Center where users can transfer between routes.

In Butte County, B-Line provides local service within and between, Oroville, Chico, Paradise, Biggs and Gridley. B-Line also provides limited service connections between these cities, outlying unincorporated communities within the County, and key trip generators (BCAG 2012, 7-1 – 7-19). Along SR 70, near Oroville, these locations include Thermalito, South Oroville, Feather Falls and Gold Country Casinos, and Lake Oroville. B-line also operates the Oroville Transit Center where transit users can transfer between routes (Segment 12).

To extend the reach of Amtrak service to communities without rail service and offer a wider selection of destinations, Amtrak operates provides Thruway Connecting Bus Service. Two bus stations are adjacent to SR 70 located at the Marysville (Segment 6) and Oroville (Segment 12). This service provides users access to Amtrak passenger rail routes departing from Sacramento, such as the Capitol Corridor (Auburn to San Francisco/San Jose), the Coast Starlight (Los Angeles to Seattle), the California Zephyr (Chicago to San Francisco), and the San Joaquin (San Francisco/Sacramento to Bakersfield). Amtrak Thruway Bus users must purchase a rail trip in order to utilize the bus service.

In addition to transit providers operating along SR 70, transit facilities are also located nearby. Three Park and Ride lots are adjacent to the route, including Plumas Lake (Segment 2), McGowan Parkway (Segment 3), and Oroville. Owned and operated by Yuba County, both Plumas Lake and McGowan Parkway Park and Ride lots are sizable (over 100 spaces each) and offer users access to commuter bus service destined for Sacramento. The Oroville Park and Ride lot is an average sized lot (30 spaces), which provides users access to commuter service destined for Chico.

Table 8: SR 70 Transit Facilities Existing Conditions

Segment	Mode & Collateral Facility	Operator Name	Route End Points	Stations		Parking Spaces
				Cities	PM	
1	Commuter Bus	Yuba-Sutter Transit	Marysville/Yuba City to Sacramento	Marysville, Yuba City, Sacramento		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
2	Park & Ride	Plumas Lake			R0.35	178
	Commuter Bus	Yuba-Sutter Transit	Marysville/Yuba City to Sacramento	Marysville, Yuba City, Sacramento		
	Rail: Amtrak Bus	Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
3	Park & Ride	McGowan Parkway			R7.34	126
	Commuter Bus	Yuba-Sutter Transit	Marysville/Yuba City to Sacramento	Marysville, Yuba City, Sacramento		
	Traditional Bus	Yuba-Sutter Transit	Wheatland to Yuba City	Wheatland, Yuba City		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
4	Commuter Bus	Yuba-Sutter Transit	Marysville/Yuba City to Sacramento	Marysville, Yuba City, Sacramento		
	Traditional Bus	Yuba-Sutter Transit	Marysville to Yuba City	Marysville, Yuba City		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
5	Commuter Bus	Yuba-Sutter Transit	Marysville/Yuba City to Sacramento	Marysville, Yuba City, Sacramento		
	Traditional Bus	Yuba-Sutter Transit	Marysville to Yuba City	Marysville, Yuba City		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
6	Commuter Bus	Yuba-Sutter Transit	Marysville/Yuba City to Sacramento	Marysville, Yuba City, Sacramento		
	Traditional Bus	Yuba-Sutter Transit	Marysville to Yuba City	Marysville, Yuba City		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
7	Traditional Bus	Yuba-Sutter Transit	Marysville to Yuba City	Marysville, Yuba City		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
8	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
9	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
10	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
11	Traditional Bus	Butte Regional Transit (B-Line)	South Oroville to Oroville Transit Center/Feather Falls Casino/Gold Country Casino/Lake Oroville	Oroville		
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
12	Park & Ride	Oroville	N/A	Oroville	15.4	30
	Traditional Bus	Butte Regional Transit (B-Line)	Oroville to Thermalito/ Chico/Paradise	Oroville, Chico, Paradise		
	Transit Center	Oroville Transit Center - Butte Regional Transit (B-Line)				
	Rail: Amtrak Bus	Amtrak Thruway Connecting Service	Sacramento to Redding	Sacramento, Marysville, Chico		
13						

FREIGHT

The freight system along SR 70 in District 3 is primarily composed of truck and rail transport, while Yuba County Airport provides some air freight and air cargo services. Freight trips include the transport of local producers' goods to market, raw materials and finished products into the area for the use of local businesses and individuals, goods within the region, and through-movement commodities originating and destined for locations outside of the region.

Figure 18: Truck traveling on SR 70 near Yuba/Butte County Line

Freight rail is adjacent to all segments of the SR 70. Union Pacific (UP), a Class I railroad, is the primary owner and operator of subdivisions which are adjacent to the route. The Sacramento Subdivision (Segments 1-12), a north-south route, includes two branches: the Pearson Industrial Lead (Segments 2-3) which runs north-south through Yuba City parallel to SR 99; and Yuba City Industrial Lead (Segments 5-6), an abandoned track which runs northwest-southeast parallel to SR 20.[30] The Sacramento Subdivision crosses SR 70 via a grade separation at Binney Junction near 24th Street in Marysville (Segment 8, BUT 15.411). The Valley Subdivision (Segments 2-8) is a north-south route, that passes through Marysville and Chico extends toward Oregon.[31] The Valley Subdivision crosses over SR 70 via grade separation near 17th Street in Marysville. Approximately 11-20 trains run on the Valley Subdivision each day and 10-19.9 million gross tons (MGT).[32] [33] The Canyon Subdivision (Segments 11-12), a northeast-southwest route, conveys a high capacity of freight as UP double-stacks railcars operating along this subdivision; this is made possible by increased clearances through the Feather River Canyon.[34] This subdivision passes underneath SR 70 several times north, south and at the West Branch Feather River Bridge as it passes through the Feather River Canyon in Butte County north of Marysville (Segment 13). Approximately 21-40 trains run on the Canyon Subdivision each day and 20-39.9 MGT.[35] [36] Burlington Northern Santa Fe (BNSF), also a Class I railroad, has trackage rights on the Sacramento, Valley, and Canyon Subdivisions.[37] Additionally, the Beale AFB (Segment 3), a Class III, short line railroad, is owned and operated by US Air Force. A number of sidings and spur tracks are located around north and south of Oroville, which allow for passing and limited use for commercial enterprise.[38]

In District 3, most of SR 70 is a Terminal Access route, while the whole route is a California Legal route. Terminal Access and California Legal Routes are defined by the type of trucks, based height, weight, width, and number of trailers, allowed to traverse the route. Terminal Access routes encompasses portions of state or local routes which meet the Surface Transportation Assistance Act (STAA) of 1982 design standards and accommodate STAA trucks. Only California Legal trucks are permitted to traverse California Legal routes. California Legal truck requirements are more restrictive than those for STAA trucks.

SR 70 is a Terminal Access route from the beginning of the route in Sutter County to Big Bend Road east of Yankee Hill in Butte County (BUT 34.010), and a California Legal route from Big Bend Road in Butte County to the Butte/Plumas County line. Beyond District 3, SR 70 remains a California Legal route until the junction with SR 89; from this point to the terminus of the route at the junction of US 395 in Lassen County it is a Terminal Access route. SR 70 connects to several State Routes that are STAA Terminal Access or California Legal routes.

According to the Sacramento Area Council of Government (SACOG), the average daily truck volume on SR 70 is around 3,000 per weekday within Sutter and Yuba Counties.[39] North of Marysville and west of the SR 70 near Plumas Lake (Segment 2), displays some pockets of high intensity truck traffic (greater than 0.5 truck per acre)

largely associated with agricultural-related activities.[40] Commercial truck traffic flow will benefit from the planned and proposed widening, and incorporation of passing lanes from north of Marysville in Yuba County to near Palermo Road in Butte County. Additionally, truck turn radii improvements in the City of Marysville would help improve traffic operations for commercial trucks and reduce conflict with other vehicles, pedestrians, and bicyclists. Existing freight facilities are identified in Table 9 and the existing freight system is delineated in Figure 19 below.

Table 9: SR 70 Freight Facilities Existing Conditions

Segment	Facility Type/ Freight Generator	Location	Mode	Name
1-13	Highway	Beginning of route to Big Bend Rd east of Yankee Hill in Butte County	Truck	Terminal Access
1-13	Rail Line	All route segments	Rail	Union Pacific (UP) (Class I) - Sacramento, Valley and Canyon Subdivisions, Pearson and Yuba City Industrial Leads; US Government (Class III) - Beale AFB Short Line
3	Air Freight, Air Cargo	8th St, City of Marysville	Plane	Yuba County Airport
13	Highway	Big Bend Rd east of Yankee Hill in Butte Co to end of route	Truck	California Legal Network

District 3 Goods Movement Study

In 2013, Caltrans District 3 was fully underway in creating a district-wide Goods Movement Study. The study 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 study will require significant outreach, collaboration, and consensus with stakeholders, including public agencies such as the Sacramento Area Council of Governments (SACOG), and the private sector entities such as the California Trucking Association. 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 Study* is scheduled to be finished in 2015. More information can be found at: https://sites.google.com/site/d03goodsmovement/.

District 3 Truck Parking Study

Truck parking has been cited as a major issue of concern by Caltrans, SACOG, and local and regional partners. Caltrans District 3 plans to conduct a Truck Parking Study within District 3 boundaries in the near future. The study will require close collaboration between Caltrans, MPOs, RTPAs, cities, counties, California Highway Patrol (CHP), trucking associations, and other state DOTs. Study end-products include an action-oriented implementation plan to improve the present and future truck parking network, and proposals to create or enhance truck traveler information systems to inform truckers where truck parking and services are available.

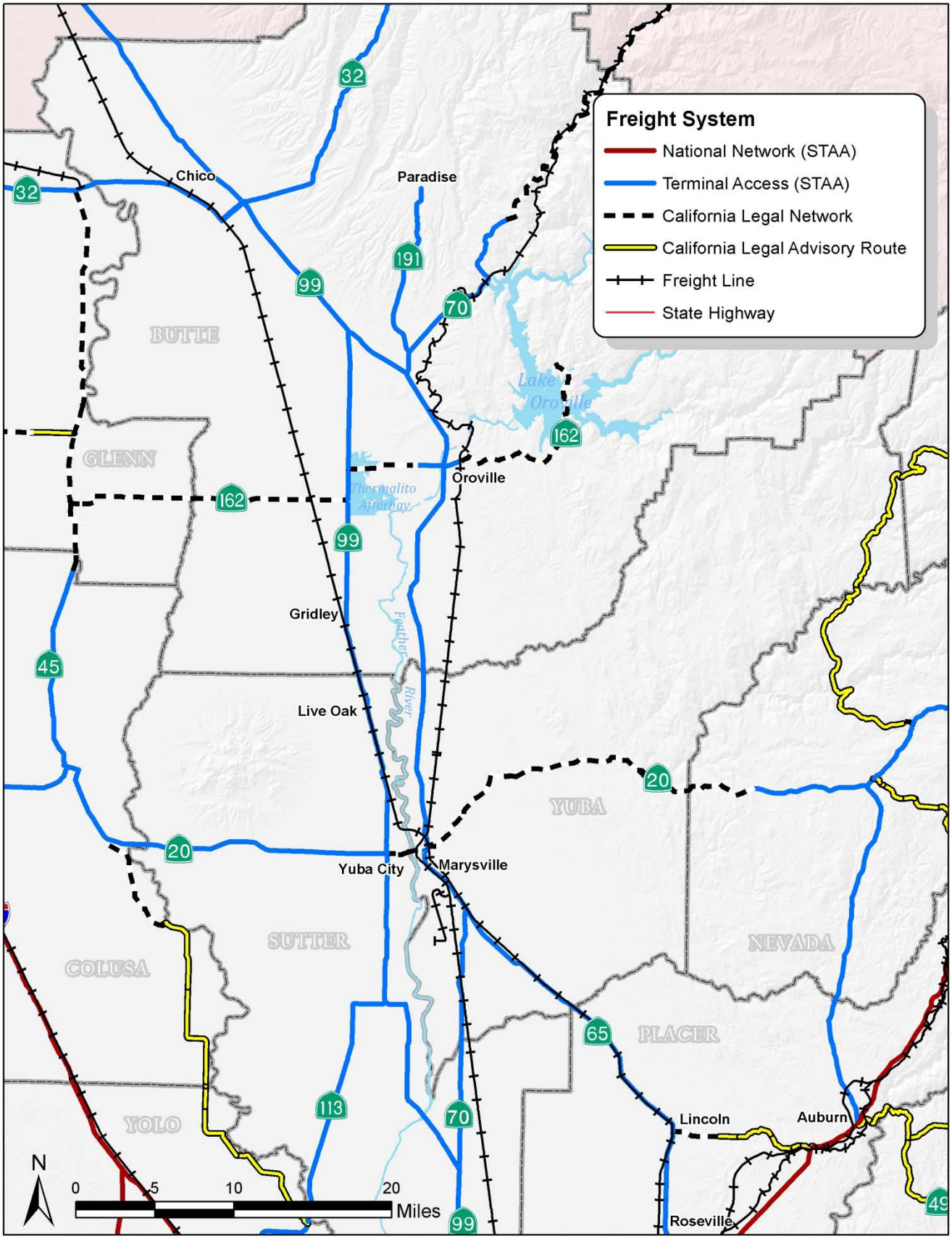


Figure 19: Freight System Map

AIRPORT FACILITIES

Three airports are located within five miles of SR 70 in District 3, including: Oroville Municipal (Oroville), Sutter County (Yuba City), and Yuba County (Marysville).

Oroville Municipal (Oroville)

Oroville Municipal Airport's functional class is Regional. Airport services include an on-airport restaurant, aircraft fuel sales, fire, law enforcement, search and rescue, air emergency evacuation, tourism, car rental service, and ultra-light aircraft. This rural airport supports Butte County tourism including the Table Mountain Golf Course located adjacent to the airport. There are 60 based air craft, and a total of 36,000 operations for the 12 month period ending December 31, 2012.

Sutter County (Yuba)

Sutter County Airport's functional class is Community. This small rural airport supports the County's agriculture with crop dusting operations, corporate and business flying, and tourism. Airport services include: aircraft fuel sales, and major aircraft repair. There are 72 based aircraft, and a total of 8,000 operations for the 12 month period ending May 31, 2013.

Yuba County (Marysville)

Yuba County Airport's functional class is Regional-Business/Corporate. This airport supports Yuba and Sacramento Counties agriculture, corporate, business flying, and tourism. Both state and federal government personnel and entertainers often use the airport because of its easy and convenient access to the capital region. Airport services include: aircraft fuel sales, search, rescue, and disaster/emergency services, medical evacuation flights, aircraft sales and rental, flight instruction, major aircraft maintenance, sport flying, aircraft sales and rental, and rental car service. The airport is transit accessible. There are 60 based aircraft, and a total of 35,300 operations for the period ending May 31, 2013.

CORRIDOR PERFORMANCE

Tables 10A and 10B below detail SR 70 corridor performance data for BY 2012, HY 2032 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 concept facility 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, 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. 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 operates at LOS A with an Average Annual Daily Traffic (AADT) of 16,700, 9.42 percent of which is attributed to trucks and 4.33 percent is attributed heavy duty, or five or more axle, trucks. AADT is forecasted to increase to 29,530 by the HY in the build and no build scenarios, with a slight decrease in LOS to B. This is well above the minimum acceptable LOS D for a rural area. No capacity increases are identified for this segment.

Segment 2 operates at LOS A with an AADT of 17,300, 21.67 percent of which is attributed to trucks and 9.37 percent is attributed heavy duty trucks. This segment has the highest percentage of trucks, including heavy duty truck, of the entire corridor. AADT is forecasted to increase to 24,300 by the HY in the build and no build scenarios, with a slight decrease in LOS to B. This is well above the minimum acceptable LOS D for a rural area and LOS E for an urban cluster or urbanized area. While no capacity increases are identified for this segment, a grade separated interchange programmed at Feather River Boulevard improves system operations within the 20-year planning horizon.

Segment 3 operates at LOS C with an AADT of 47,500, 7.85 percent of which is attributed to trucks and 3.61 percent is attributed heavy duty trucks. AADT is forecasted to increase to 63,890 by the HY in the build and no build scenarios and LOS to decrease to D. This is slightly above the minimum acceptable LOS E for an urban cluster or urbanized area. While no capacity increases are identified for this segment, ramp metering at North Beale Road on-ramp and a new interchange at Goldfields Pkwy and the SR 70/65 connection are included in the

ultimate facility concept. These improvements improve system operations within the post-20-year planning horizon.

Segment 4 operates at LOS D with an AADT of 58,000, 7.85 percent of which is attributed to trucks and 3.61 percent to heavy duty trucks. AADT is forecasted to increase to 76,680 by the HY in the build and no build scenarios and LOS to decrease to E. This segment has the highest BY and HY AADT of the entire corridor. This is the minimum acceptable LOS for an urban cluster or urbanized area.

Segment 5 operates at LOS E with an AADT of 48,000, eight percent of which is attributed to trucks and 2.05 percent to heavy duty trucks. ADDT is forecasted to increase to 60,480 by the HY in the build and no build scenarios and LOS to decrease to F. This falls below the minimum acceptable LOS E for an urban cluster or urbanized area. The Feather River Expressway on a new alignment improves corridor performance in the post-20-year timeframe.

Segment 6 operates at LOS E with an AADT of 37,000, eight percent of which is attributed to trucks and 2.05 percent to heavy duty trucks. AADT is forecasted to increase to 45,510 by the HY in the build and no build scenarios and LOS to decrease to F. This falls below the minimum acceptable LOS E for an urban cluster or urbanized area. The Feather River Expressway on a new alignment improves corridor performance in the post-20-year timeframe.

Segment 7 operates at LOS F with an AADT of 22,000, 13.45 percent of which is attributed to trucks and 4.27 percent to heavy duty trucks. AADT is forecasted to increase to 27,060 by the HY in the build and no build scenarios and LOS to remain at F. This falls below the minimum acceptable LOS E for an urban cluster or urbanized area. The Feather River Expressway on a new alignment will improve corridor performance in the post-20-year timeframe.

Segment 8 operates at LOS E with an AADT of 13,300, 13.45 percent of which is attributed to trucks and 4.27 percent to heavy duty trucks. AADT is forecasted to increase to 16,360 by the HY in the no build scenario and LOS to remain at E. This falls below the minimum acceptable LOS D for a rural area and is the same as that for an urban cluster or urbanized area. Passing lanes planned from Woodruff Lane to Ramirez Road will increase capacity by widening the segment to four lanes with a continuous two-way left-turn lane. This improves corridor performance in the HY build scenario–AADT is forecasted to increase to 16,850 and LOS to increase to A, well above the minimum acceptable LOS D or E.

Segment 9 operates at LOS E with an AADT of 13,200, 12.64 percent of which is attributed to trucks and 4.26 percent to heavy duty trucks. AADT is forecasted to increase to 16,240 by the HY in the no build scenario and LOS to remain at E. This falls below the minimum acceptable LOS D for a rural area. Passing lanes planned from the Butte/Yuba County line to just north of Central House Road will increase capacity by widening the segment to four lanes with a continuous two-way left turn lane. This improves corridor performance in the HY build scenario–AADT is forecasted to increase to 16,720 and LOS to increase to A. This is well above the minimum acceptable LOS D.

Segment 10 operates at LOS E with an AADT of 12,400, 14.81 percent of which is attributed to trucks and 6.32 percent to heavy duty trucks. AADT is forecasted to increase to 18,480 by the HY in the no build scenario and LOS to remain at E. This falls below the minimum acceptable LOS D for a rural area. Passing lanes planned from 0.1 mile south of Palermo Road to East Gridley Road and from Ophir Road to 0.1 mile south of Palermo Road will increase capacity by widening the segment to four lanes with a continuous two-way left turn lane. This improves corridor performance in the HY build scenario–AADT is forecasted to increase to 19,030 and LOS to increase to A. This is well above the minimum acceptable LOS D.

Segment 11 operates at LOS A with an AADT of 13,100, 14.81 percent of which is attributed to trucks and 6.32 percent to heavy duty trucks. AADT is forecasted to increase to 39,950 by the HY in the build and no build scenarios and LOS to decrease slightly to B. This is well above the minimum acceptable LOS D for a rural area and LOS E for an urban cluster or urbanized area. While no capacity increases are identified for this segment, an interchange at Pacific Heights/Georgia Way/Ophir Road Intersection (Georgia Pacific Interchange) improves system operations within the post-20-year timeframe.

Segment 12 operates at LOS A with an AADT of 25,000, 14.81 percent of which is attributed to trucks and 6.32 percent to heavy duty trucks. AADT is forecasted to increase to 48,120 by the HY in the build and no build scenarios and LOS to decrease slightly to C. This is above the minimum acceptable LOS D for a rural area and LOS E for an urban cluster or urbanized area. While no capacity increases are identified for this segment, operational improvements at Nelson Road and Grand Avenue, and the widening of Grand Avenue interchange improve corridor performance in the post-20-year timeframe. Additionally, Class III bicycle route construction from Table Mountain Boulevard to Cherokee Road improves bicycle mobility in the post-20-year timeframe.

Segment 13 operates at LOS D with an AADT of 3,100, 10 percent of which is attributed to trucks and 5.08 percent to heavy duty trucks. AADT is forecasted to increase to 3,810 by the HY in the build and no build scenarios and LOS to remain D. This falls below the minimum acceptable LOS D for a rural area. No capacity increases are identified for this segment. Construction of a Class III bicycle route from Table Mountain Boulevard to Cherokee Road will improve bicycle mobility in the post-20-year timeframe.

Table 10A: SR 70 Corridor Performance Measures

BASIC SYSTEM OPERATIONS											
Segment	County, PM	Average Daily Traffic (ADT)		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	SUT_R0.051/8.298	16,700	29,530	29,530	A	B	B	D	130,610	231,180	231,180
2	YUB_0.000/R7.345	17,300	24,300	24,300	A	B	B	D	126,856	177,600	177,600
3	YUB_R7.345/13.604	47,500	63,890	63,890	C	D	D	E	245,767	331,790	331,790
4	YUB_13.604/14.083	58,000	76,680	76,680	D	E	E	E	33,814	44,630	44,630
5	YUB_14.083/14.250	48,000	60,480	60,480	E	F	F	E	8,016	10,100	10,100
6	YUB_14.250/14.700	37,000	45,510	45,510	E	F	F	E	15,470	19,030	19,030
Break in Route											
7	YUB_14.710/15.350	22,000	27,060	27,060	F	F	F	E	12,373	15,220	15,220
8	YUB_15.350/25.822	13,300	16,360	16,850	E	E	A	D	136,556	167,960	173,000
9	BUT_0.000/4.060	13,200	16,240	16,720	E	E	A	D	49,322	60,670	62,490
10	BUT_4.060/11.550	12,400	18,480	19,030	E	E	A	D	25,500	38,250	39,400
11	BUT_11.550/13.901	13,100	39,950	39,950	A	B	B	D/E	30,798	93,930	93,930
12	BUT_13.901/20.479	25,000	48,120	48,120	A	C	C	D/E	142,668	273,920	273,920
13	BUT_20.479/48.076	3,100	3,810	3,810	C	C	C	D	72,536	89,220	89,220

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	SUT_R0.051/8.298	1,404	9.42%	646	4.33%
2	YUB_0.000/R7.345	4,529	21.67%	1,958	9.37%
3	YUB_R7.345/13.604	4,632	7.85%	2,131	3.61%
4	YUB_13.604/14.083	4,632	7.85%	2,131	3.61%
5	YUB_14.083/14.250	2,560	8.00%	655	2.05%
6	YUB_14.250/14.700	2,560	8.00%	655	2.05%
Break in Route					
7	YUB_14.710/15.350	1,923	13.45%	611	4.27%
8	YUB_15.350/25.822	1,923	13.45%	611	4.27%
9	BUT_0.000/4.060	1,668	12.64%	562	4.26%
10	BUT_4.060/11.550	1,940	14.81%	828	6.32%
11	BUT_11.550/13.901	1,940	14.81%	828	6.32%
12	BUT_13.901/20.479	2,844	14.81%	1,214	6.32%
13	BUT_20.479/48.076	120	10.00%	61	5.08%

Note: Truck traffic data is based on the 2012 ADT on the California State Highway System report.

Table 10B: SR 70 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	SUT_R0.051/8.298	1,500	2,650	2,650	60%	60%	60%	0.22	0.39	0.39	13,359	23,640	23,640
2	YUB_0.000/R7.345	1,500	2,110	2,110	60%	60%	60%	0.24	0.33	0.33	11,018	15,420	15,420
3	YUB_R7.345/13.604	4,300	5,780	5,780	60%	60%	60%	0.62	0.83	0.83	22,460	30,320	30,320
4	YUB_13.604/14.083	5,100	6,740	6,740	60%	60%	60%	0.76	1.00	1.00	2,973	3,920	3,920
5	YUB_14.083/14.250	5,200	6,550	6,550	60%	60%	60%	0.97	1.17	1.17	868	1,090	1,090
6	YUB_14.250/14.700	3,700	4,550	4,550	60%	60%	60%	0.89	1.09	1.09	1,640	2,020	2,020
Break in Route													
7	YUB_14.710/15.350	2,600	3,200	3,200	60%	60%	60%	0.71	0.91	0.91	1,398	1,720	1,720
8	YUB_15.350/25.822	1,250	1,540	1,580	57%	57%	57%	0.48	0.59	0.23	14,354	17,660	18,190
9	BUT_0.000/4.060	1,400	1,720	1,770	57%	57%	57%	0.53	0.66	0.25	4,922	6,050	6,240
10	BUT_4.060/11.550	1,350	2,010	2,070	53%	53%	53%	0.48	0.71	0.28	10,112	15,170	15,620
11	BUT_11.550/13.901	1,350	4,120	4,120	53%	53%	53%	0.17	0.53	0.53	3,174	9,680	9,680
12	BUT_13.901/20.479	2,250	4,330	4,330	53%	53%	53%	0.30	0.57	0.57	13,675	26,260	26,260
13	BUT_20.479/48.076	440	540	540	67%	67%	67%	0.25	0.28	0.28	9,032	11,110	11,110

Note: Average peak hour speeds are based on tach run data and/or HCS two-lane highway analysis. Tach runs were completed in April and May of 2012 during Tuesday, Wednesday, and Thursday afternoon/evening peak hours. BY average peak hour volumes and directional split are based on the *2012 Caltrans Traffic Volumes on California State Highways* and *Highway Capacity Manual*.

PROPOSED ALTERNATIVE ALIGNMENTS

FEATHER RIVER EXPRESSWAY

As shown in Figure 20, the proposed Feather River Expressway is designed to improve mobility by providing an expressway around the west side of Marysville. This will improve mobility by providing a free flow route around Marysville as well as rerouting truck traffic, destined for other locations, from downtown Marysville. Monitoring of traffic conditions during the peak commute periods has shown a steady increase in both duration and severity of congestion on SR 70 and SR 20 that hinders access to the downtown area. The City of Marysville would also like to improve pedestrian access to the downtown center and Ellis Lake. Bypassing the downtown area will significantly reduce congestion at signals and provide safer pedestrian crossings from one side of E Street (SRs 70/20) to the other. Caltrans recognizes a need for alternative routes south, north and around the City of Marysville to alleviate congestion experienced through the City. This project is a part of the effort in reducing congestion and improving mobility.

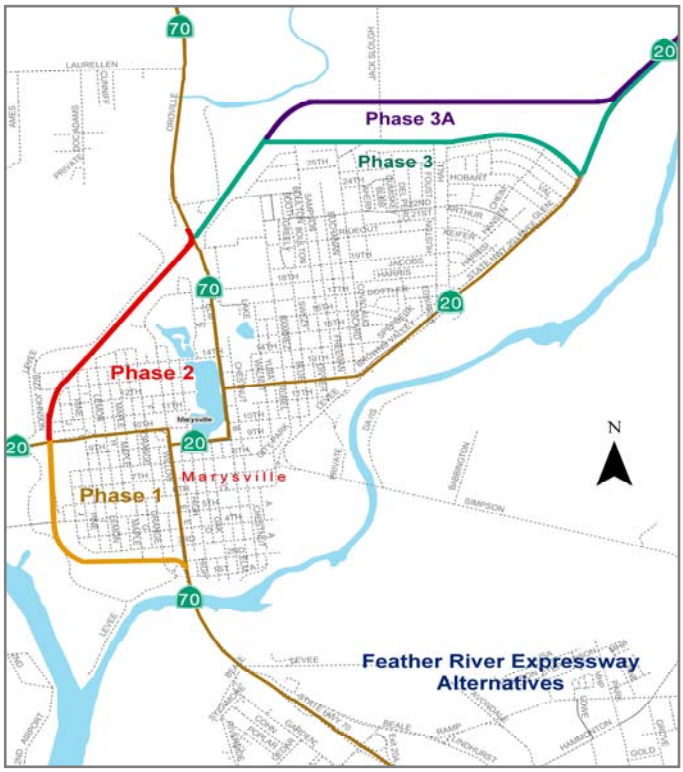


Figure 20: Feather River Expressway Alternatives

- **Phase 1** of this project, on a new alignment, will construct a two-lane expressway from SR 70 south of Marysville to SR 20 at the 10th Street Bridge.
- **Phase 2** will continue from the 10th Street Bridge, proceeding north easterly along the levee system, and terminate at SR 70 north of Marysville.
- **Phase 3 and/or 3A**, considered as a possible future phase, are proposed as a new two-lane expressway from SR 70 north of Marysville to SR 20 east of Marysville using existing and proposed levees.

All connections to State Routes will be standard interchange connector ramps. All expressways will have 12-foot lanes and eight-foot shoulders with the potential to add one lane in each direction in the future. Alternative phase selections and final development of the preferred alternative will be determined through a cooperative planning effort with our local transportation partners.

YUBA RIVER PARKWAY

In an effort to improve local and inter-regional travel, Yuba County Department of Public Works proposed the Yuba River Parkway Project, which is shown in Figure 21. The proposal is a locally-funded, four-lane expressway that would parallel SR 70 from the Highway 65/70 Interchange near Olivehurst connecting to Highway 20 near Plantz Road east of Marysville[41].

In coordination with the Yuba River Parkway, two Project Study Reports (PSRs) were initiated by Yuba County. The first PSR, approved, March 2008, was for a new signalized intersection near Plantz Road at SR 20 just east of

the Yuba Sutter Disposal site east of Marysville. The second PSR, completed in 2010, proposed reconstruction of the State Route 65/70 Interchange.

The Yuba River Parkway will:

- Relieve existing congestion in Marysville by providing an alternative route around Marysville.
- Reduce truck traffic through Marysville and Hallwood by providing a more direct route for trucks to access Routes 65 and 70 via a facility designed to accommodate all modes of traffic safely and efficiently.
- Mitigate future capacity needs from planned development.
- Provide an inter-regional route from the areas east of Marysville and an additional crossing of the Yuba River east of Marysville.

The purpose of the Yuba River Parkway is tied to planned and proposed corridor plans and projects, thus final implementation of the parkway will be dependent upon the rate of development and availability of developer funding.

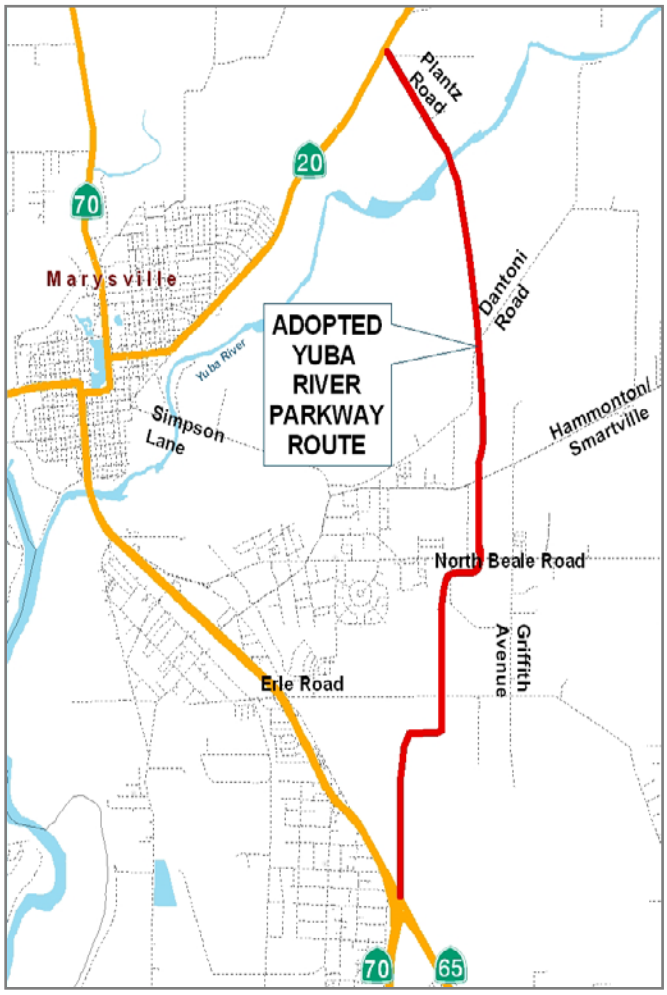


Figure 21: Yuba River Parkway Route

KEY CORRIDOR ISSUES

Improving accessibility and safety for all modes of transportation and maintaining or exceeding the minimum acceptable LOS on each corridor segment are key issues for on SR 70. These issues can be addressed by implementing targeted on/off-system projects and travel demand management strategies.

The following projects will help to improve performance measures, including LOS, some of which are located on underperforming segments. Widening the route by adding passing lanes and two-way center left turn lanes north of Marysville and south of Oroville will meet existing and future travel demand on Segments 8-10 in Yuba and Butte Counties and exceed minimum acceptable LOS. When constructed, alternative alignments such as the Feather River Expressway and Yuba River Parkway, as discussed in the Proposed Alternative Alignment section, will improve corridor performance along Segments 5-7.

Additionally, improved system operations and management along the corridor, including signal synchronization in Marysville and ramp metering at various corridor locations will also improve performance measures. Implementation of travel demand management strategies where feasible, such as improved and/or expanded transit service, bicycle planning, encouraged ridesharing and increased Park and Ride usage to will also reduce travel demand thereby improving corridor performance.

Minimizing conflicts between pedestrians, bicyclists, and vehicles by implementing Complete Streets and Context Sensitive projects and strategies, especially in the City of Marysville, will help to improve multimodal accessibility and increased safety along the corridor.

CORRIDOR CONCEPT

CONCEPT RATIONALE

SR 70 is and will continue to be a vital north-south transportation facility that provides interregional, regional and local movement and connectivity of people and goods to and through the urban and rural areas of the Central Valley, the North State, and the Sierra Nevada. This TCR proposes a concept facility that strives to maintain performance levels on SR 70 over a twenty year time frame, by meeting or exceeding minimum acceptable LOS each segment—LOS D in rural areas and LOS E in urban clusters and urbanized areas. The rationale for this concept facility is District 3's minimum acceptable LOS, as defined by the District 3 District System Management and Development Plan (DSMDP):

> "Typical Concept LOS standards in District 3 are LOS D in rural areas and LOS E in urban areas. However, these standards may vary depending on the unique corridor conditions. A local agency may set a higher LOS threshold standard consistent with community wishes and other local concerns. However, since the Caltrans Concept LOS defines the minimum acceptable level of service established by Caltrans as the owner and operator of the facility, the threshold standard LOS established by the local agency should not be lower than the Caltrans Concept LOS."[42]

Population growth over the past several decades in the urban areas adjacent to SR 70 has led to increases in vehicle traffic and congestion. The expressway and freeway gaps along the route contribute to an overall lack of adequate capacity to meet the minimum acceptable LOS as defined in District 3's DSMDP. The proposed projects and strategies to achieve the facility concept include improving the facility to freeway and expressway standards along some segments, in some cases on an alternative alignment, and maintaining conventional highway standards along others. It also includes providing increased capacity in growth areas such as southern Butte County, and northern Yuba County, and strategically improving and constructing interchanges. This also includes improved traffic operations and Intelligent Transportation System (ITS) such as adaptive traffic signal control and ramp metering. An improved pedestrian and bicycling environment which focuses on implementing Complete Streets and Context Sensitive concepts helping to reduce conflict points with vehicular traffic is also an important component of the corridor concept. These programmed, planned, and conceptual projects and strategies are detailed in Tables 11 and 12.

For segments where LOS falls below the minimum acceptable LOS within the 20-year build scenario, other projects and strategies such as operational improvements, intelligent transportation systems, transportation demand management, active multimodal corridor management strategies, and reduction of travel demand on the SHS by increased use of transit and development of parallel facilities should be considered, in addition to existing conceptual projects.

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.[43]

Fiscally unconstrained projects and strategies are conceptual transportation improvements without an identified funding source and may be funded if reasonable additional resources become available.[44]

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 70 facility concept are grouped into (1) planned and programmed projects, and (2) conceptual projects.

Planned and Programmed Projects and Strategies

A ***planned improvement or action*** is a project listed 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.

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).

Table 11, below, summarizes planned and programmed projects on SR 70 within District 3.

Table 11: SR 70 Planned and Programmed Projects and Strategies

Segment	Description	Planned or Programmed	Location, County, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
2	Construct new grade separated interchange	Programmed	SR 70 Feather River Blvd. Interchange, YUB 70, R0.35	Yuba County Dept of Public Works	SACOG MTP/SCS 2035	Interchange Improvement	$ 22,333	2018
6	Install left-turn pockets and modify signals	Programmed	On SR 20 in Marysville, from I St to F St; also on SR 70, from 4th St to 5th St., YUB 70, 14.32/14.40	Caltrans	SHOPP 2012; SACOG MTP/SCS 2035	Operational Improvement	$ 5,631	2018
6-7	Roadway rehabilitation	Programmed	In Marysville on SR 70 from First St undercros-sing to east of Binney Junction and on SR 20 from Feather River Bridge #18- 9 to 0.1 mile east of Levee Rd., YUB 70, 14.1/15.4	Caltrans	SHOPP 2010; SACOG MTP/SCS 2035	Roadway Rehabilitation	$ 46,500	2016
7	Widen Marysville UPRR underpass	Planned	SR 70 in Marysville by 17th St., YUB 70,15.11	Caltrans	SACOG MTP/SCS 2035	Operational Improvement	$12,486	2022
8	Construct passing lanes with continuous two-way left turn lane (B)	Planned	SR 70 from Woodruff Ave. to Ramirez Ln., YUB 70, 17.74/22.89	Caltrans	SACOG MTP/SCS 2035	Safety and Operational Improvement	$ 37,457	2022
8	Replace bridge	Programmed	SR 70 near Marysville, at Simmerly Slough Bridge #16-0019, YUB 70, 16.01	Caltrans	2012 SHOPP	Bridge Replacement	$ 24,014	2018

Table 11: SR 70 Planned and Programmed Projects and Strategies (continued)

Segment	Description	Planned or Programmed	Location, County, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
9	Widen to 4 lanes with continuous two-way left turn lane; construct 2 bridges(SR 70 Widening, Seg. 3) (B)	Planned	SR 70 from BUT/YUB County Line to just north of Central House Rd., BUT 70, 0.00/2.99	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Add Capacity	$ 50,000	2030
10	Widen to 4 lanes with continuous two-way left turn lane (SR 70 Widening, Seg. 2) (B)	Planned	SR 70 from 0.1 mile south of Palermo Rd to E Gridley Rd., BUT 70, 4.06/8.99	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Add Capacity	$ 34,000	2023
10	Widen to 4 lanes with continuous two-way left turn lane (SR 70 Widening, Seg 1) (B)	Planned	SR 70 from Ophir Rd to 0.1 mile south of Palermo Rd., BUT 70, 8.99/11.55	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Add capacity	$ 27,700	2021
13	Replace Flag Canyon Creek Bridge #12-0140	Programmed	SR 70 in Oroville, BUT 70, 24.26	Caltrans	2012 SHOPP; BCAG MTP/SCS 2012-2035	Bridge Replacement	$ 5,595	2018
13	Seismic retrofit at Pentz Overhead #12-138 and Cherokee Overhead #12-137	Programmed	SR 70 near Oroville, BUT 70, 26.80, 26.99	Caltrans	2012 SHOPP; BCAG MTP/SCS 2012-2035	Seismic Retrofit	$ 3,918	2016

* Total Cost Estimate and Proposed Completion Year are from listed source. Additional project details and programming information can be found in the listed source. Please see Appendix B-Resources for more information regarding the listed source. Projects with a (B) following the project description are included in the build scenario.

Conceptual Projects and Strategies

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. Conceptual projects are all fiscally unconstrained projects derived from documents such as local and regional General Plans, and Caltrans System Planning Documents.

Caltrans District 3 is currently developing the *Caltrans District 3 Intelligent Transportation Systems/Operational Improvement (ITS/Ops) Plan.* This plan will provide 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 (forthcoming) and the *District 3 Concept of Operations Plan* (expected to be complete in 2015). For more information visit: http://www.dot.ca.gov/dist3/departments/planning/.

All projects are considered a priority for the SR 70 corridor pursuant to identification of funding sources. Table 12, below, summarizes conceptual projects and strategies along SR 70 in District 3.

Table 12: SR 70 Conceptual Projects and Strategies

Segment	Description	Location, County, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
2	Widen overpass, install new signals	SR 70/ McGowan Pkwy. , YUB 70, R8.02	Yuba County Dept of Public Works	2035 SACOG MTP/SCS	Interchange/ Operational Improvement	$ 5,244	2035
3	Construct New Interchange	Goldfields Pkwy at SR 65/SR 70 connection , YUB 70, R8.29	Yuba County Dept of Public Works	2035 SACOG MTP/SCS	Interchange Improvement	$ 110,626	2035
3	Ramp meter at the N. Beale Rd. on-ramp	SR 70 N. Beale Rd. on-ramp , YUB 70, 13.57	Caltrans	D3 ITS/Ops Plan	Operational Improvement	$ 64	2035
3	Construct bike/ pedestrian crossings of SR 70	Between Powerline Rd. and Twain Dr., and Grand Ave. and Hammonton Rd., YUB 70, R7.60/10.17	Unknown	2013 SACOG Regional Bicycle, Pedestrian & Trails Master Plan (SRBPTMP) & 2013 D3 SHBFP	Improve Bicycle and Pedestrian Mobility	$ 3,800	2035
4	Construct improvements to the Yuba River Bridge	SR 70 Yuba River Bridge, YUB 70, 13.60/14.08	Unknown	New	Improve Bicycle and Pedestrian Mobility	Unknown	2035
5-7	Phase 1 Feather River Expressway: New 2 lane expressway on a new alignment	SR 70, south of Marysville to SR 20 at the 10th St. Bridge, YUB 70, 14.08/15.35	Caltrans	2035 SACOG MTP/SCS	Mobility Improvement	$ 75,000	2035
5-6	Construct Class II Bike Lane	Southern Marysville City limits to 9th St., YUB 70, 13.23/14.70	Unknown	2013 SRBPTMP, 2013 D3 SHBFP	Improve Bicycle Mobility	Unknown	2035
6-7	Install Adaptive Traffic Signal Control	17 locations in Yuba County, YUB 70/20 Various	Caltrans	2035 SACOG MTP/SCS, D3 ITS/Ops Plan	Operational Improvement	$ 1,000	2035
7-8	Phase 2 Feather River Expressway continue from 10th St Bridge north easterly along levee system	SR 70 10th St Bridge north easterly along levee system to SR 70 north of Marysville, YUB 70, 15.30	Caltrans	2035 SACOG MTP/SCS	Mobility Improvement	$ 80,000	2035

Table 12: SR 70 Conceptual Projects and Strategies (continued)

Segment	Description	Location, County, PM	Lead Agency	Source*	Purpose	Total Cost Estimate* ($1,000)	Proposed Completion Year*
7-8	Phase 3 Feather River Expressway extension using existing and proposed levees	SR 70 10th St Bridge north easterly along levee system to SR 70 north of Marysville, YUB 70, 15.30	Caltrans	BCAG MTP/SCS 2012-2035	Mobility Improvement	$ 80,000	2035
7-8	Construct Class II Bike Lane	SR 70, 12th St. to E 24th St., YUB 70, 14.71/15.35	Unknown	2013 SRBPTMP, 2013 D3 SHBFP	Improve Bicycle Mobility	Unknown	2035
8	Widen to 4 lanes with continuous two-way left turn lane (SR 70 Widening, Seg. 4, 5, 6)**	SR 70 from E 24th St/Binney Junction UP in Marysville to Butte Co Line, YUB 70, 15.41/25.82	Caltrans	2013 PSR-PDS, EA 3F280, SR 70: 14th St., Marysville to Ophir Rd., Oroville	Add Capacity/ Operational Improvements	Up to $ 184,800	2035
11	Construct interchange	SR 70 at Pacific Heights/Georgia Way/Ophir Rd Intersection (Georgia Pacific Interchange), BUT 70, 12.50	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Interchange Improvement	$ 30,000	2035
12	Install signals, widen ramps & install turn lanes or roundabout	SR 70 at Nelson and Grand Aves. exits, BUT 70, 15.42/15.72	BCAG/ Caltrans	2009 TCR	Operational Improvement	$ 1,500	2035
12	Widen interchange	SR 70 at Grand Ave. Interchange , BUT 70, 15.42	Caltrans	2009 TCR	Interchange Improvement	Unknown	2035
12-13	Construct Class III Bicycle Route	SR 70 from Table Mountain Blvd. to Cherokee Rd., BUT 70, 21.99/26.99	Caltrans	2011 Butte County Bicycle Plan, 2013 D3 SHBFP	Improve Bicycle Mobility	$ 7	2035
13	Rehabilitate the Vista Point at Lunt Rd.	Lunt Rd., BUT 70, 31.66	Caltrans	2009 TCR	Vista Point Rehabilitation	Unknown	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.

** Project to replace or expand upon planned passing lane project on Table 11 in Segment 8.

APPENDICES

APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

Acronyms

AADT – Annual Average Daily Traffic
AADTT – Annual Average Daily Truck Traffic
ADA – Americans with Disabilities Act of 1990
ADT – Average Daily Traffic
BY – Base Year
BUT – Butte
CALTRANS – California Department of Transportation
CEQA – California Environmental Quality Act
CLA – California Legal Advisory
CLN – California Legal Network
CMA – Congestion Management Agencies
DSMP – District System Management Plan
DSMDP – District System Management and Development Plan
FHWA – Federal highway Administration
FSR – Feasibility Study Report
FSTIP – Federal Statewide Transportation Improvement Program
FTIP – Federal Transportation Improvement Program
GHG – Green House Gas
GIS – Geographic Information System
HCM – Highway Capacity Manual
HCP – Habitat Conservation Plan
HY – Horizon Year
IGR – Intergovernmental Review
I - Interstate
ITS – Intelligent Transportation System
KPRA – Kingpin-to-rear-axle
LOS – Level of Service
MPO – Metropolitan Planning Organizations
MTIP – Metropolitan Transportation Improvement Program
MTP – Metropolitan Transportation Plan
N/A – Not Applicable
NB – Northbound
PM – Post Mile
PSR – Project Study Report
RHNA – Regional Housing Needs Allocation
RTP – Regional Transportation Plan
RTIP – Regional Transportation Improvement Program
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 – Surface Transportation Assistance Act (STAA) of 1982
STIP – State Transportation Improvement Program
SUT – Sutter
TA – Terminal Access
TCR – Transportation Concept Report
TDM – Transportation Demand Management
TMS – Transportation Management System
TSN – Transportation System Network
V/C – Volume Capacity
VMT – Vehicle Miles Traveled
YUB – Yuba

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.

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

Concept LOS – The minimum acceptable LOS over the next 20-25 years

Conceptual Project– A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a 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.

Facility Concept – Describe the Facility and strategies that may be needed within 20-25 years. This can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility, Non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, Transportation Demand Management, and Incident Management.

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

Focus Route – Focus Routes are a subset of the High Emphasis Routes. The routes represent the IRRS corridors that should be of the highest priority for completion to minimum facility standards. Completion of the Focus Routes to minimum facility standards (for most routes freeway or expressway) will assure a statewide trunk system is in place and complete for higher volume interregional trip movements. Focus Routes will serve as a system of high volume primary arteries to which lower volume and facility standard state highway routes can connect for purposes of longer interregional trips and access into statewide Gateways. The routes, taken as a whole, constitute a “backbone” for additional capacity and complete facilities for the state. They balance north-south and east-west access and connectivity statewide. The Focus Routes assure rural connectivity for the north state and otherwise connect the fastest growing urbanized areas and urban centers to a trunk system. All Focus Routes are on the National Highway System (an exception is the S.R. 49 portion of the S.R. 20 corridor), Freeway and Expressway System, and are STAA Truck or Truck Terminal Routes (Caltrans 1998).

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.

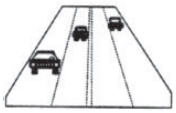
High Emphasis Route – The most critical IRRS routes as identified in the 1990 the IRRS Plan identified as priority for programming and construction to minimum facility standards, freeway and expressway for most routes (Caltrans 1998).

Horizon Year – The year that the planning horizon (20 year) data is based on.

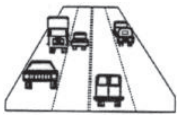
Intermodal Freight Facility – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or "transloaded") from one mode, such as rail, to another, such as truck.

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

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 thegeometric 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.

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

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.

Post-20 Year Concept – The maximum reasonable and foreseeable roadway needed beyond a 20-year horizon. The post 20-year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Post Mile – 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 in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

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 – An area encompassing population of fewer than 2,500 people as defined by the US Census Bureau.

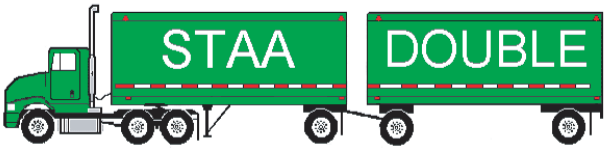
Scenic Highway – A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway. The purpose of the program is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

Segment – A portion of a facility between two points.

(Interstate) STAA Truck – A truck tractor-semitrailer (or double) that conforms to the requirements of the Surface Transportation Assistance Act (STAA) of 1982, as described below:

Interstate "STAA" Truck Tractor – Semitrailer
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



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

TDM – Transportation Demand Management programs are 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.

Ultimate Concept - In general, this is also called the Post 20-Year concept that could provide the maximum reasonable and foreseeable roadway needed beyond a 20-year horizon. The ultimate concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Urban Area – An area encompassing a population of 50,000 or more people as defined by the US Census Bureau.

Urban Cluster – An area encompassing a population of at least 2,500 and less than 50,000 people (at least 1,500 of which reside outside of institutional group quarters) as defined by the US 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, *Metropolitan Transportation Plan & Sustainable Communities Strategy 2035*, December 2012.

California Department of Transportation, District 3, *Transportation Concept Report State Route 20*, March 2013.

California Department of Transportation, District 3, *Transportation Corridor Concept Report State Route 70*, December 2009.

California Department of Transportation, *Interregional Transportation Strategic Plan*, June 1998.

City of Marysville, *General Plan*, August 1985.

City of Marysville, *Housing Element: 2003-2008*, April 2003.

City of Oroville, *2030 General Plan*, June 2009.

City of Oroville, *Bicycle Transportation Plan*, August 2010.

City of Yuba City, *General Plan*, April 2004.

County of Butte, *General Plan*, October 2010.

County of Butte, 2011 Butte County Bicycle Plan

County of Sutter, *General Plan*, March 2011.

County of Yuba, *2030 General Plan*, June 2011.

Sacramento Area Council of Governments 2013 Bicycle-Pedestrian-Trials Master Plan

State of California, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland by County, 2010.

State of California, Department of Finance California Department of Finance, 2007-2011 American Community Survey (5-year estimates): Selected Data for California, Counties, Incorporated Cities and Census Designated Places (Total Population). Sacramento, California, December 2012.

State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2012 and 2013. Sacramento, California, May 2013.

State of California, Department of Finance, Report P-1 (County): State and County Total Population Projections, 2010-2060. Sacramento, California, January 2013.

State of California, Department of Finance, Report P-1 (Race): State and County Population Projections by Race/Ethnicity, 2010-2060. Sacramento, California, January 2013.

Sacramento Area Council of Governments, Metropolitan Transportation Plan/Sustainable Communities Strategy 2035, April 2012.

APPENDIX C: DATA RESOURCES

Corridor Performance Data Sources

Base Year Average Annual Daily Traffic (AADT) = *2011 Caltrans Traffic Volumes on California State Highways Book*

Level of Service (LOS) = Used HCS in conjunction with data from this table

Base Year Vehicle Miles Traveled (VMT) =*2011 Caltrans Traffic Volumes on California State Highways Book* (Link Based)

Horizon Year Volumes and VMT based on SACSIM model growth and SHI growth factors

Truck Data = 2011 Annual Average Daily Traffic on *California State Highways Book*

Base Year Peak Hour Volumes and Directional Split= *2011 Caltrans Traffic Volumes on California State Highways Book*

Peak Hour VMT = *2011 Caltrans Traffic Volumes on California State Highways Book* (Link Based)

Horizon Year Directional Splits based on SACSIM model projections in conjunction with *2011 Caltrans Traffic Volumes on California State Highways Book*

Vehicle over Capacity (V/C) = Used HCS in conjunction with data from this table

Major Projects in Build Scenario

Segment	Description	Planned or Programmed	Location, County, PM	Lead Agency	Source	Purpose	Total Cost Estimate ($1,000)	Proposed Completion Year
8	Construct passing lanes with continuous two-way left turn lane	Planned	SR 70 from Woodruff Ave. to Ramirez Ln., YUB 70, 17.74/22.89	Caltrans	SACOG MTP/SCS 2035	Safety and Operational Improvement	$ 37,457	2022
9	Widen to 4 lanes with continuous two-way left turn lane; construct 2 bridges (SR 70 Widening, Seg 3)	Planned	SR 70 from BUT/YUB County Line to just north of Central House Rd., BUT 70, 0.00/2.99	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Add Capacity	$ 50,000	2021
10	Widen to 4 lanes with continuous two-way left turn lane (SR 70 Widening, Seg 2)	Planned	SR 70 from 0.1 mile south of Palermo Rd to E Gridley Rd., BUT 70, 4.06/8.99	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Add Capacity	$ 34,000	2021
10	Widen to 4 lanes with continuous two-way left turn lane (SR 70 Widening, Seg 1)	Planned	SR 70 from Ophir Rd to 0.1 mile south of Palermo Rd., BUT 70 8.99/11.55	BCAG/ Caltrans	BCAG MTP/SCS 2012-2035	Add capacity	$ 26,000	2021

Endnotes:

[1] http://onramp.dot.ca.gov/tsi/ohsip/tasas/seqlisting.html
[2] California Streets and Highways Code, Section 164.14
[3] California Department of Transportation, Scenic Highway Program, http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm.
[4] State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2012 and 2013. Sacramento, California, May 2013.
[5] State of California, Department of Finance, Report P-1 (County): State and County Total Population Projections, 2010-2060. Sacramento, California, January 2013.
[6] SACOG, 2012, E-3, 71.
[7] Yuba-Sutter Economic Development Corporation, Yuba-Sutter Census: Economic and Demographic Information. Yuba City, California, March 2014.
[8] State of California, Department of Finance California Department of Finance, 2007-2011 American Community Survey (5-year estimates): Selected Data for California, Counties, Incorporated Cities and Census Designated Places (Total Population). Sacramento, California, December 2012.
[9] DOF, May 2013.
[10] DOF, January 2013.
[11] SACOG, 2012, E-3, 72.
[12] YSEDC, March 2014.
[13] DOF, December 2012.
[14] DOF, May 2013.
[15] DOF, January 2013.
[16] BCAG, 11, B, 2-3.
[17] YSEDC, March 2014.
[18] DOF, December 2012.
[19] State of California, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland by County, 2010.
[20] SACOG, MTP/SCS 2035, 2012, E-3, 67.
[21] Sutter Pointe Specific Plan, http://www.co.sutter.ca.us/doc/government/depts/cs/ps/cs_sutterpointe_plan
[22] North Arboga Study Area, http://www.co.yuba.ca.us/Departments/Community%20Development/Planning/Specific%20Plans/North%20Arboga%20Study%20Area/default.aspx
[23] Plumas Lake Specific Plan, http://www.co.yuba.ca.us/Departments/Community%20Development/Planning/Specific%20Plans/Plumas%20Lake/default.aspx
[24] East Linda Specific Plan, http://www.co.yuba.ca.us/Departments/Community%20Development/Planning/Specific%20Plans/East%20Linda/ELSPplan.pdf
[25] Magnolia Ranch Specific Plan, http://www.co.yuba.ca.us/departments/community%20development/planning/Projects/Magnolia/Notice%20of%20Preparation%202-7-13.pdf
[26] California Department of Transportation, District 3, Draft State Highway Bicycle Facility Plan, June 2013, 17-18.
[27] Yuba County, Public Works, Bikeway Master Plan, Appendix E: Prioritized List of Short, Mid, and Long-Term Projects, January 2013, 8.
[28] Butte County, Public Works, 2011 County Bike Plan, June 2011, 31.
[29] California Department of Transportation, District 3, Draft State Highway Bicycle Facility Plan, June 2013, 11.
[30] SACOG, Goods Movement Study Phase I, September 2006, 48.
[31] SACOG, Goods Movement Study Phase I, September 2006, 48.
[32] California Department of Transportation, Cambridge Systematics, Draft California State Rail Plan, February 2013, 130.
[33] California Department of Transportation, Cambridge Systematics, Draft California State Rail Plan, February 2013, 128.
[34] SACOG, Goods Movement Study Phase I, September 2006, 46-47.
[35] California Department of Transportation, Cambridge Systematics, Draft California State Rail Plan, February 2013, 130.
[36] California Department of Transportation, Cambridge Systematics, Draft California State Rail Plan, February 2013, 128.

[37] SACOG, Goods Movement Study Phase I, September 2006, 49.
[38] Butte County Association of Governments, 2012 Metropolitan Transportation Plan, 12-1.
[39] SACOG, MTP/SCS 2035, 2012, 225.
[40] SACOG, MTP/SCS 2035, 2012, 226.
[41] Yuba County, Public Works,
http://www.co.yuba.ca.us/Departments/Community%20Development/Public%20Works/pubCorridor.aspx
[42] Caltrans District 3, DSMDP, 2013, 33.
[43] 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
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