# APPENDIX A

## Route History

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# Interstate 5
# Transportation Concept Report

## *Route History*

## Preface

"The road topped the crest of the Siskiyous, cut through a 4000 foot mountain pass chiseled out of solid rock, headed sharply downhill and south, and in a couple of miles crossed into a part of California sitting on the southern threshold of the conifer-covered Pacific Northwest. Over 900 miles later it ended in a sweltering desert valley on the border of another country. In between, it bisected the State neatly into East and West. On its way south, it crossed mountain ranges, wound through tortuous river canyons, bee-lined across broad valleys dotted with magnificent oaks, passed through fertile fields and orchards, made its mark on innumerable settlements, large and small" (Livingston 1).

Being one of the three main north-south routes in the State, I-5 is not the cool, coastal US 101 favored by the romantics, nor US 395 claimed by the isolated ranchers and desert rats. "I-5 is the workman's route, the most expedient way to transverse this long state" (Livingston 2). In short, it has become the backbone of California.

But I-5 did not appear overnight, what follows is a story of the evolution of I-5 within District 2.

**I-5 history within District 2:**

- **1909-Woodland to Red Bluff-Route 7**
- **1909-Red Bluff to Oregon State Line-Route 3**
- **1926-Red Bluff to Oregon State Line-US 99**
- **1953-I-5 adopted as Federal Freeway**
- **1959-I-5 added to the Freeway and Expressway System**
- **1964-Decertifcation of US 99 authorized**
- **1969-Decertification of US 99 in District 2 complete**


## Evolution of a Transportation Corridor (1800-1875)

"From footpath to freeway," a few short words tell the story of I-5 through Northern California (Duffy 2). Native Americans first walked the general path that I-5 eventually took-trading, hunting, and fishing for salmon along the river. The trappers of the 1830s lived a mobile lifestyle and created paths through the undeveloped areas. Then the pack trains and ox carts of the pioneer settlers wore deep the ruts that marked the way of this route. Eventually this rutted path became part of the California-Oregon Trail (Duffy 2). In 1849, miners found gold in Northern California. With the discovery of gold, many other entrepreneurs came to California to find their fortune. By the early 1850s, the state's Native Americans, trappers, miners, and merchants had succeeded in weaving a dusty network of supply roads that bogged down into near impassability during the winter rains in Northern California.

In the late 1850s, a few entrepreneurs settled in the Sacramento River Canyon corridor (Amesbury 32). They realized that the canyon route would be adopted as part of the major north-south stage line between Oregon and Northern California. They formed partnerships and created toll roads. Most of the toll roads were un-graded and un-surfaced. Some businessmen had great success with these toll roads, but others had huge financial losses due to natural disasters (such as, massive floods, and fires). With the advent of the railroad, toll road traffic decreased dramatically. Many of the toll roads were then relinquished to counties and designated as public highways (Amesbury 32).

## Big Dreams, Little Money (1875-1900)

"During this time, the road system in California was anything but good" (Cooper 2). Most roads were little more than glorified wagon ruts. Virtually all were unpaved. When the surface was dry, the roads were passable. When it rained, however, they turned into impassable mud bogs laden with sinkholes. Roads were haphazard and poorly planned, funded either by the county or privately owned (Duffy 12-13). The success of the railroads in the late 1800s was partly as a result of the poor condition of the roads.

The State Legislature was concerned with the economic development of California and saw the wisdom of establishing a good road system. By the turn of the century, California became one of the first states to establish a Bureau of Highways (California, Transportation Library). The three-member Commission in charge of the Bureau began a horse and wagon journey that would take them over 17,000 miles of roadways (Livingston 14). About two years later, they made the first official recommendation for a 14,000-mile road network that would become the basis for today's State Highway System (California, Transportation Library). This proposed highway system contained a main north-south artery along what is now a portion of I-5, extending from Calexico on the International Boundary of Mexico to the Oregon state line north of Yreka (Livingston 14). While these men had foresight, they had little money or power to back up their proposals. Automobiles were still a novelty that could only be enjoyed by the rich. Most Americans continued to content themselves with either using the horse and buggy or the bicycle. Longer trips required taking the railroads, which had revolutionized traveling long distances and changed the face of the nation.

## Dawn of the Highway Era (1900-1913)

A few groups had attempted to stir up the public interest in road development at the turn of the century. These included the League of American Wheelmen (bicyclists) and car developers (Livingston 17). Bicycling was so popular that cyclists lobbied for better roads, literally paving the road for the automobile. Henry Ford's Model T began to be produced cheaply because of standardized automobile manufacturing (Cooper). Cars and trucks became an integral part of the California lifestyle. By the early 1900s, the public mood had changed in regard to spending money on highways.

The state's first highway improvement bond act came in 1909 when the Legislature provided $18 million dollars to build the State Highway System. Under this bond, the California Highway Commission (previously known as the Bureau of Highways) proceeded to design and construct a continuous and connected state highway system running north-south through the state (California Public Affairs). Their goal was to create a road network traversing every county seat and all centers of population on the best grade and alignment possible. This general plan included 3,052 miles of road, and formed the backbone and framework of the state highway system. According to the California State Highway Routes Selected Information in 1909 the following routes (that eventually became I-5) were added to the state highway system: 2, 3, 4, and 7.

**Routes in the State Highway System (eventually became I-5) in 1909:**

- **Route 2 Mexican Border to Santa Ana**
- **Route 4 Central Los Angeles to Wheeler Ridge**
- **Route 7 Woodland to Red Bluff**
- **Route 3 Red Bluff to Oregon State Line**

**FORD'S MODEL T.**

## More Money, Quick (1913-1923)

Soon the money ran out from the first $18 million dollar bond act and the state reached an agreement with the counties—the counties would provide the right of way and build bridges while the state would construct the roads. In another cost-saving measure, the State used convict laborers to build roads, a practice that continued until the 1970s. Despite this, additional funding was desperately needed (Livingston 23).

In 1913 an act was passed requiring all vehicles to be registered, the funds of which were to be used for highway maintenance. Additionally, a second bond act was passed in 1915. The State Highway Act of 1915 provided for a $15 million dollar bond issue for highway construction. The State Highway Commission's insistence on constructing high quality roads resulted in funds being used up quickly so many needed miles remained un-constructed (Livingston 23).

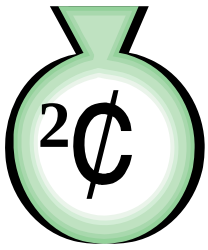
Meanwhile, in 1916 Congress had passed the Federal Aid Road Act. This act was the first offer of federal funds for road construction and a very significant event in highway history. "The precedent of distributing federal monies for road construction planted the seed for the future US Highway System and later the Interstate Highway System" (Livingston 24). In order to participate in this act, states were required to come up with half the money needed to construct projects.

Another State bond act was passed in 1919. This bond act was passed in part due to the need for matching funds for the Federal Road Act and in part as a result of lobbying from automobile organizations that wanted better roads. This $40 million dollar bond act also extended the funds for the completion of the highways contemplated under the two preceding acts and devoted additional funding for new roads brought into the system (California Public Affairs).

During this decade, the California Highway Commission requested field surveys and a written report regarding the condition of many routes, including Route 3. Route 3 in the Sacramento River Canyon was described "as a villainous piece of early day construction as one could find anywhere," and was "rough, dusty, crooked, narrow and steep" (Bassett 8). As a result of a field survey and written report, the California Highway Commission authorized efforts to improve the route, including re-grading the entire section from Redding to Dunsmuir. Route 3 up near the Oregon border, between Yreka and Klamath River, had to be carved into the side of the Shasta River Canyon, a rugged, spectacular piece of topography. The original north-south stage route, known as the Shasta Canyon Route, avoided this rough canyon with its inherent problems a few miles to the east, but bypassed Yreka (the county seat). The Shasta Canyon route was obviously the most direct way to head up over the Siskiyous and the connection with Oregon's Rogue Valley, but tackling it would be difficult and expensive. The California Highway Commission eventually chose the Shasta River Canyon route. Almost immediately traffic volumes and speeds demanded yet more improvements along the route (Livingston 20).

World War I impacted the dream of completing the 14,000-mile road system (California Public Affairs). After the war, the bonds were difficult to sell and additional funds were hard to come by. California had to settle for a scaled down highway system of 6,000 miles. Many of the miles in this system had problems with maintenance and/or required rebuilding.

By 1923 the State Legislature began to realize that transportation required a more secure revenue source (California Public Affairs). The answer was seen as a two-cent fuel tax in which leisure and commercial travelers paid a significant portion of the cost of building the highways they used. One cent was devoted to maintenance and reconstruction of State highways, and one cent for county roads (Livingston 26).



## US 99 is Born (1923-1926)

Automobiles were mass-produced during the early 1920's and had a huge impact on the landscape of California. Auto camps, auto courts, and motels were created for traveling Californians (and other Americans). The town of Corning is credited with having the first auto camp in California (opened in an olive grove) (Livingston 30). Additionally, boulevard stops, traffic islands, stoplights, and motels were all California firsts during this time.

During this period, the American Automobile Club and Automobile Club of Southern California were formed in California to promote better roads (Cooper 2). Additionally many trail associations were created to address the need to have marked interstate highways, thus the birth of the named highways. "By 1925 there were over 250 named highways, each with their own signs and placed haphazardly, a situation that created great confusion" (Cooper 1). Additionally, many self-serving organizations "relocated" the famous named roads so they would pass through their cities. There was also a lack of coordination between states through which transcontinental routes ran causing confusion since the route was often not even straight. It became clear that a single, unified system was necessary. This issue was addressed in the Federal Aid Highway Act of 1925 which led to the uniform numerical system developed by the American Association of State Highway Officials (AASHO, today's AASHTO) and adopted by the Federal Highway Administration (FHWA). Under the new US system, north-south routes were given odd numbers (lowest numbers in the east) and east-west routes were given even numbers (lowest numbers in the north), with a few exceptions (California Transportation Library). So in 1926, what was then known as Route 3 and Route 7, the Pacific Highway, Golden Chain Route, or Highway of Three Nations was re-designated as US 99, a part of the US road network (Frank).

***US 99 AUTO CAMP. Present day SR 273/North Market Street in the City of Redding.***

## Conquering the Sacramento River Canyon (1926-1931)

"Building US 99 across the flatlands of Northern California was generally trouble free" (Livingston 53). It was mostly a matter of obtaining the necessary funds and determining the best surfacing material. However, constructing it in the mountainous regions was another matter. The earliest highway was built along the path of least resistance by generally following the natural contours of the land.

The biggest challenge the highway engineers faced in the completion of US 99 in northern California was negotiating the Sacramento River Canyon, which stretches from just north of Redding to Dunsmuir. The canyon had been partially tamed by the Native Americans, fur trappers, gold miners, entrepeneurers, and the railroad; however, the route by the early settlers was a daylong journey at best during summer travel and not passable during the winter (California, Environmental Planning). With additional improvements during the 1930s, the trip was faster but still steep and full of curves (Livingston 69).

## Bridge Talk (1931-1938)

Bridges span and provide passage over a gap or barrier, such as a river. Early bridges were few and hastily built. In the early years, wooden structures were the choice, but soon fell out of favor due to being made of flammable materials and inability to handle heavy loads. Many of the bridges of 1910s-1920s were made out of metal (steel or iron). These bridges were even available in catalogs, but only in standard sizes and with a boxy look. Metal was expensive and the structures were ugly, and this led the bridge engineers to look for another material (Livingston 62). Concrete was cheap and plentiful. Additionally, bridges made out of concrete could have form and function, could look beautiful, and last a long time (Cooper 3).

Throughout the 1930s, numerous state bridges were built predominately of concrete arch design. The concrete bridges of this period were handsome structures that both enhanced and blended with the natural setting (Livingston 62). Most of the new concrete structures were built near the older steel bridges, which were left for local traffic.

The route built during this period crossed the Klamath River and entered the winding Shasta River Canyon eight miles north of Yreka. Its five bridges were all built during this era and continue to remain standing over 70 years later. "Bridges are enduring monuments to the legacy of the early highway era" (Livingston 59).

## Shasta Dam and Beyond (1938-1947)

The construction of Shasta Dam, the largest unit of the great Central Valley Water and Power Project, required relocation of 19.5 miles of US 99 as well as many miles of railroad. The project included the Pit River Bridge, the highest double-deck highway and railroad structure in the world at that time. This bridge was designed and constructed by U.S. Bureau of Reclamation engineers at an approximate cost of $5,000,000. A second bridge, Antlers Bridge, was also constructed over what would become Shasta Lake. This bridge is an interesting structure because of its complicated design on both vertical and horizontal curves (Bassett 1).

The post WWII years saw a dramatic increase in vehicle travel and additional lanes on many highways were desperately needed (Livingston 76). Construction in the Sacramento River Canyon began once again. Route realignment and grade changes required cuts and fills of mammoth proportion. Numerous slides also required portions of the highway to be moved. Even after this improvement, this portion of US 99 required continual maintenance, rerouting, and upgrading.

*PIT RIVER BRIDGE. Being constructed in 1941.*

## US 99 is Decertified, and I-5 is Adopted (1947-1979)

US 99 reached its pinnacle in the few years after World War II. National Highways like US 99 brought growth and prosperity to the states. Many towns and businesses developed along these corridors, making it convenient for tourists and businessmen alike.

"Commercialization of roadside property eventually led to excessive on and off highway movement on US 99. All this starting, stopping, parking, and maneuvering were dangerous and hampered the progress of through travelers on the highways" (Livingston 86). It became apparent that something more modern was needed with more controlled access, thus the concept of freeways was born. Freeways are defined as "highways to which abutting property has no right to access except from a limited number of controlled interchanges" (California Department of Transportation Design Manual, 60-2).

The 1940s saw the birth of the "freeway era" with the completion of many freeway sections, including a four-lane divided freeway facility between Cottonwood and Redding (California Public Affairs). Construction of California's highway system sped up in 1947 with the passage of the Collier-Burns Act that laid the basis for the state's current freeway-expressway system (California Transportation Library). Freeway construction was further accelerated when President Dwight D. Eisenhower proposed the National System of Interstate and Defense Highways, and Congress designated Federal funding with the passage of the Federal-Aid Highway Act (Cox and Young 4). The proposed system would supplant many of the US routes with divided Interstate freeways, a fact that diminished the need for US routes.

The Federal-Aid Highway Act called for uniform geometric and construction design standards for freeways. The standards were developed through the American Association of State Highway and Transportation Officials (AASHTO), and adopted by the FHWA. They include a minimum of four 12-foot lanes, a minimum shoulder width of 10 feet, access control, and design speeds of 50 to 70 miles per hour depending on the type of terrain (Cox and Young 4). The concept was to replace US 99 with I-5-a highway with straighter alignment and controlled access.

Getting this straighter alignment and controlled access meant that some communities along US 99 would lose connectivity once I-5's ultimate alignment was chosen. The cities and communities that did have the I-5 connection would most likely have easier access to economic growth. Thus, there was great controversy about where the highway would go in some locations (Early 1). For example, two alternatives were proposed in Siskiyou County near Yreka. One alternative was called the Shasta Valley Route and would have passed through Montague, along the east side of the foothills past Black Mountain, across the Klamath River and on to Hornbrook to join US 99 north to Oregon. The second alternative was the Shasta River Canyon. This route would have passed through Yreka down the Shasta River Canyon (current alignment) to Hornbrook to join US 99 north to Oregon. Senator Randolph Collier from Yreka tied a "rider" to an unrelated bill before the Legislature, which specified "the main highway from Sacramento to the Oregon border must proceed through Yreka" (Early 127). However, by the time plans were ready for construction, I-5 was to be a federal highway, and State law no longer prevailed on Senator Collier's rider.

The State Engineers submitted these alternative routes to the cities and counties, thus giving the city and county councils a certain degree of choice. The final compromise between both sides was that the route would swing west from Grenada along the existing US 99 route, go through the east part of Yreka, swing east to get away from the rocky Shasta River Canyon, then head northward over the rocky Anderson Grade along the side of Black Mountain, eventually back to existing US 99 at Hornbrook (Early 127).

I-5 was formally adopted and declared a federal freeway on February 18, 1953, by the California Highway Commission. I-5 was added to the Freeway/Expressway system in its entirety in 1959.

The US 99 corridor remained in full operation until 1964 when Legislative Route Renumbering--Collier Senate Bill 64-occurred (Frank). This law authorized the beginning of the de-certification of US 99. "By the late 1960s all of US 99 in northern California had been either downgraded from US Highway to State level (much of State Route 99 from Red Bluff to Marysville or SR 263 from Yreka to SR 96), given

back to local governments (such as 99W south of Red Bluff), incorporated into (or more literally, underneath) Interstate 5, or simply abandoned" (Livingston 86).

The 1960s and 1970s was a time of technological innovation. Major improvements to I-5 in Northern California during these years included (1984 I-5 RCR):

- A 15.2-mile section of I-5 extending from Red Bluff to north of Cottonwood was opened to traffic. Included in the contract was a new truck-weighing station near Cottonwood and two safety rest areas. Because this project incorporated existing US 99 into the interstate freeway, it was necessary to reconstruct six overcrossing structures. (1964)
- A 6.8-mile section became a four-lane freeway from 4.6 miles south to 1.5 miles north of Mount Shasta's City limits. With the completion of this section, there were approximately 37 miles of continuous four-lane expressway and freeway from the upper limits of Shasta Lake to Mount Shasta City. (1964)
- An opening of a 12-mile section of four lanes on I-5 from Corning to Orland (nine miles in District 2). (1966)
- A 12-mile section completed to four-lanes near Hornbrook north of Yreka. This was the last two-lane section of I-5 in the State to be upgraded to four lanes. (1974)

By the mid 1970s political philosophy had shifted, urging alternatives to highway building. Such thinking also led to a new name for the State Highway department, Caltrans, short for the California Department of Transportation (California Public Affairs).

## Modern Growth (1980-1999)

The 1980s and 1990s saw completion of ideas that had been conceived 15 to 20 years earlier. The emphasis began to be on more-efficient use of highways, and their integration with other "modes" of transportation. Upgrades during this time included:

- Reconstruction of existing Dog Creek Bridge (SHA 5 45.54) to carry northbound traffic and construction of a new bridge to carry southbound traffic. (1989)
- Designation of I-5 between Mexico and Canada to freeway with full access control upon completion of a 13-mile, $110 million upgrade through the Sacramento River Canyon, north of Redding. (1992)
- Reconstruction of an Inspection Station in Cottonwood to contain technological advancements such as Weigh in Motion (WIM) scales. (1998)
- Replacement of both structures of the Cottonwood Creek Bridge. (1998)
- Increase the California speed limit from 55 mph to 65 mph for automobiles on most freeways. (1995)

## Present Day (2000-2008)

As California entered the 21st century, the interstate continued to be upgraded to provide motorists with a modern, state-of-the-art freeway to safely carry people and goods with fewer delays. Projects included:

- Placed advanced curve warning signs and traffic monitoring systems along several steep and curvilinear rural sections of I-5 in the Sacramento River Canyon. (2000)
- Reconfigured the SR 44 on-ramps to I-5 and added an auxiliary lane at SR 44 Jct/I-5. (2001)
- Installed median barrier in the Sacramento River Canyon. (2004)
- Building a new freeway interchange on I-5 at Adobe Road in Red Bluff. (2003)
- Replacing I-5's northbound and southbound bridges (06 0128L/R) over the Sacramento River north of Anderson. The original bridge was built in the 1960s. (2004)
- Adding northbound truck climbing lanes at Wilcox and Nine Mile Hill in Tehama County. (2006)
- Adding northbound and southbound truck climbing lanes at Cottonwood Hills in Shasta County (2008).

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# APPENDIX B

## Federal and State Designations

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# Interstate 5
# Transportation Concept Report

## *Federal and State Designations*

## Route Designations

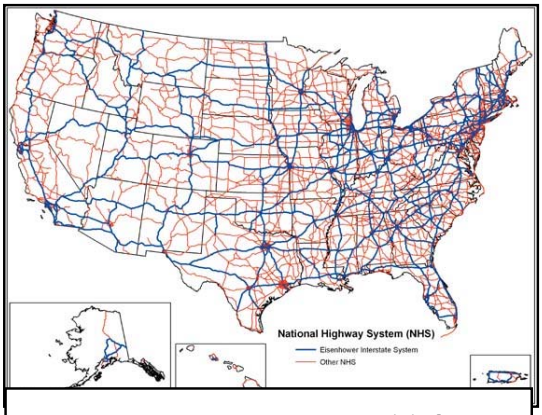
Route Designations identify what function a route serves. The following information contains designations for the I-5 corridor in the Northern Sacramento Valley:

### Federal Designations

- **Network for Surface Transportation Assistance Act (STAA) Trucks**
  Added: 1982
  Legislation: Surface Transportation Assistance Act (STAA)
  The STAA Act requires states to allow larger trucks on the Interstate system plus the non-Interstate Federal-aid Primary system. "Larger trucks" includes (1) doubles with 28.5-foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle (KPRA) distance, (3) unlimited length for both vehicle combinations, and (3) widths up to 102 inches. The National Network (NN), Terminal Access (TA) and Service Access routes together make up the "STAA Network."

- **Strategic Highway Network (STRAHNET)**
  Added: 1990
  Legislation: Federal Defense Act
  The purpose of STRAHNET is to provide a network of highways that are important to the United States strategic defense policy and provide defense access, continuity, and emergency capabilities for defense purposes.

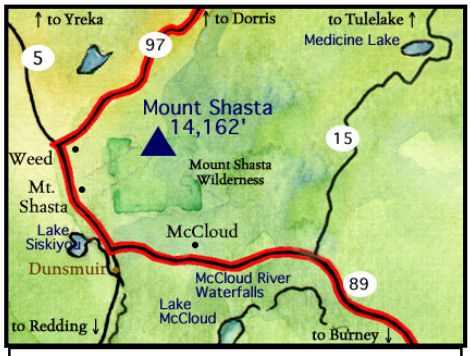
- **National Highway System (NHS)-High Priority**
  Added: 1995
  Legislation: National Highway System Designation Act
  The purpose of the NHS is to provide an integrated national highway system that serves both urban and rural America; to connect major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations; to meet national defense requirements; and to serve interstate and interregional travel.




***NATIONAL HIGHWAY SYSTEM MAP. I-5 is in the system.***

- **National Scenic Byways Designation-Volcanic Legacy All American Road**
  Added: 1998
  Legislation: Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, and reauthorized in 1998 under the Transportation Equity Act (TEA) for the 21st Century.
  Under the National Scenic Byways (NSB) Program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historical, natural, recreational, and scenic qualities. There are 72 such designated byways in 32 states. The National Scenic Designation provides Federal-funding opportunities for signage along the corridor.

  A small portion of I-5 in the Mount Shasta Region is included in the NSB Designation (Volcanic Scenic Byway All American Road). The Byway circles Mount Shasta, providing views from every angle of our nations second highest volcano. From the town of Weed on the north, the route leaves Highway 97 and enters Interstate 5. Passing Black Butte, a small plug volcano, Interstate 5 comes to the City of Mt. Shasta. Just south of Mt. Shasta City, the Byway leaves Interstate 5 and heads east on Highway 89, en route to McCloud.


***NATIONAL SCENIC BYWAY DESIGNATION MAP. Near Mt. Shasta.***

**Corridor of the Future Program (CFP)**
Added: 2007
Legislation: Federal Congestion Initiative
The CFP is one of the United State's Department of Transportation's (DOT) initiatives under the broader National Strategy to Reduce Congestion on America's Transportation Network (Congestion Initiative). The primary goal of the CFP is to encourage States to explore innovative financing as a tool to reduce congestion on some of our most critical trade corridors, improve the flow of goods across our Nation, and enhance the quality of life for U.S. citizens. The DOT's selected six interstate routes to develop multi-state corridors to help reduce congestion. I-5 was one of the routes selected to receive funding for a project. The application submitted addresses infrastructure improvements to I-5 from the U.S. border with Canada, through the states of Washington, Oregon, and California, to the U.S. border with Mexico.


***CORRIDORS OF THE FUTURE MAP. Six interstate routes selected to participate.***

## State Designations

- **Blue Star Memorial Highways**
  Added: 1947
  Legislation: Segments are added by State Senate Concurrent Resolutions, State Assembly Concurrent Resolutions or Federal Senate Resolutions.
  After World War II, a nationwide movement was started to pay tribute to the nation's armed forces, by designating various State and national routes as "Blue Star Memorial Highways." In 1945, the National Council of State Garden Clubs, Inc. approved the Blue Star Memorial Highway Marker program. California

  Garden Clubs, Inc. accepted the program in 1947, when the California Legislature designated Highway 40 (now SR 80) and Highway 99. Additional routes have been added to the program including I-5.
  *All of I-5 is included in the Blue Star Memorial Highway designation.*


***I-5 SHASTA. Sign at Castella Vista Point PM***

- **Freeway and Expressway System (F & E)**
  Added: Statues of 1959
  Legislation: California Streets and Highways Code-Sections 253.1-253.8
  The Statewide system of highways declared by the Legislature to be essential to the future development of California. The F & E System has been constructed with a large investment of funds in order to control access, and to ensure the safety and operational integrity of highways.

- **State Highway System (SHS)**
  Added: Statues of 1964
  Legislation: California Streets and Highways Code-Sections 300-635
  The intent of the legislature was to identify a set of routes in the State Highway System that serve the state's heavily traveled rural and urban corridors, connect the communities and regions of the state, and support the state's economy by connecting centers of commerce, industry, agriculture, mineral wealth, and recreation.

- **California Truck Route Classifications**
  Added: AB 66 (1983) and SB 2322 (1986)
  Legislation: California Vehicle Code-Sections 35400-35414
  "California Legal" trucks can use the STAA Network and California Legal routes. The route classifications are listed below and see additional STAA designations under "Federal Designations."

California Legal (State): California Legal routes are State routes that allow California Legal-size trucks. STAA trucks are not allowed on these routes because of limiting geometrics, such as sharp curves and/or lack of turn-around space.

California Legal-Advisory (State): California law allows regulatory prohibition of a 38-foot King Pin to Rear Axle (KPRA) or greater where posted in black-on-white. However, many California legal routes cannot safely accommodate California Legal-size trucks with a KPRA less than 38 feet, due to limiting geometrics such as sharp turns and limited highway width. Although California Legal trucks may travel on these segments, the driver is legally responsible for unsafe off tracking (crossing the centerline or driving on shoulders and sidewalks).

Restricted (Federal, State, Local): Some route segments have restrictions on certain truck or loads, such as gross weight, number of axles or hauling of flammable materials or explosives. Restrictions on federal or State routes are listed on the Caltrans Truck Route List.

- **Interregional Road System (IRRS):**
  *The Interregional Road System is a subset of the State Highway System.*
  Added: 1989
  Legislation: Transportation Blueprint for the Twenty-first Century; In the California Streets and Highways Code-Sections 163-164.2
  The IRRS was conceived as part of a larger effort to address the critical transportation funding and development needs of the state. The legislation required the California Department of Transportation to define IRRS routes and create an interregional road system plan. IRRS is a series of interregional state and highway routes, outside the urbanized areas, that provide access to, and links between, the state's economic centers, major recreation areas, and urban and rural regions. In 1989 the IRRS plan identified 81 state highway routes, or portions of routes, that serve the interregional movement of people and goods. Most interstates were included in the system, and all major interregional routes (conventional, expressway and freeway). Six additional routes have been added to the system since that time by locally sponsored legislation, so there are currently 87 IRRS routes in statute.

- **High Emphasis Route**
  *High Emphasis Routes are a subset of the IRRS.*
  Added: 1990 IRRS Plan; 1998 Interregional Transportation Strategic Plan (ITSP)
  Legislation: None
  Due to the large number of routes and capacity improvements needed on the IRRS, the 1990 IRRS plan identified a subset of the 87 routes as being the most critical routes and identified them by the term "High Emphasis Routes." High Emphasis Routes are a priority for programming and construction. Originally, there were 13 routes listed as High Emphasis Routes in the 1990 IRRS Plan. The 1998 ITSP kept the original 13 High Emphasis routes and added an additional 21 routes to the category for a total of 34. In some cases, the High Emphasis routes in the ITSP are a series of joined portions of routes that constitute a major logical transportation corridor.

- **Historic Highways Program**
  Added: 1993
  Legislation: California Assembly Concurrent Resolution No. 19, Chapter 73- Relative to Historic U.S. 99
  This program requires the California Department of Transportation, upon application by an interested local agency or private group, to identify any section of former U.S. Highway 99 that is still a publicly maintained highway, and to designate that section as "Historic U.S. Highway 99." The Historic Highway program does not appear to impact the State highway System with the possible exception of signage issues and possible TEA project proposals. This designation provides no funding opportunities.

  Previously I-5's designation was US 99. Some sections of current day I-5 reside over the historic US 99 route, while other sections of historic US 99 are adjacent to I-5 and have become local streets in cities and communities.


***US 99 Historic Shield.***

- **Intermodal Corridor of Economic Significance (ICES)**
  Added: Statues of 1994
  Legislation: California Streets and Highways Code-Sections 2190-2191
  The ICES system was created in response to State legislation that required the Department to identify significant National Highway System corridors that link intermodal facilities most directly, conveniently, and efficiently to intrastate, interstate, and international markets. To be included in the ICES system, a route should provide access between major freight intermodal facilities and serve freight traffic with the NAFTA countries of Canada and Mexico, as well as the Pacific Rim and other U.S. trade markets.

- **Life Line Routes**
  Added: California Department of Transportation Strategic Plan-1994.
  Legislation: Not in legislative statues.
  A Lifeline Route is a route of the State Highway System that is deemed critical to emergency/life safety activities of a region or the state. The route must remain open immediately following a major disaster, or can be reopened fairly quickly by following a predetermined disaster response plan. The focus is on highly critical routes that allow for immediate movement of emergency equipment and supplies into a region or through a region.

- **Nomlaki Highway**
  Added: Statues of 2007
  Legislation: Senate Concurrent Resolution No. 15
  Between the interchanges of Gyle Road and Flores Avenue in Tehama County is known as the Nomlaki Highway and is signed as such.


***TEHAMA 5. Nomlaki Sign placed near Flores Avenue Interchange.***

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# APPENDIX C

## Scenic Values

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# Interstate 5
# Transportation Concept Report

## *Scenic Values*

## Background

This section focuses on scenic values in association with I-5. The I-5 freeway is unique and has special scenic qualities portraying the region.

The basic concept is preserve, maintain, and enhance the special features of the freeway. Scenic values must be considered along with safety, utility, economy, and all the other factors considered in planning and design. This is particularly true of the many portions of the California State Highway System situated in areas of natural beauty. The location of the highway, its alignment and profile, the cross section design, and other features should be in harmony with the setting. Economy consistent with traffic needs is of paramount importance, although a reasonable additional expenditure can be justified to enhance the beauty of the highway.

**I-5 SHASTA/SISKIYOU BORDER. Sacramento River Canyon.**

## Scenic Values

The function and appearance of a road corridor are the result of many separate actions taken over a long time to address specific needs. While each of these actions (for example, culvert replacement, adding signage, and lane additions) is necessary to maintain and create the facility, the result can either support or degrade the scenic quality do the corridor. The cumulative effect of a series of individual actions if undertaken without reference to protecting and enhancing the special qualities of the byway, can be far grater than anticipated.

Caltrans utilizes Context Sensitive Solutions/Design (CSS/D) to ensure that transportation projects are in harmony with communities and preserve and enhance intrinsic qualities such as historic, aesthetic, and scenic resources. CSS/D involves a collaborative, interdisciplinary approach to identify and protect/enhance the scenic quality of a highway corridor.

Federal, State, Regional and many local regulations require Visual Impact Analysis and scenic integrity. There are several reference regulations following:

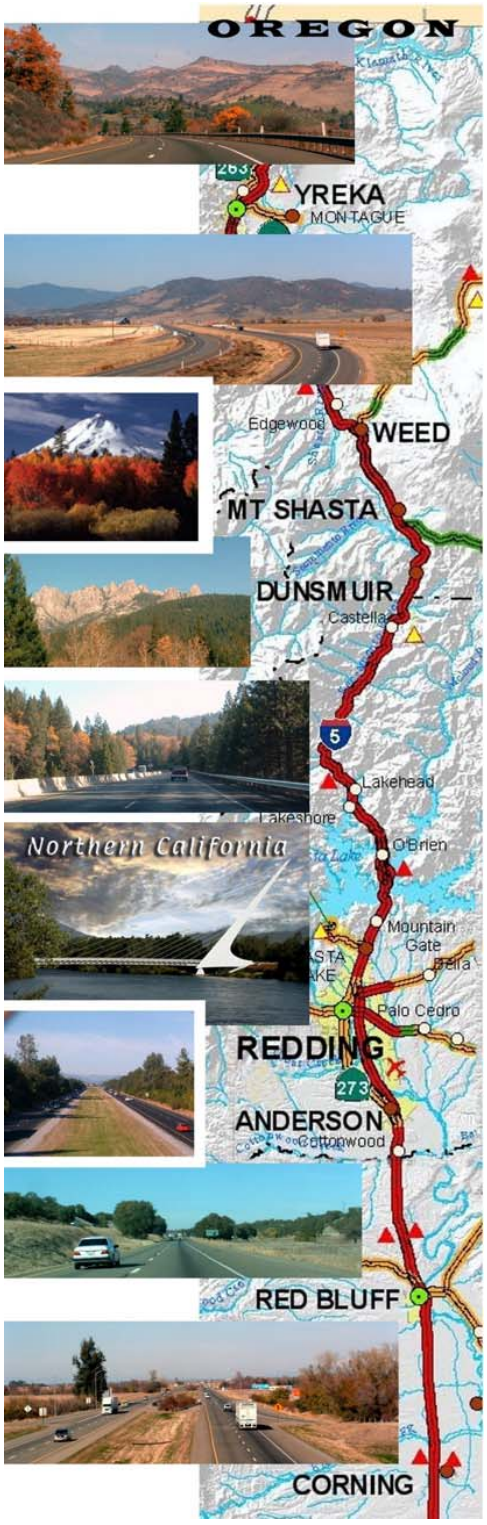
**I-5 SISKIYOU. Mount Shasta Near Weed.**

- Federal, Us Code Title 23 Section 109; National Environmental Policy Act (NEPA) Title I – Declaration Of National Environmental Policy Sec. 101[42 USC § 4331], 102 [42 USC § 4332]; S

- State, CEQA Guidelines 15126.2 Consideration And Discussion Of Significant Environmental Impacts, 15360 Environment;

- California EPA National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction Activity (General Permit) Water Quality Order 99-08-DWQ;

- Caltrans Policy, Project Development Procedures Manual Chapter 29 – Landscape Architecture – Section 5 – Aesthetics, Caltrans Highway Design Manual Chapter 29 – Chapter 100 – Topic 109 – Scenic Values In Planning And Design 109.1 & 109.3d, Caltrans Director's *Policy* (22) – Context Sensitive Solutions; (04) Environmental Policy – minimize impacts, *Directive* (88) Benchmarking and Implementing Best Practices.



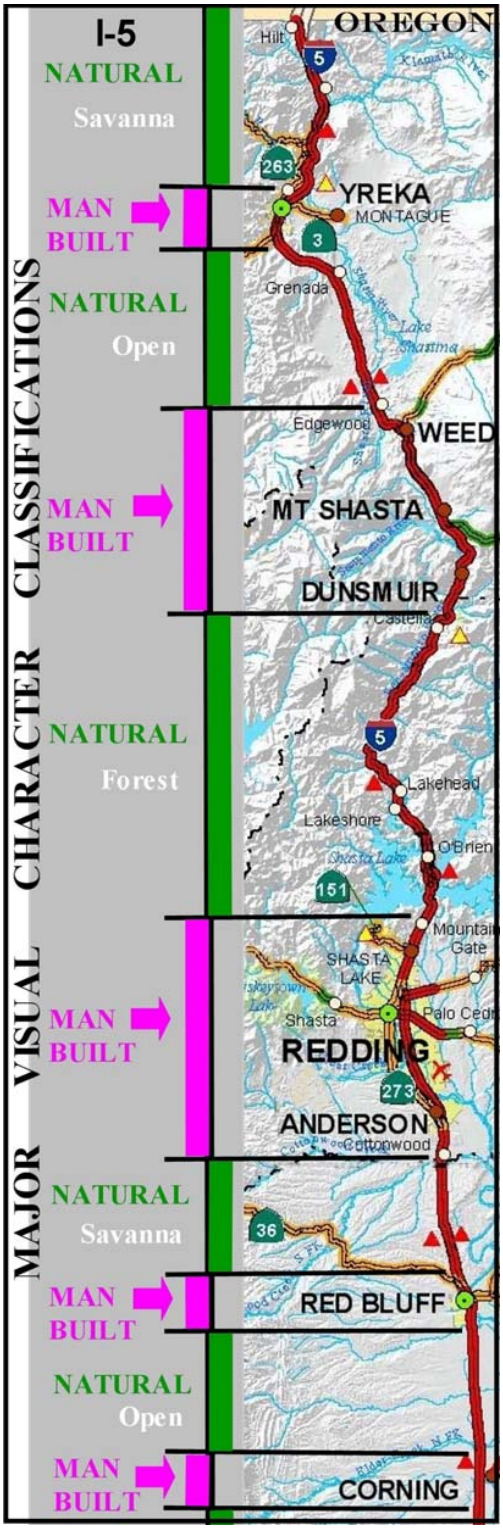
**Major Visual Character Classifications**

Currently I-5 corridor scenic integrity is identified as being in one of two major roadside character classifications represented by their off highway dominant viewshed scenic intrinsic characteristics, **NATURAL** or **BUILT** (human). Roadside is classified from the roadway user's visual perspective of the landscape.

Cities along I-5 (Corning, Red Bluff, Anderson, Redding, Dunsmuir, Mt Shasta, Weed, Yreka) represent BUILT and each individual community has its own unique intrinsic scenic qualities and level of scenic integrity. Built character indicates a landscape in which human elements, structures, buildings, artifacts are notable or predominant in the overall context.

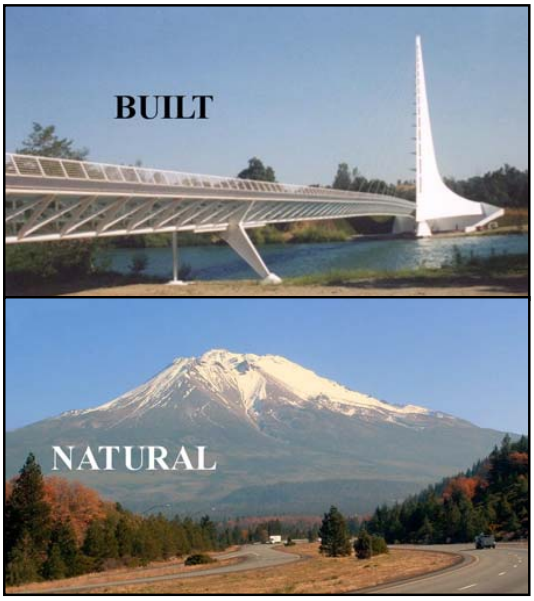
The remainder of the route is characterized by its NATURAL scenic characteristics and each individual viewshed is represented by its own unique intrinsic natural scenic qualities and level of scenic integrity. Natural character refers to a landscape in which land, water, vegetation and animals are predominant. Although natural resources may have been altered or imported by people, resources that are primarily geological or biological in origin are considered natural. A grassy pasture with rolling terrain, scattered trees, and grazing cows, for example, is considered to be composed of natural resources, even though it is a landscape created by people. Human elements and structures are rare or insignificant in the overall natural context.

Roadway elements are "BUILT" and visually they typically emulate and fit more easily within the BUILT environment. To the contrary, roads introduced into areas dominated by NATURAL character in themselves can diminish natural scenic quality by disrupting natural integrity especially unity and intactness of the overall viewshed. Effective modification (minimization and mitigation) is needed when BUILT elements are introduced into all settings. During all projects, Natural or Built scenic assessment is prudent to assure that Federal, State, Regional and local Best Management Practices are reflected and viewshed scenic integrity is not reduced or permanently compromised. To maintain scenic integrity in corridors dominated by NATURAL character, currently guidelines based on regional planning, resource agency documents, and the U.S. Forest Service Landscape Management for Roads 1977 are used.



**Evaluating Scenic Quality**

Scenic evaluations are prepared by a licensed landscape architect in consultation with a stakeholder team including members of Caltrans functional units and outside volunteers that serve in local scenic byway organizations from towns along the study route. Each Caltrans project also receives a Visual Assessment based on U.S. Department of Transportation, Federal Highway Administration (FHWA) publication "Visual Assessment for Highway Projects" March 1981. Both evaluations and assessments are focused primarily on integration of road and roadside management zones into the overall viewshed.




Three criteria are used to perform all evaluations and assessments of the landscape scenic/ visual quality: vividness, intactness, and unity. These criteria are put forward in the following formula developed by FHWA:

*** Basic FHWA Formula: Visual Quality = Vividness + Intactness + Unity**
**Scenic Quality = (Vividness [of intrinsic qualities] + (Intactness + Unity /2 ) ) /2**

**SQ *Quality*** **SV [*Value*]** **SI (*Integrity*)**

Each of the three criteria is independent; each is intended to evaluate one aspect of scenic visual quality. Built and natural areas are evaluated using their own intrinsic characteristics. Definitions of these terms are:

**Vividness:** The memorability of the visual impression received from contrasting intrinsic elements they combine to form a striking and distinctive visual pattern.

**Intactness:** The integrity of visual order in the natural or built landscape, and the extent to which the landscape is free from visual encroachment.

**Unity:** The degree to which the visual resource of the landscape join to form a coherent, harmonious visual pattern. Unity refers to the compositional harmony or inter-compatibility between landscape elements.

Scenic quality is typically represented using a qualitative value scale. The scale from seven very high, to one being very low, four is medium. High levels of vividness, unity, and intactness, indicates higher scenic quality is present.

## Vividness:

Very High (Rating value = 7):

> ***Natural*** intrinsic quality is dominant, lush, colorful, distinctive, brilliant, striking, pristine and forms the dominant visual effect in the landscape.
>
> ***Built*** intrinsic qualities is predominant, striking forms, lines, or color patterns, strong sense of place dominant and highly visible.

Moderate (Rating value = 4):

> ***Natural*** intrinsic quality/qualities variation is visible and interesting, diversity is relatively common, noticeable, but not the dominant part of landscape.
>
> ***Built*** intrinsic quality/qualities traditional city or village center containing moderately pleasing visual

Very Low (Rating value = 1):

> ***Natural*** intrinsic variation is minimal, nondescript, form line and color of elements are monotonous and un-engaging, little visual diversity, minimal presence, common, contribute minimally, or not present.
>
> ***Built*** intrinsic quality/qualities absence of skyline or traditional city or village center and introduction of unsightly elements.

**Intactness:**

Very High (Rating value = 7):

***Natural*** integrity of visual order in the viewshed is intact and free from encroaching features; landscape is undisturbed with little or no evidence of human modifications. Or, built elements, which do exist in the natural landscape, blend well and do not encroach upon its visual setting.

***Built*** landscape contains strong and well-established visual character. Contain no encroachments or eyesores.

Medium (Rating value = 4):

***Natural*** integrity of visual order in the viewshed is moderately impacted by human built elements; landscape is moderately impacted by encroaching human built features.

***Built*** landscape is moderately impacted by encroaching human built features or eyesores.

Very Low (Rating value = 1):

***Natural*** or human built view is highly altered by encroaching human built features, which result in a predominance of eyesores. Examples include suburban sprawl, junkyards, utility lines, or unmitigated resource extraction activities.

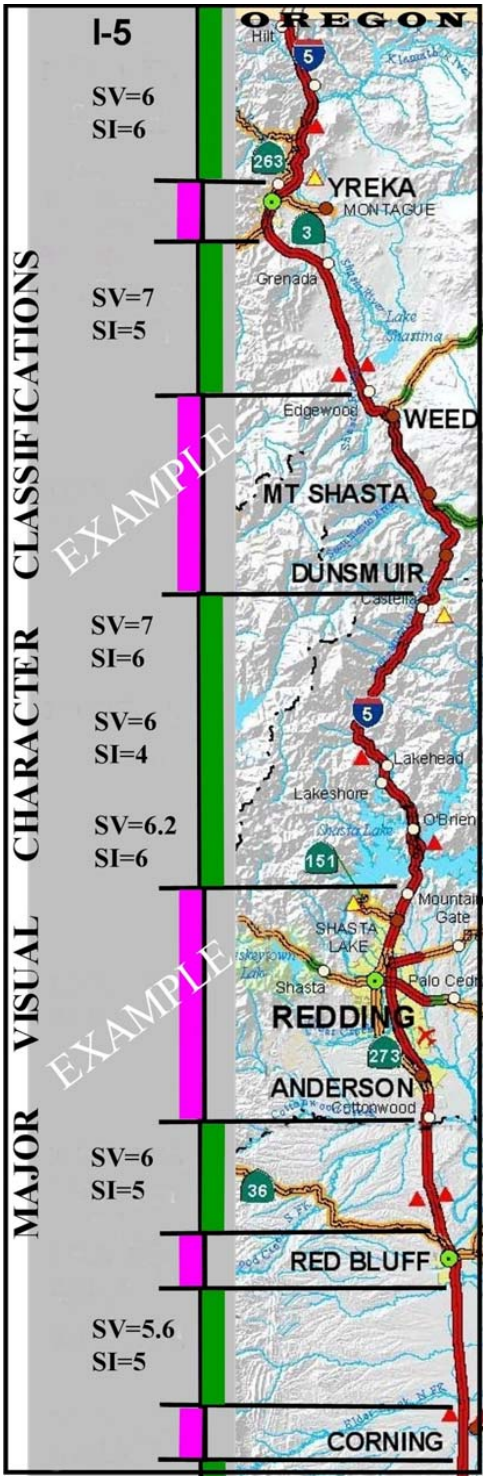
Unity:

Very High (Rating value = 7):

***Built*** or modified elements, where present; blend harmoniously with the natural environment. Colors and materials used give a natural feel and texture to human built structures. In the urban setting, all of the human built elements blend harmoniously.

Medium (Rating value = 4):

***Built*** or modified elements fit moderately well into the natural environment. Some of the color and materials used give a natural feel and texture to human built structures. In the urban environment, human built elements blend moderately will. Natural landscape has a moderate degree of visual order and harmony.



Very Low (Rating value =1):

***Built*** or modified elements contrast markedly and have no visual relation to the natural environment. Visual order is cluttered or significantly distracting for the viewer. Offers no clear, unifying theme. Natural landscapes are visually chaotic and jumbled.

**Maintaining Scenic Quality**

Maintaining scenic quality at project completion is a challenge for all Caltrans personnel. Effectively assuring no cumulative or indirect loss of scenic quality in any viewshed or along the I-5 is a continuous and ongoing management process. Without an adopted corridor management plan and accompanying baselines guidelines (CSS/D) for evaluating and maintaining scenic integrity, preserving the scenic quality of the I-5 corridor is difficult.

**Recommendations:**

- Develop system Best Management Practices and integrate them into all Caltrans projects and activities along the route.
- Create a Quality Management Plan with key elements identified by FHWA policies.
- Apply for grants to fund enhancement activities.
- Use guidelines early during the project development process and environmental/design stages.
- Communicate and involve community groups throughout the scenic evaluation process.

# APPENDIX D

## Preliminary Environmental Assessment

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# Interstate 5
# Transportation Concept Report

## *Preliminary Environmental Assessment*

## Intent

The intent of this assessment is to provide an overview of known special status resource areas and/or species, and to possibly identify areas suitable for future highway improvements in an effort to avoid and/or minimize impacts to known resources. A systematic resource inventory will still be required before a comprehensive and up-to-date assessment can be undertaken for site-specific transportation projects.

The following information is a partial listing of potential natural and cultural resources that exist along the freeway corridor and is based on time-sensitive information available at the time this TCR was prepared. It is not intended to be an all-inclusive listing, but to provide general information on known and potential cultural resources, current Federal Endangered Species Act (FESA), and California Endangered Species Act (CESA) resources, potential permits that have potential to occur within the corridor. State special status species are not included with the report.

This report does not address cumulative impacts caused by expansion of I-5, including permanent habitat and or resource loss, wetlands impacts, permanent and temporary impacts to *waters of the U.S.* Mitigation for the cumulative impacts should be assessed prior to or early in the project development stage to identify, coordinate, consult, and develop the most effective and efficient overall solution(s) for those impacts. As projects are identified, funded, and developed, further studies will be necessary to investigate specific locations of improvements, avoidance of resources, mitigation requirements, etc. in accordance with applicable laws and regulations.

## Assessment

**Socio-economic and Community**
It may be necessary to prepare a study of socio-economic and community effects for temporary construction activities depending on timing of improvements and population growth of the cities. Based on current and projected populations and the current alignment of the freeway, it is not anticipated that significant impacts would occur in any of the cities and communities in Tehama County, Shasta County, or Siskiyou County.

**Farmlands**
There is potential to affect farmlands in the rural agricultural areas of Tehama, Shasta, and Siskiyou counties, if additional right of way is needed to expand the freeway system. No technical reports are mandated by state or federal law concerning farmlands. However, it may be appropriate to prepare a separate Community Impact Assessment report or background study if any farmland will be affected by the proposed project.

**Section 4(f)**
An initial review of the project area, within the existing right of way, did not indicate that any public parks, wildlife or waterfowl refuges, or federally designated river had potential to be impacted. However, the project may create 4(f) issues if it results in any temporary or permanent impacts to the following properties abutting I-5: protected resources including lands from a historic site of national, state, or local significance, publicly-owned land from public parks, recreational areas of national, state, or local significance, wildlife or waterfowl refuges.

**Visual Effects**
A visual assessment will be required and should include potential project effects and any appropriate mitigation. While removing trees or excavating slopes may not be considered major impacts on an individual project, similar impacts on past, or future projects within a highway corridor can result in a cumulative impact to the visual environment when considering the combined result. Some methods for mitigating visual impacts can include type, treatment, and color for barriers and walls; architectural styles for bridge structures, upgraded rails, and miscellaneous hardware; contour grading plans that incorporate slope rounding; landscape treatment (e.g., planting for screening, revegetation), and aesthetic treatments to guardrail may be required. Vegetation removed from any properties found to be historically significant could become a sensitive issue.

**Water Quality and Erosion**
Future projects are required to meet State and Federal requirements for water quality, to minimize erosion by current methods and practices like replanting any construction disturbed areas, and to implement the Department's best management practices to reduce any potential water quality impacts.

**Floodplain**
A floodplain evaluation report would be necessary to analyze the effects of the alterations to many of the bridge footings or for construction areas that are within the 100-year floodplain. Local, state and federal water resources and floodplain management agencies must be consulted if any features the project encroach on a 100-year base floodplain. Coordination also may occur in order to obtain current information on development and proposed actions in the effected watersheds. It is most likely that several features of the project would require a floodplain evaluation report.

**Air Quality**

Air quality is a general term used to describe various aspects of the air that plants and human populations are exposed to in their daily lives. The Federal Clean Air Act (CAA) forms the basis for the national air pollution control effort. A basic element of the CAA is the National Ambient Air Quality Standards (NAAQS), which require that certain pollutants do not exceed specified levels. Areas with levels that exceed the standard for specific pollutants are designated as "non-attainment areas." "Attainment/Unclassified" status indicates that the area has never been designated non-attainment for that particular standard.

At the time of this assessment, there are no areas designated non-attainment for air quality, although Shasta and Tehama Counties have been on the fringe of being designated non-attainment in recent determinations. If any of these areas are designated non-attainment in the near future, early coordination (well before project initiation stage or development of the scope of work) with the regional and resource agencies is necessary to obtain a conformity analysis. A further demonstration of transportation conformity–at the project level–is required if a project is located in a nonattainment or maintenance area included in the respective Regional Transportation Plan that is in conformity with the Clean Air Act State Implementation Plan (SIP). In order to receive transportation funding or approvals from the FHWA or Federal Transit Administration (FTA), State and local transportation agencies in a "non-attainment area" must meet conformity requirements set forth in the CAA. Specific requirements are set by US regulations, and US EPA and US DOT guidance documents.

Pollutants primarily considered in California are: carbon monoxide (CO); ozone (1-hour and 8-hour State, 8-hour Federal); particulate matter – PM10 (24-hour and annual); particulate matter – PM2.5 (annual State, 24-hour and annual Federal); and nitrogen dioxide (NO2; Federal only).

**Table 37** provides a summary of air quality designations for Tehama, Shasta, and Siskiyou Counties.

**TABLE 37**
**I-5 Air Quality Designations**

| MPO/ RTPA | Air Quality District | State | | Federal |
|---|---|---|---|---|
| | | **Air Basin** | **Attainment Status** | **Attainment Status** |
| Tehama | Tehama County APCD | Sacramento Valley | Nonattainment; PM10; Ozone (1-hour) | Attainment/ Unclassified |
| Shasta | Shasta County AQMD | Sacramento Valley | Nonattainment; PM10; Ozone (1-hour) | Attainment/ Unclassified |
| Siskiyou | Northern Sierra AQMD | Northeast Plateau | Attainment/ Unclassified | Attainment/ Unclassified |

Source: California Air Resources Board and United States Environmental Protection Agency

**Noise**
Sound is composed of pressure waves within the atmosphere. A logarithm scale, the decibel system, has been selected to describe the range of hearing. The measurement unit is the decibel (dB).

Sound levels within the environment often change randomly. This is the case with traffic noise. The level of traffic noise depends on three things: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks. Vehicle noise is a combination of the noises produced by the engine, exhaust, and tires. The loudness of traffic noise can also be increased by defective mufflers or other faulty equipment on vehicles. Any conditions (such a steep incline) that cause heavy laboring of motor vehicle engines will increase highway noise. Additionally, highway construction can elevate traffic noise.

Highway traffic noise is a concern to Federal, State, and local officials. Highway traffic noise management activities fall into three strategies: (1) motor vehicle control; (2) land use control; and (3) highway planning and design. Caltrans can only encourage other agencies to implement noise impact reduction measures in the first two categories. Caltrans does have primary responsibility in the area of highway planning and design. Since the 1970s when FHWA noise standards were issued, Caltrans has been incorporating noise mitigation measures into the design of new highway construction projects when necessary and appropriate.

Consideration needs to be given to noise levels on existing or completed highways. In 2003, the District 2, Office of Advanced Planning, developed a noise inventory and a sound wall prioritization covering the most populated areas in the Shasta County region. This study request came from the Shasta RTPA. Included in the study was I-5.

Traffic noise may be identified in the project initiation stage or development phase near and through populated areas and sensitive land uses (residences, schools, and hospitals). If traffic noise impacts are predicted, noise abatement measures must be evaluated and considered. Preliminary noise abatement design includes considerations such as barrier heights, lengths, and location and could be included to mitigate impacts related to traffic noise.

**Wild and Scenic Rivers**
At the time of the report, only one Federally designated Wild and Scenic River is shown within the project area. The Klamath River System crosses I-5 at the Shasta and Klamath sub-basins. This Lower Klamath sub-basin runs from Iron Gate Dam west across I-5 at the Klamath Bridge and Separation (#02-134 L/R) to the Pacific Ocean. Any new designations of wild and scenic rivers within or adjacent to the project area could require mitigation to reduce any visual or aesthetic impacts to that 4f resource.

**Cultural Resources**
Cultural resources encompass archaeological, traditional, and built environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites. Qualified cultural resources professionals, consulting with their peers, Native Americans, subject matter experts, or review authorities as necessary, conduct

studies of those cultural resources that could have potential to possess significance and that could be affected by transportation projects.

An official record search of known archaeological resources has not been performed for the Interstate 5 corridor between Tehama and Siskiyou counties. Therefore, a review of the Caltrans District 2 database has been the basis for the information summary below and it should be assumed that additional resources exist within this corridor.

***Tehama County***
Much of the 42-mile long Tehama County I-5 corridor has not been subject to archaeological survey. Areas that have been surveyed have shown low to moderate sensitivity for cultural resources. Areas near watercourses are of a higher sensitivity. Recorded sites within the right of way are located near the Sacramento River and Dibble Creek. Buried sites are a possibility as there is a thick layer of alluvium that may obscure old land surfaces.

***Shasta County***
Parts of the 67 mile I-5 Shasta County corridor have been surveyed. The southern portion of Shasta County from Redding to the Tehama County line is moderately sensitive, while the corridor north of Redding through the Sacramento River Canyon is extremely sensitive for both historic and prehistoric sites. Approximately 25 sites have been recorded within one-quarter mile of Interstate 5 within Shasta County.

***Siskiyou County***
Approximately 17 miles of the 69 mile I-5 segment in Siskiyou County has been surveyed for cultural resources. The area has a moderate to high sensitivity level for cultural resources. There are approximately 60 cultural resources recorded within one-quarter mile of Interstate 5, more than half of which are historic or have an historic component.

It is probable that widening of any length along the Tehama, Shasta and Siskiyou county Interstate 5 corridor will disturb cultural resources. Due to the fact that minimal development and archaeological survey have occurred along most of this portion of I-5, there is a likelihood of unknown sites within and near the right of way. Widening to the median may lessen the number of resources affected, however, parts of the median (e.g., in portions of Siskiyou County) have not been previously surveyed and have not been affected by previous highway construction. These areas may be just as likely to contain cultural resources. Historic resources that will be affected by construction will need compliance with Section 106 of the National Historic Preservation Act. This can take anywhere between 18 months and three years to achieve.

**Native American Coordination**
The following Native American tribes or groups may have an interest in or be affected by the projects in the District 2 I-5 corridor:

***Federally Recognized***
Paskenta Band of Nomlaki Indians, Redding Rancheria, Quartz Valley Rancheria, and Greenville Rancheria

***Non-Federally Recognized***
Wintu Tribe of Northern California, Winnemem-Wintu Tribe, and Shasta Nation

A complete listing of tribes or groups should be developed during project initiation phase and coordination continued through development of the project.

**Hazardous Waste/Materials**
An Initial Site Assessment (ISA) will be required to address the potential for hazardous waste. Potential exists for the following hazardous materials, depending on bridge structure material type, and other relevant factors: Aerial Deposited Lead (ADL), Naturally Occurring Asbestos (NOA), lead, and asbestos. The risk ranking for NOA is moderate to high in Shasta and Siskiyou Counties; ADL risk is low to high, depending on specific location. For areas that a high risk is identified, a Preliminary Site Investigation and materials collection and testing conducted for analysis. The PSI would identify and provide methods to mitigate identified hazardous materials.

**Biological Resources**
Biological studies include various wildlife taxonomic groups such as invertebrates, amphibians, reptiles, birds, and mammals; botanical native and invasive species issues; fisheries; and wetlands. Many are threatened and endangered species that require specialized surveys and resource agency permits and coordination. Wildlife connectivity and movements are important issues to be addressed. Bioacoustics impacts on wildlife are an emerging issue that may be considered during studies.

All projects within the corridor must be evaluated at project initiation stage to determine the potential to impact or affect biological resources, including any endangered or threatened species that may be affected. The Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) are the Federal and State laws to enforce protection of threatened and endangered species. A current FESA CESA listing follows in Attachment 1 that identifies species and or their habitat that may be found in the corridor vicinity. Where a Special Status Species or their habitats are present and have potential to be impacted, appropriate mitigation measures are required be implemented or avoidance alternatives identified and included with the project features.

The listing in **Attachment 1** is not intended to be all-inclusive, but rather to provide general information on the current FESA and CESA species and habitat that have a likelihood to occur within the corridor. It does not include several other analyses that will be undertaken with future projects including rare plant studies and other relative studies.

It is anticipated that the USFWS, USFS, and the CDFG will be requiring a comprehensive and cumulative effects evaluation of animal crossing issues. This will include effects to special status species, negative impacts to genetic interchange by I-5, and overall mortality or injury to animals. It is recommended that adequate funding sources be allocated to mitigate for animal crossing impacts. **Attachment 2** is a list that identifies areas in Shasta County that need to be assessed for mammal crossings and fish passage. Areas for mammal crossings and fish passage in Siskiyou County are in development.

**Wetlands**
A delineation of jurisdictional wetlands and waters of the United States will be performed during the environmental studies. Executive Order 11990 requires an avoidance alternative analysis for wetland impacts unless there is no practicable alternative available. In addition, impacts to waters of the U.S. and wetlands from the project and any temporary access roads will need to be quantified and appropriate mitigation implemented. Wetlands exist within the right of way along the corridor in each county. It will be necessary to set aside adequate funding to mitigate for impacts, and to provide resources to prepare supporting analyses to wetlands impacts as projects develop.

**Invasive Species**
Executive Order 13112 requires that any Federal action may not cause or promote the spread or introduction of invasive species. Federal agencies often request weed-free treatments and native seeds for erosion control plans on the public lands and treatment of construction equipment to reduce the spread of noxious weeds and invasive plant species. These conditions would most likely be requested in conjunction with Special Use Permits, temporary construction easements, and timber contract conditions.

**Right of Way Relocation or Staging Area**
No new Right of Way is indicated for this project. Material sites and disposal sites are indicated, but not identified. These areas, which must be identified prior to initiating environmental studies, will require complete environmental evaluation as part of this project.

**Mitigation**
Mitigation for temporary and permanent impacts to sensitive biological resources (wetlands, riparian vegetation, regulated plants and animals) may be required. Mitigation for impacts to waters of the United States will be required where improvements are undertaken at jurisdictional waters. Construction windows will most likely be required for mitigation, and temporary bat roosts may be required for bats displaced by construction disturbance when bridge

structures are planned as part of the overall scope of work. Avoidance of swallows nests, or nest exclusion netting may be required on structures. Reasonable mitigation costs are generally considered to be up to ten percent of project cost. Mitigation could also include costs associated with archaeological or historical mitigation, swallow and bat exclusion, restricted construction scheduling, wetlands mitigation, habitat enhancement, habitat restoration, or habitat replacement; the cost of which will be estimated at the time of project initiation stage and as other studies are completed. Other mitigation that will most likely be required includes fish passage improvements, retrofitting or over-sizing culverts/box culverts/bridge structures, etc. to accommodate small and large mammals for safer passage over or under the freeway.

**Permits**

Permits from the State Department of Fish and Game (1601), U. S. Army Corps of Engineers (404 Permit) and the Regional Water Quality Control Board (401) will be required. Additional permits for material and disposal sites may be required. Work within public lands managed by the USFS, BLM, or other resource agencies normally require additional permit approvals; it may be advantageous to acquire a DOT Easement through areas prior to, or in conjunction with the project to facilitate the project.

## Summary

Based on a variety of existing conditions (geographical, resource potential, conceptual studies, long range study period, environmental factors, etc.), it is not clear that either a median widening approach or an outside lane widening approach would potentially have the least impacts to existing resources. When the median has undisturbed/native areas available, outside lane widening may be preferred. When the median already contains environmental effects of the transportation system, widening to the median may be less of an impact. A creative approach should be sought to avoid and minimize impacts early in the project development stage, and will most likely be a combination of expanding freeway width on the interior and exterior freeway.

# ATTACHMENT 1

## Special Status Species Potentially Occurring within the I-5 Corridor Study Area

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# Attachment 1

## Special Status Species Potentially Occurring within I-5 Corridor Study Area

| Common Name (*Species Name*) | Status** Fed CA | Typical Habitat | Potential to Occur within I-5 at (Location) |
|---|---|---|---|
| Invertebrates | | | |
| Conservancy fairy shrimp (*Branchinecta conservatio*) | E/-- | Large, deep vernal pools in annual grassland. | Tehama |
| Vernal pool fairy shrimp (*Branchinecta lynchi*) | T/-- | Vernal pools; also found in sandstone rock outcrop pools. | Tehama |
| Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) | T/-- | Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant. | Tehama, Shasta |
| Vernal pool tadpole shrimp (*Lepidurus packardi*) | E/-- | Vernal pools and ephemeral stock ponds. | Tehama |
| Fish | | | |
| River lamprey (*Lampetra ayresi*) | --/SSC | Small freshwater tributary streams Sacramento/San Joaquin River systems; San Pablo Bay. | Tehama |
| Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*) | E/E | Spawns only in the Sacramento River. | Tehama, Shasta |
| Chinook salmon - Central Valley spring-run ESU. (*Oncorhynchus tshawytscha)* | T/T | Sacramento and San Joaquin Rivers and their tributaries. | Tehama, Shasta |
| Central Valley fall/late fall-run Chinook salmon | SC/SSC | Spawns in deeper waters, in main stream channels. Sacramento and San Joaquin Rivers and their tributaries. | Tehama, Shasta |
| Steelhead - Central Valley ESU (*Oncorhynchus mykiss*) | T/-- | Sacramento River and tributaries. | Tehama, Shasta |
| Coho salmon Southern Oregon/Northern California Coastal ESU *(Oncorhynchus kisutch)* | T/T | Klamath River and tributaries. Requires beds of loose, silt free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen. | Siskiyou |
| Hardhead (*Mylopharodon conocephalus*) | --/SSC | Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Low to mid-elevation streams in the Sacramento-San Joaquin drainage. | Tehama |
| Sacramento splittail (*Pogonichthys macrolepidotus*) | --/SSC | Slow moving river sections, dead end slough; require flooded vegetation for spawning and foraging for young. | Tehama |
| North American green sturgeon *(Acipenser medironstris)* | T/-- | Southern Distinct Population Segment, which includes all spawning populations south of the Eel River (exclusive), principally including the Sacramento River Spawning population. | Shasta |
| Shortnose sucker *(Chasmistes brevirostris)* | E/E | Primarily a lake resident that spawns in rivers, streams, or springs associated with | Siskiyou |

# Attachment 1

## Special Status Species Potentially Occurring within I-5 Corridor Study Area

| Common Name (*Species Name*) | Status** Fed CA | Typical Habitat | Potential to Occur within I-5 at (Location) |
|---|---|---|---|
| | | lake habitat; includes Upper Klamath Lake and its tributaries, Klamath River downstream to Iron Gate Reservoir, Clear Lake Reservoir and its and its tributaries, Gerber Reservoir and its tributaries, the Lost River, and Tule Lake | |
| Lost River sucker *(Deltistes luxatus)* | E/E | Primarily a lake resident that spawns in rivers, streams, or springs associated with lake habitat; includes Upper Klamath Lake and its tributaries, Clear Lake Reservoir and its tributaries, Tule Lake and the Lost River up to Anderson-Rose Dam. | Siskiyou |
| Amphibians | | | |
| California red-legged frog (*Rana aurora draytonii*) | T/SSC | Permanent and semi-permanent aquatic habitats, such as creeks and cold water ponds, with emergent and submergent vegetation; may estivate in rodent burrows or cracks during dry periods. | Tehama |
| Foothill yellow-legged frog (*Rana boylii*) | --/ SSC | Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby. Occurs in the Klamath, Cascade, North Coast, South Coast, Transverse, and Sierra Nevada Ranges up to approximately 1,830 m. | Tehama, Siskiyou, Shasta |
| Western spadefoot toad (*Spea hammondii*) | --/SSC | Primarily terrestrial, rainfall pools, such as vernal pools in annual grasslands and oak woodlands. Range includes Central Valley. | Tehama |
| Western tailed frog *(Ascaphus truei)* | --/SC | Pemanent streams of low temperatures in conifer dominated habitats including redwood, Douglas fir, Klamath mixed conifer, and ponderosa pine habitats. Also in montane hardwood-conifer habitats. | Siskiyou |
| Cascades frog *(Rana cascadae)* | --/SC, P | Ephemeral and permanent ponds and streams. Oviposition habitat is open, shallow water in unshaded areas. | Siskiyou |

# Attachment 1

## Special Status Species Potentially Occurring within I-5 Corridor Study Area

| Common Name (*Species Name*) | Status** Fed CA | Typical Habitat | Potential to Occur within I-5 at (Location) |
|---|---|---|---|
| Reptiles | | | |
| Northern Pacific pond turtle (*Actinemys marmorata marmorata*) [formerly called *Emys marmorata marmorata* and *Clemmys marmorata marmorata*] | --/SSC | Woodlands, grasslands, and open forests; occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests. | Tehama |
| Northwestern pond turtle *(Clemmys marmorata marmorata)* | SC/SC, P | Woodlands, grasslands, and open forests; occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests | Siskiyou |
| Birds | | | |
| Northern spotted Owl *(Strix occidentalis caurina)* | T/ | A permanent resident throughout its range nests and forages in dense old-growth or mature forests dominated by conifers with topped trees or oaks available for nesting crevices | Shasta, Siskiyou |
| Tricolored blackbird (*Agelaius tricolor*) | --/SSC | Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields; habitat must be large enough to support 50 pairs. | Tehama |
| Western burrowing owl (*Athene cunicularia hypugaea*) | --/SSC | Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows. | Tehama |
| Swainson's hawk (*Buteo swainsonii*) | --/T | Nests in oaks or cottonwoods in or near riparian. Lower Sacramento Valley. | Tehama |
| Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) | C/E | Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging. | Tehama, Shasta, Siskiyou |
| Yellow warbler (*Dendroica petechia brewsteri*) | --/SSC | Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders. Nests all over California, except the Central Valley. | Tehama |
| White-tailed kite (*Elanus leucurus*) | --/FP | Low foothills or valley areas with valley or live oaks, riparian areas, marshes near open grasslands. | Tehama |
| Bald eagle (*Haliaeetus leucocephalus*) | --/E, FP | In western North America, nests and roosts in coniferous forests within 1.6 km of a lake, reservoir, stream, or the ocean. | Tehama, Siskiyou, Shasta |
| Yellow-breasted chat (*Icteria virens*) | --/SSC | Nests in dense riparian habitats dominated by willows, alders, Oregon ash, tall weeds, blackberry vines, and grapevines. | Tehama |
| Osprey | --/SSC | Nests in snags, trees or utility poles near | Tehama, Siskiyou |

# Attachment 1

## Special Status Species Potentially Occurring within I-5 Corridor Study Area

| Common Name (*Species Name*) | Status** Fed CA | Typical Habitat | Potential to Occur within I-5 at (Location) |
|---|---|---|---|
| (*Pandion haliaetus*) | | the ocean, large lakes, or rivers with abundant fish populations. | |
| Bank swallow (*Riparia riparia*) | --/T | Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam. | Tehama, Siskiyou |
| Northern Goshawk (N American pop) *(Accipiter gentiles)* | --/SC | Nests and roosts in older stands of red fir, Jeffrey pine, Ponderosa pine, lodgepole pine, Douglas fir, and mixed conifer forests. | Siskiyou |
| Greater sandhill crane *(Grus canadensis tabida)* | --/T | Summers in open terrain near shallow lakes or freshwater marshes. Winters in plains and valleys near bodies of fresh water. | Siskiyou, Shasta |
| Mammals | | | |
| Fisher *(Martes pennanti)* | C/ | Occurs in forests with high canopy closure, large trees, and a high percentage of conifers. The physical structure of this type of forest provides the fisher with reduced vulnerability to predation and an abundance of prey. | Shasta |
| Pallid bat (*Antrozous pallidus*) | --/SSC | Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood habitats in northern California. | Tehama |
| Pale Townsend's big-eared bat *(Corynorhinus townsendii pallescens)* | --/SSC | Mesic habitats; gleans insects from brush or trees and feeds along habitat edges. Range includes Central Valley. | Tehama |
| Spotted bat (*Euderma maculatum*) | --/SSC | Wide variety of habitats, mainly associated with cliff and canyon habitat. | Tehama |
| Western red bat (Lasiurus blossevillii) | --/SSC | Roosting habitat includes forests and woodlands, primarily in trees, often adjacent to stream and fields. | Tehama |
| Silver-haired bat *(Lasionycteris noctivagens)* | --/SC | Primarily a forest dweller, feeding over streams, ponds, open brushy areas. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. | Siskiyou |
| Sierra Nevada red fox *(Vulpes vulpes necator)* | SC/T | Coniferous forests. Often associated with mountain meadows | Siskiyou |
| American badger *(Taxidae taxus)* | --/SC | Typically found in open areas with scattered shrubs and trees. Also found in open forests, particularly Ponderosa pine. | Siskiyou |
| Plants | CNPS | | |
| Fox sedge (*Carex vulpinoidea*) | --/-- 2.2 | Freshwater marshes and swamps, riparian woodland | Tehama |
| Pink creamsacs (*Castilleja rubicundula* ssp. r*ubicundula*) | --/-- 1B.2 | Chaparral, cismontane woodland, meadows, seeps and grassland. | Tehama |
| Hoover's spurge (*Chamaesyce hooveri*) | T/-- 1B.2 | Vernal pools. | Tehama |
| Stony Creek spurge | --/-- | Valley and foothill grassland (sandy or | Tehama |

## Attachment 1

Special Status Species Potentially Occurring within I-5 Corridor Study Area

| Common Name (*Species Name*) | Status** Fed CA | Typical Habitat | Potential to Occur within I-5 at (Location) |
|---|---|---|---|
| (*Chamaesyce ocellata* ssp. *rattanii*) | 1B.2 | rocky). | |
| Silky cryptantha (*Cryptantha crinita*) | --/-- 1B.2 | Sandy and gravelly creek bottoms. | Tehama |
| Dwarf downingia (*Downingia pusilla*) | --/-- 2.2 | Vernal pools in valley and foothill grasslands, below 460m. | Tehama |
| Adobe lily (*Fritillaria pluriflora*) | --/-- 1B.2 | Annual grasslands on adobe soils. | Tehama |
| Boggs Lake hedge-hyssop (*Gratiola heterosepala*) | --/E 1B.2 | Vernal pools and margins of seasonally receding ponds and lakes. | Tehama |
| Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) | --/-- 1B.2 | Vernal pools. | Tehama |
| Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*) | --/-- 1B.1 | Seasonally flooded sites such as vernal pools, ephemeral drainages, and seeps in woodland and grassland communities. | Tehama |
| Legenere (*Legenere limosa*) | --/-- 1B.1 | Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and river banks. | Tehama |
| Red-flowered lotus (*Lotus rubriflorus*) | --/-- 1B.1 | Cismontane woodland, Valley and foothill grassland. | Tehama |
| Hairy Orcutt grass (*Orcuttia pilosa*) | E/E 1B.1 | Vernal pools. | Tehama |
| Slender Orcutt grass (*Orcuttia tenuis*) | T/E 1B.1 | Bottom of vernal pools, mostly at sites underlain by volcanic substrates. | Tehama, Shasta |
| Ahart's Paronychia (*Paronychia ahartii*) | --/-- 1B.1 | Vernal swales and margins of vernal pools, in clay soils. | Tehama |
| Sanford's arrowhead (*Sagittaria sanfordii*) | --/-- 1B.2 | Sloughs and sluggish streams with silty or muddy substrate, associated with emergent aquatic marsh vegetation. | Tehama |
| Greene's tuctoria (*Tuctoria greenei*) | E/R 1B.1 | Bottoms of large vernal pools. | Tehama, Shasta |
| Siskiyou mariposa lily (*Calochortus persistens)* | C/R/1B.2 | Lower montane coniferous forest, North Coast coniferous forest / rocky. Elev. 3275'-6800' | Siskiyou |
| Ashland thistle *(Cirsium ciliolatum)* | --/E//2 | Cismontane woodland, Valley and foothill grassland | Siskiyou |
| Trinity buckwheat *(Eriogonum alpinum)* | SC/E/1B.2 | Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest / serpentinite, rocky. Elev. 7171'-9514 | Siskiyou |
| Gentner's fritillary *(Fritillaria gentner)i* | E/--/1B.1 | Chaparral, Cismontane woodland, sometimes serpentine | Siskiyou |
| Yreka phlox *(Phlox hirsute)* | E/E/1B.2 | Lower and Upper Montane coniferous forest serpentinite talus. Elev. 2700'-4925' | Siskiyou |

**** Status Explanations:**

# Attachment 1

## Special Status Species Potentially Occurring within I-5 Corridor Study Area

| Common Name (*Species Name*) | Status** Fed | CA | Typical Habitat | Potential to Occur within I-5 at (Location) |
|---|---|---|---|---|

**** Status Explanations:**

**Federal**

-- No status definition.
E Endangered
T Threatened.
C Candidate
SC Species of Concern

**State**

-- No status definition.
E Endangered.
T Threatened.
FP Fully Protected
SSC Species of Special Concern.

**California Native Plant Society**

1B Rare, threatened, or endangered in California and elsewhere.
2 Rare, threatened, or endangered in California, but more common elsewhere.
3 We need more information about this plant (Review List).

**Threat Ranks**

0.1 Seriously threatened in California.
0.2 Fairly threatened in California.
0.3 Not very threatened in California.

# ATTACHMENT 2

## Potential Mammal Crossing and Fish Passage

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## Attachment 2

Potential Mammal Crossing and Fish Passage

| Location | Preliminary Biological Environmental Factors |
|---|---|
| PM 23-24 | Extensive wetlands west side |
| PM 26.75-27.3 | Include large animal crossing |
| PM 33-34 | If divided highway is combined then include large animal crossing with structure |
| PM 37.5-39 | Large animal crossing |
| Dog Creek Bridge | Enhance embankment under structure to provide large animal crossing |
| PM 47.2 | Enhance overcrossing to include dirt shoulders, or create causeway to provide animal crossing |
| PM 55.6 | Clear span Shotgun Creek for fisheries and animal crossing |
| PM 57.4 | Clear span Mears Creek for fisheries and animal crossing |
| PM 59.9 | Increase span for animal crossing |
| Sweetbriar to Dunsmuir | Assess all culvert crossings for fish passage - may need to retrofit for clear span |
| PM 64-65 | Need animal crossing - Opportunity for overcrossing at 64.7 |
| PM 65.5 | Increase culvert size or clear span for fish passage and animal crossing |

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# APPENDIX E

## Intelligent Transportation Systems

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# Interstate 5
# Transportation Concept Report

## *Intelligent Transportation Systems (ITS)*

## Background

This section focuses on ITS plans, existing ITS, and Traffic Count Stations along the I-5 corridor. The acronyms to the right are used in this section and defined in **Appendix K Glossary**.

**ITS Acronyms**
**HAR=Highway Advisory Radio**
**Sign HAR=Signed Highway Advisory Radio**
**RWIS=Roadside Weather Information System**
**TMS=Traffic Monitoring System**
**VIPs=Video Imaging Processing System**

ITS involves the use of advanced computer, electronic, and communication technologies to increase the safety and efficiency of the entire surface transportation system. This system encompasses a broad range of wireless and wire line communications-based information and electronic technologies.

The I-5 corridor lends itself to ITS due to the substantial population growth in the urban and suburban regions in the Sacramento Valley, dramatic topographic diversity, significant seasonal and variable weather conditions, abundant wildlife, rockslides, long distances between communities, few alternative routes, and heavy truck traffic. At least six times a year, I-5 closes for many hours usually because of snow or wind factors along the corridor. This closure will cause travelers to have to stop unexpectedly and wait or possibly stay overnight in a local city/community until the freeway re-opens. It helps when the corridor deploys ITS regionally, offering travelers up-to-date information regarding its availability in Nevada, Oregon, and other parts of California early enough to warn travelers in advance of incidents allowing them to change trip time or route.

Currently, each segment has different ITS deployment, geographical settings, alternative routes, and traveler services and in turn different management strategies. For the future, the approach for ITS along the I-5 corridor is to add additional ITS elements while creating an integrated ITS transportation system with interoperability and data reciprocity.

**Table 37** includes the total number of existing and proposed ITS elements. **Table 38** lists type and location of existing I-5 ITS elements. Proposed ITS elements can be found in Caltrans District 2 Regional ITS Architecture. **Table 39** contains permanent traffic count stations on I-5. **Table 40** suggests proposed traffic count stations on I-5.


***I-5 SHASTA. Curve warning signs in the Sacramento River Canyon.***

**TABLE 37**
**I-5 Corridor ITS Elements Summary**

| ITS ELEMENT | Existing | Proposed |
|---|---|---|
| **Census Stations** | 17 | 7 |
| **CCTVs** | 32 | 70 |
| **Fixed CMSs** | 25* | 29 |
| **HAR** | 8 | 8 |
| **HAR Flasher** | 11 | 7 |
| **RWISs** | 10 | 3 |
| **TMSs** | 6 | 25 |
| **TOTAL ITS ELEMENTS** | 109 | 149 |
| | | **TOTAL=258** |

*1 in Oregon
Source: Caltrans, District 2, Office of Traffic Management

## ITS Plans

**California-Oregon Advanced Transportation System (COATS)**

In the late 1990s. a cooperative effort between the States of Oregon and California formed to focus on ITS. The COATS project, was both a research effort and actual ITS deployment for this rural area in northern California and southern Oregon. Being the first effort to create an ITS plan for this region and rural areas, the project aimed to identify the critical partnerships and funding sources that resulted in the successful implementation, operation and maintenance of ITS.

**Caltrans District 2 Regional ITS Architecture and Strategic Plans**

Caltrans District 2 collaborated with the seven counties in District 2 to develop and adopt a series of County-level ITS Architectures, in addition to a broader, integrated District 2 ITS Architecture and Strategic Deployment Plan. These regulation-mandated documents (23 CFR 940) serve as a "framework" against which electronics, communications, information processing systems and hardware devices deploy to improve the safety and efficiency of the transportation system. These architectures and plans would serve to:

1. Maintain and support the Caltrans District 2 ITS Elements list created by the District 2 Office of Traffic Management;
2. Update the northeastern California portion of the broader, COATS architecture;
3. "Infill" local jurisdiction deployments of ITS devices at the county and municipality levels of government, in addition to State highway ITS infrastructure incorporated in the COATS architecture;
4. Bring future County, and District-level ITS deployments into compliance with Federal regulations, thereby qualifying for highway trust fund monies; and,
5. Augment District-level Transportation Concept Reports and County-level, Regional Transportation Plans (RTPs) with definitive ITS deployment plans.

**Tri-State Integrated Corridor Management System**

Caltrans developed the Statewide ITS Architecture (SWITSA) to provide California with the framework that supports the much needed integration services beyond regional geopolitical boundaries for travelers. To demonstrate how SWITSA can assist ITS system integration, Caltrans identified several proposed ITS projects that exemplify integration and coordination across jurisdictional boundaries. The Integrated Tri-State Corridor Management Project was chosen to demonstrate how system integration could help the region's transportation challenges from increasing travel demand, an adverse natural environment, and safety concerns. The project study area includes northern California, northwest Nevada, and southern Oregon. The Integrated Tri-State Management System, focuses on how the major regional transportation management corridors can work together to improve traffic management and traveler information for the major goods movement corridors and provide better service for cross-boundary travelers. The project studies and builds on existing and programmed ITS devices and management systems in the region and uses interregional integration strategies outlined in SWITSA and other applicable regional ITS architectures to maximize the benefits of existing and programmed ITS infrastructure.

**TABLE 38**
**I-5 Existing ITS**

| County | Route | Prefix | PM | Direction | Location | Type |
|---|---|---|---|---|---|---|
| Tehama | 5 | R | 3.50 | North | Sour Grass Creek | Sign HAR |
| Tehama | 5 | R | 9.91 | Median | Corning Rest Area | Sign HAR |
| Tehama | 5 | R | 10.01 | Median | Corning Rest Area | Sign HAR |
| Tehama | 5 | R | 10.20 | North | Corning Rest Area | HAR |
| Tehama | 5 | R | 23.40 | North | Riverside OC | CMS |
| Tehama | 5 | R | 25.20 | North | Diamond Avenue | Sign HAR |
| Tehama | 5 | R | 26.52 | South | Red Bluff SR 36/I-5 Separation | CCTV |
| Tehama | 5 | R | 26.60 | South | Central Red Bluff | HAR |
| Tehama | 5 | | 31.00 | North | Wilcox Road OC | CCTV |
| Tehama | 5 | | 31.00 | South | Wilcox Road OC | CCTV |
| Tehama | 5 | | 31.00 | South | Wilcox Road OC | CMS |
| Tehama | 5 | | 36.80 | North | Nine-Mile Hill | CMS |
| Tehama | 5 | | 39.80 | North | Cottonwood Truck Scales | CMS |
| Tehama | 5 | | 41.33 | South | Bowman Road OC | CMS |
| Tehama | 5 | | 41.80 | South | North of Bowman Road | CMS |
| Shasta | 5 | R | 4.29 | South | Deschutes Road UC | CCTV |
| Shasta | 5 | R | 6.75 | North | Riverside Drive OC | Sign HAR |
| Shasta | 5 | R | 6.90 | South | Riverside Drive OC | CCTV |
| Shasta | 5 | R | 10.86 | North | Smith Road OC | CMS |
| Shasta | 5 | R | 10.86 | North | Smith Road OC | Sign HAR |
| Shasta | 5 | R | 12.50 | South | South Bonnyview OC | CCTV |
| Shasta | 5 | R | 16.15 | Median | Hilltop Drive OC | HAR |
| Shasta | 5 | R | 16.80 | Median | I-5 and SR 44 Central | CCTV |
| Shasta | 5 | R | 19.40 | North | Oasis Road OC | CMS |
| Shasta | 5 | R | 19.40 | South | Oasis Road OC | CMS |
| Shasta | 5 | R | 20.98 | South | Pine Grove OC | Sign HAR |
| Shasta | 5 | R | 20.98 | South | Pine Grove OC | CCTV |
| Shasta | 5 | R | 20.98 | North | Pine Grove OC | CMS |
| Shasta | 5 | R | 26.03 | South | Fawndale OC | CCTV |
| Shasta | 5 | R | 28.2 | North | Pit River Bridge Area | CCTV |
| Shasta | 5 | R | 29.95 | South | Sidehill Viaduct | CCTV |
| Shasta | 5 | R | 29.95 | South | Sidehill Viaduct | CMS |
| Shasta | 5 | R | 29.95 | South | Sidehill Viaduct | VIPS |
| Shasta | 5 | R | 32.22 | South | O'Brien | CCTV |
| Shasta | 5 | R | 32.22 | South | O'Brien | CMS |
| Shasta | 5 | R | 32.22 | South | O'Brien Interchange | VIPS |
| Shasta | 5 | R | 34.46 | North | Gilman Road OC | CMS |
| Shasta | 5 | R | 36.72 | South | Salt Creek Southbound Off | VIPS |
| Shasta | 5 | R | 37.47 | South | Salt Creek/Gilman Road | CCTV |
| Shasta | 5 | R | 37.50 | South | Salt Creek | CMS |
| Shasta | 5 | R | 38.92 | North | Antler Summit | CCTV |
| Shasta | 5 | R | 38.96 | South | Antler Summit | RWIS |
| Shasta | 5 | R | 40.60 | South | Antler UC Area | CCTV |
| Shasta | 5 | R | 42.30 | Median | Riverview UC Area | CCTV |
| Shasta | 5 | R | 43.98 | South | Lakehead SRRA | CMS |
| Shasta | 5 | R | 45.75 | North | Vollmers UC Area | CCTV |
| Shasta | 5 | R | 45.86 | North | Vollmers UC Area | RWIS |
| Shasta | 5 | R | 48.78 | South | Lamoine | VIPS |
| Shasta | 5 | R | 49.10 | South | Lamoine OC | CCTV |
| Shasta | 5 | R | 49.10 | South | Lamoine OC | CMS |

**TABLE 38**
**I-5 Existing ITS**

| County | Route | Prefix | PM | Direction | Location | Type |
|---|---|---|---|---|---|---|
| Shasta | 5 | R | 49.48 | North | Lamoine Road | CMS |
| Shasta | 5 | R | 57.40 | North | Sims Road | CCTV |
| Shasta | 5 | R | 57.40 | North | Sims Road | CMS |
| Shasta | 5 | R | 57.95 | North | Sims Road | VIPS |
| Siskiyou | 5 | | 2.62 | South | Central Dunsmuir Interchange | CCTV |
| Siskiyou | 5 | | 2.62 | North | Central Dunsmuir Interchange | RWIS |
| Siskiyou | 5 | | 5.89 | South | Mott Road Interchange | CCTV |
| Siskiyou | 5 | R | 7.10 | South | Dunsmuir Truck Inspection Station | CCTV |
| Siskiyou | 5 | R | 8.58 | Median | I-5/SR 89 Separation | CCTV |
| Siskiyou | 5 | R | 9.68 | North | Ream Road OC | CMS |
| Siskiyou | 5 | R | 13.18 | North | Abrams Lake OC | CCTV |
| Siskiyou | 5 | R | 13.18 | North | Abrams Lake OC | CMS |
| Siskiyou | 5 | R | 13.18 | South | Abrams Lake OC | CMS |
| Siskiyou | 5 | R | 13.60 | South | Abrams Lake | HAR |
| Siskiyou | 5 | R | 14.45 | South | Black Butte Summit | CCTV |
| Siskiyou | 5 | R | 14.45 | South | Black Butte Summit | RWIS |
| Siskiyou | 5 | R | 17.85 | North | South Weed | Sign HAR |
| Siskiyou | 5 | R | 18.44 | North | South of Central Weed Exit | CCTV |
| Siskiyou | 5 | R | 22.16 | North | Weed Sandhouse | HAR |
| Siskiyou | 5 | R | 22.20 | North | North Weed Cut-off | CCTV |
| Siskiyou | 5 | R | 22.20 | North | North Weed Cut-off | RWIS |
| Siskiyou | 5 | R | 25.58 | South | Weed Airport | Sign HAR |
| Siskiyou | 5 | R | 25.70 | North | Weed Rest Area | CCTV |
| Siskiyou | 5 | R | 25.70 | North | Weed Rest Area | RWIS |
| Siskiyou | 5 | R | 25.85 | North | Weed Rest Areas | HAR |
| Siskiyou | 5 | R | 44.30 | North | Walters Road OC | CMS |
| Siskiyou | 5 | R | 44.30 | South | Walters Road OC | CMS |
| Siskiyou | 5 | R | 44.30 | South | Walters Road OC | HAR |
| Siskiyou | 5 | R | 45.30 | South | North of Walters Road | CCTV |
| Siskiyou | 5 | R | 46.40 | South | Moonlite Oaks Road | CMS |
| Siskiyou | 5 | R | 47.82 | North | Miner Street UC/SR 3 | CCTV |
| Siskiyou | 5 | R | 52.70 | Median | Anderson Grade | TMS |
| Siskiyou | 5 | R | 53.02 | South | Anderson Grade Summit | RWIS |
| Siskiyou | 5 | R | 53.08 | North | Anderson Grade Summit | RWIS |
| Siskiyou | 5 | R | 53.08 | South | Anderson Grade Summit | CCTV |
| Siskiyou | 5 | R | 61.55 | North | Henley Way UC | CMS |
| Siskiyou | 5 | R | 61.70 | North | North of Henley Way | RWIS |
| Siskiyou | 5 | R | 62.00 | North | Henley Way | TMS |
| Siskiyou | 5 | R | 66.60 | North | Bailey Hill | TMS |
| Siskiyou | 5 | R | 67.98 | North | South of Hilt Road OC | RWIS |
| Siskiyou | 5 | R | 68.04 | North | Bailey Hill | Sign HAR |
| Siskiyou | 5 | R | 68.33 | South | Hilt Sandhouse OC | CCTV |
| Siskiyou | 5 | R | 68.33 | South | Hilt North of OC | CCTV |

Source: Caltrans, District 2 Traffic Management

## Traffic Count Stations

The types of the traffic counts taken on the I-5 corridor include:

- Control Stations are counted in one-hour intervals by direction. The control stations provide day and seasonal factors used to factor profile counts to annual average daily traffic (AADT). Control Stations at a minimum are counted at least 7 days quarterly in a symmetrical pattern every three years. Many control stations are counted continuously every day of the year. Factors are obtained at control stations to factor profile counts to annual average daily traffic (AADT).
- Profile counts are obtained on conventional highways and expressways for one to seven days in order to determine the number of vehicles at points of significant change. The count interval may be one hour or one day depending upon the need for the data. Profile counts require factoring to AADT in order to serve most needs for traffic volume data. Profile counts are one day to seven day counts collected are conventional highways once every three years. They are factored to provide estimated AADTs. Profile counts are also collected on cross streets that intersect the state highways.
- Classification counts are generally collects at control station sites or at locations of significant change in truck traffic. At low volume sites, hoses will be used to classify traffic. Manual classifying is currently being done for a partial day count on high volume routes. Truck counts are collected continuously at Weigh-In-Motion (WIM) and Automatic Vehicle Classification (AVC) sites. On low volume roads portable AVC are setup to collect quarterly counts every three years. On high volume, multiple lane routes with no WIM or AVC manual truck counts are collected for a 6-8 hour time period every three years.

**TABLE 39**
**I-5 Existing Traffic Count Stations**

| County | Route | Prefix | PM | Station # | General Location | Station Type |
|---|---|---|---|---|---|---|
| Tehama | 5 | R | 9.972 | 271 | Gallagher Avenue | Control |
| Tehama | 5 | | 31.043 | 202 | Wilcox Road | Control |
| Tehama | 5 | | 38.76 | 313 | Snively Road | Profile |
| Tehama | 5 | | 41.525 | 314 | Bowman Road | Control |
| Shasta | 5 | R | 3.830 | 272 | Jct Route 273 North | Profile |
| Shasta | 5 | R | 7.80 | 239 | 0.8 mile North of Sacramento River Bridge | Control |
| Shasta | 5 | R | 13.952 | 298 | Hartnell Avenue | Control |
| Shasta | 5 | R | 14.459 | 304 | Cypress Avenue | Control |
| Shasta | 5 | R | 19.402 | 312 | Oasis Road | Control |
| Shasta | 5 | R | 24.080 | 309 | 0.8 mile North of Mountain Gate | Classification |
| Shasta | 5 | R | 26.035 | 273 | Fawndale | Control |
| Shasta | 5 | | 57.410 | 179 | Sims Road | Control |
| Siskiyou | 5 | R | 6.150 | 179 | Mott Avenue | Control |
| Siskiyou | 5 | R | 11.170 | 310 | 0.02 mile North of Lassen Avenue | Classification |
| Siskiyou | 5 | R | 13.189 | 188 | Abrams Lake Road | Control |
| Siskiyou | 5 | R | 22.999 | 294 | Edgewood | Control |
| Siskiyou | 5 | R | 63.654 | 231 | Cottonwood Creek Bridge | Control |

Source: Caltrans, District 2 Traffic Management

**TABLE 40**
**I-5 Proposed Traffic Count Stations**

| County | Route | Prefix | PM | General Location |
|---|---|---|---|---|
| Tehama | 5 | | 25.9 | Between Diamond Avenue and I-5/SR 36 Junction |
| Tehama | 5 | | 26.9 | Between I-5/SR 36 Junction and Adobe Road |
| Tehama | 5 | | 38.9 | Just north of Sunset Hills |
| Shasta | 5 | R | 11.8 | Just south of South Bonnyview Road |
| Shasta | 5 | R | 15.9 | Just south of Hilltop Drive Overcrossing |
| Shasta | 5 | R | 21.7 | Just south of I-5/SR 151 Junction |

Source: Caltrans, District 2 Traffic Management

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# APPENDIX F

## Highway Capacity Software Input Decisions

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# Interstate 5
# Transportation Concept Report

## *Highway Capacity Software Input Decisions*

## Analysis Software

This section provides an insight to key input decisions when using the highway capacity software.

The analysis in this document was performed using the Highway Capacity Software (HCS) Version 4.1.d, Mc Trans 1994-2003 University of Florida. This software implements the methodologies of the Highway Capacity Manual 2000 (HCM 2000), Transportation Research Board, National Research Council, Washington, D.C. The attached "Basic Freeway Segment Worksheet" displays the information that is required to calculate LOS for freeways.

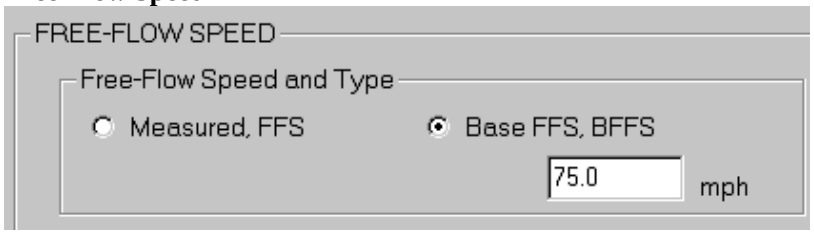
## Key Input Decisions

Within District 2, a number of conditions on I-5 do not fit the "typical" freeway as described in the HCS and HCM 2000. Prior to using the HCS, several decisions had to be made regarding how input parameters/variables would be used or adjusted to account for these "unique" characteristics. The goal in each case was to use or establish a value that would most accurately reflect actual conditions and therefore produce the most realistic assessment of capacity and Level of Service (LOS). A description of each decision and the rationale for it follows.

**Interchange Density**


Accurate calculation of LOS requires that the freeway segments have relatively uniform traffic and roadway characteristics. One of the conditions that often causes a change in traffic volumes is the presence of an interchange, thus the freeway methodology recommends interchanges as one of the criteria that should be used to define segments. The HCS does allow, however, segments to include multiple interchanges by specifying the average number per mile under "Interchange Density". For many of the rural sections of I-5, this option allowed for larger segments to be identified and include multiple interchanges where traffic volumes were low and future development potential is limited.

**Free-Flow Speed**




Free-Flow Speed (FFS) is the mean speed of passenger cars measured during periods of low traffic. Two methods can be used to determine the FFS of a basic freeway segment: field measurement and estimation. Field measurement involves performing speed studies on all identified freeway segments, thus further adjustments are not necessary. If field measurement is not possible, FFS can be estimated indirectly on the basis of the physical characteristics (median

type, lane width, lateral clearance, access points, grade, etc.) of the freeway segment being studied. For this study, the estimation method was used, hence the second box was checked and the required adjustment inputs were then entered.

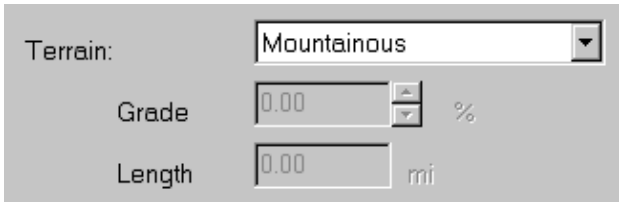
**Rural Freeways**


A number of the studies used to develop the freeway methodology in the HCM 2000 show that that the number of travel lanes in each direction on a freeway influence travel speeds. For each travel lane less than five in each direction, vehicle speeds drop approximately 1.5 mph (e.g., with three travel lanes in each direction, average speeds are about 3 mph less than on a five lane facility). All of the studies, however, were conducted on urban and suburban freeways. Thus, the HCS allows the analyst to decide whether to apply or not apply this number of lanes/average travel speed adjustment on rural freeway segments. For the analysis in this document, the adjustment was applied to the Base Free Flow Speed (i.e., BFFS was reduced by 4.5 mph when there were two travel lanes in each direction, 3 mph when there were three lanes).

**Trucks and Buses Percentage**


The HCM 2000 procedures implemented in the HCS require that the mix of vehicle types (passenger cars, trucks, buses and recreational vehicles) be adjusted to an equivalent flow rate in passenger cars per hour per lane (pc/h/pl). The HCS performs this adjustment based on the percentage of trucks and buses (combined) and recreational vehicles entered by the analyst. The maximum percentage of trucks and buses that can be input is 25%. In locations within the study area where the percentage of trucks and buses exceeded 25%, the portion of trucks and buses in excess of 25% was input as recreational vehicles (for example, if a segment had 28% trucks and buses and 2% recreational vehicles, then 25% was input for trucks and buses and 2% + 3% =5% for recreational vehicles).

**Terrain**



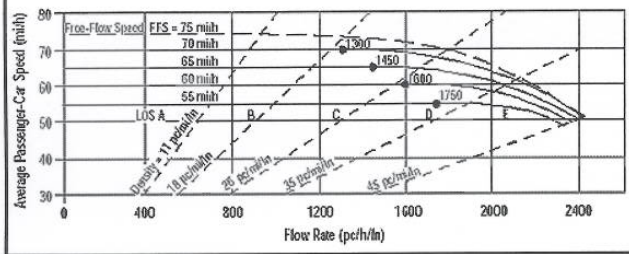

The type of terrain is selected from a list including Level, Rolling, Mountainous, Grade or Composite. For the analysis in the TCR, Level, Rolling, and Mountainous were the only selections used. On I-5 within District 2, there are a number of locations where the northbound and southbound travel lanes are located on different alignments and/or a truck climbing lane is available to one directional of travel but not the other. The HCS cannot directly account for either of these conditions. Where either or both of these conditions exist, inputs to the software were modified and a separate analysis was done for the northbound and southbound directions of travel.

**Truck Climbing Lanes**


The HCS requires the user to identify the number of lanes (N) in each travel direction for the segment under consideration. The HCS does not provide a direct adjustment mechanism to account for the presence of a truck climbing lane in only a portion of a segment. To account for the presence of a truck climbing lane, the analysis was run with two lanes (N=2), and then three lanes (N=3). A weighted average density (based on the length of the two lane and three lane sections compared to total segment length) was then manually calculated to determine the LOS for the segment under study. To illustrate, where: Segment Length = 10 miles; Two Lane Length = 5 miles; Three Lane Length = 5 miles
Two Lane Density = 40 passenger car/hour/per lane (pc/h/pl) (LOS E) Three Lane Density = 25 pc/h/pl (LOS C)
Then, weighted average LOS for the segment is 40(.5) + 25(.5) = 32.5 pc/h/pl = LOS D

BASIC FREEWAY WORKSHEET

## BASIC FREEWAY SEGMENTS WORKSHEET




| Application | Input | Output |
|---|---|---|
| Operational (LOS) | FFS, N, $v_p$ | LOS, S, D |
| Design (N) | FFS, LOS, $v_p$ | N, S, D |
| Design ($v_p$) | FFS, LOS, N | $v_p$, S, D |
| Planning (LOS) | FFS, N, AADT | LOS, S, D |
| Planning (N) | FFS, LOS, AADT | N, S, D |
| Planning ($v_p$) | FFS, LOS, N | $v_p$, S, D |

| General Information | | Site Information |
|---|---|---|
| Analyst | Kathy Grah | Highway/Direction of Travel |
| Agency or Company | Caltrans | From/To |
| Date Performed | 06/30/2008 | Jurisdiction |
| Analysis Time Period | | Analysis Year |
| Project Description | | |

☐ Oper.(LOS) ☐ Des.(N) ☒ Planning Data

### Flow Inputs

| | | | |
|---|---|---|---|
| Volume, V | 0 veh/h | Peak-Hour Factor, PHF | 0.90 |
| AADT | 0 veh/day | %Trucks and Buses, $P_T$ | 5 |
| Peak-Hr Prop. of AADT, K | 0.09 | %RVs, $P_R$ | 0 |
| Peak-Hr Direction Prop, D | 55 | General Terrain: | Level |
| DDHV = AADT x K x D | veh/h | Grade % Length | mi |
| Driver type adjustment | 1.00 | Up/Down % | |

### Calculate Flow Adjustments

| | | | |
|---|---|---|---|
| $f_p$ | 1.00 | $E_R$ | 1.2 |
| $E_T$ | 1.5 | $f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$ | 0.976 |

### Speed Inputs

| | | |
|---|---|---|
| Lane Width | 12.0 | ft |
| Rt-Shoulder Lat. Clearance | 6.0 | ft |
| Interchange Density | 0.50 | I/mi |
| Number of Lanes, N | 2 | |
| FFS (measured) | 70.0 | mi/h |
| Base free-flow Speed, BFFS | | mi/h |

### Calc Speed Adj and FFS

| | | |
|---|---|---|
| $f_{LW}$ | | mi/h |
| $f_{LC}$ | | mi/h |
| $f_{ID}$ | | mi/h |
| $f_N$ | | mi/h |
| FFS | 70.0 | mi/h |

### LOS and Performance Measures

Operational (LOS)

| | | |
|---|---|---|
| $v_p$ = (V or DDHV) / (PHF x N x $f_{HV}$ x $f_p$) | 0 | pc/h/ln |
| S | | mi/h |
| D = $v_p$ / S | 0.0 | pc/mi/ln |
| LOS | A | |

### Design (N)

Design (N)

| | | |
|---|---|---|
| Design LOS | | |
| $v_p$ = (V or DDHV) / (PHF x N x $f_{HV}$ x $f_p$) | | pc/h |
| S | | mi/h |
| D = $v_p$ / S | | pc/mi/ln |
| Required Number of Lanes, N | | |

### Glossary

| | |
|---|---|
| N - Number of lanes | S - Speed |
| V - Hourly volume | D - Density |
| $v_p$ - Flow rate | FFS - Free-flow speed |
| LOS - Level of service | BFFS - Base free-flow speed |
| DDHV - Directional design hour volume | |

### Factor Location

| | |
|---|---|
| $E_R$ - Exhibits23-8, 23-10 | $f_{LW}$ - Exhibit 23-4 |
| $E_T$ - Exhibits 23-8, 23-10, 23-11 | $f_{LC}$ - Exhibit 23-5 |
| $f_p$ - Page 23-12 | $f_N$ - Exhibit 23-6 |
| LOS, S, FFS, $v_p$ - Exhibits 23-2, 23-3 | $f_{ID}$ - Exhibit 23-7 |

*HCS2000™*



Version 4.1d

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# APPENDIX G

## Interchange List

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# Interstate 5
# Transportation Concept Report

## *Interchange List*

### I-5 Interchanges in District 2

**TABLE 41**
**I-5 Interchanges in District 2**

| County | Postmile[1] | Interchange Name[2] |
|---|---|---|
| Tehama | R5.879 | Liberal Avenue |
| Tehama | R7.486 | South Avenue |
| Tehama | R8.975 | Corning Road |
| Tehama | R10.969 | Finnell Avenue |
| Tehama | R13.965 | Gyle Road |
| Tehama | R19.781 | Flores Avenue |
| Tehama | R24.897 | South Main* |
| Tehama | R24.942 | Diamond Avenue* |
| Tehama | R26.525 | Junction SR 36 (Central Red Bluff) |
| Tehama | R27.472 | Adobe Road |
| Tehama | R28.377 | North Red Bluff* |
| Tehama | 31.043 | Wilcox Road |
| Tehama | 32.356 | Jellys Ferry Road |
| Tehama | 36.371 | Nine Mile Hill |
| Tehama | 38.716 | Sunset Hills |
| Tehama | 41.525 | Bowman Road |
| Shasta | 0.909 | Gas Point Road |
| Shasta | 2.076 | North Cottonwood/Main Street* |
| Shasta | R3.815 | SR 273* |
| Shasta | R4.289 | Deschutes Road* |
| Shasta | R5.294 | Balls Ferry Drive |
| Shasta | R5.640 | North Street* |
| Shasta | R6.743 | Riverside Avenue |
| Shasta | R9.772 | Knighton Road |
| Shasta | R12.920 | South Bonnyview Road |
| Shasta | R14.443 | Cypress Avenue |
| Shasta | R15.429 | Junction 44 (Central Redding) |
| Shasta | R17.303 | Junction 299E |
| Shasta | R18.068 | Twin View Boulevard |
| Shasta | R18.481 | Junction 273 North |
| Shasta | R19.402 | Oasis Road |
| Shasta | R20.995 | Pine Grove Avenue |
| Shasta | R22.144 | Junction State Route 151 |
| Shasta | R24.082 | Mountain Gate |
| Shasta | R26.035 | Fawndale Road |
| Shasta | R27.632 | Bridge Bay Road |
| Shasta | R29.315 | Turntable Bay Road |
| Shasta | R32.159 | O'Brien Road |
| Shasta | R30.511 | Packers Bay Road |

**TABLE 41**
**I-5 Interchanges in District 2**

| County | Postmile[1] | Interchange Name[2] |
|---|---|---|
| Shasta | R36.784 | Gilman Road |
| Shasta | R41.053 | Lakeshore Drive |
| Shasta | R42.316 | Riverview Drive |
| Shasta | R45.953 | Vollmers Road |
| Shasta | R49.147 | La Moine Road |
| Shasta | R50.813 | Pollard Flat |
| Shasta | 53.318 | Gibson Road |
| Shasta | 57.410 | Sims Road |
| Shasta | 59.350 | Flume Creek Road |
| Shasta | 60.508 | Conant Road |
| Shasta | 61.745 | Sweetbriar Avenue |
| Shasta | 63.583 | Castella |
| Shasta | 65.413 | Soda Creek Road |
| Shasta | 66.842 | Castle Crags Drive |
| Siskiyou | 0.685 | South Dunsmuir |
| Siskiyou | 2.514 | Central Dunsmuir |
| Siskiyou | 3.841 | Dunsmuir Avenue |
| Siskiyou | 5.899 | Mott Avenue |
| Siskiyou | R8.475 | Junction 89 |
| Siskiyou | R8.787 | South Mt. Shasta |
| Siskiyou | R10.485 | Lake Street |
| Siskiyou | R12.062 | North Mt. Shasta |
| Siskiyou | R13.184 | Abrams Lake Road |
| Siskiyou | R15.339 | Deetz Road |
| Siskiyou | R17.441 | South Weed |
| Siskiyou | R19.070 | Junction 97 (Central Weed) |
| Siskiyou | R19.866 | Jucnction265 (North Weed Blvd) |
| Siskiyou | R22.999 | Stewart Springs Road |
| Siskiyou | R31.178 | Louie Road |
| Siskiyou | R38.207 | Grenada |
| Siskiyou | R42.508 | Kilgore Hills Road |
| Siskiyou | R45.624 | Junction 3 (South Yreka) |
| Siskiyou | R47.563 | Miner Street |
| Siskiyou | R48.227 | Junction 3 (North Yreka) |
| Siskiyou | R58.178 | Klamath River |
| Siskiyou | R58.326 | Junction 96 |
| Siskiyou | R61.550 | Henley Way |
| Siskiyou | R63.172 | Ditch Creek Road |
| Siskiyou | R65.524 | Bailey Hill Road |
| Siskiyou | R68.328 | Hilt Road |

[1] At over/under crossing
[2] Per Caltrans District 2 Landmark Log
*Not full interchanges
Source: Caltrans, District 2

# APPENDIX H

## Other Plans, Policies, and Studies

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# Interstate 5
# Transportation Concept Report

## *Other Plans, Policies, and Studies*

## Background

This section focuses on the research of other plans, policies, and studies to develop an understanding for I-5. Plans, policies, and studies have shaped the development of I-5, as it exists today, and will influence future decisions within the corridor. For this report over twenty plans and studies relevant to I-5 within District 2 were reviewed, including federal highway system documents, statewide policy documents, regional transportation system plans, and site-specific interchange studies. As one would imagine, within a 174-mile stretch of a 1,381-mile corridor numerous plans and studies have been prepared that in one form or another could potentially influence conditions and/or decisions on I-5. While the research endeavored to be extensive as possible, other documents that could potentially affect I-5 likely exist that have not been reviewed.

In this section, each plan, policy, and study listed contain a general summary and a relevance to I-5 statement. Most of these plans, policies, and studies are not provided in the Appendix K Glossary, since they are in summarized here.

## Federal Level

***The Interstate is 50 (2006)***
***American Association of State Highway Officials (AASHTO)***
http://www.interstate50th.org/index.shtml

**Summary**
June 29, 2006, was the 50th anniversary of the day federal legislation was signed to begin one of the biggest engineering projects ever undertaken: the U.S. Interstate Highway System. The wide, relatively straight, roadways in the Interstate Highway System were designed to be faster and safer than the two-lane roads that preceded them-designs that worked. And the system has brought amazing changes to our way of life.

**Relevance to I-5**
I-5 was a part of this original Interstate Highway System. Creation of the interstate system was, unquestionably, an engineering marvel. Its existence provides the mobility essential to maintain a vibrant economy. Truly the interstate system transformed America. Currently, the interstate system bears the brunt of large volumes of traffic with little consistent funding to add capacity. This report helped understand the history.

***The West Coast Corridor System Phase I Report-Building a Strategy for Secured Mobility (2003)***
***FHWA, Corridor and Border Program***

**Summary**
The United States Department of Transportation awards FHWA grants to projects in corridors identified by Congress in legislation passed in 1991, 1993, 1995, and 1998. One of these corridors selected for a grant was named the "West Coast Corridor." This grant allowed for a planning document to be written about the West Coast Corridor.

**Relevance to I-5**
The purpose of the project is to provide a comprehensive study of the West Coast corridor system that includes I-5. The Phase I of the report outlines the corridor system, gives examples of other corridor systems, defines the West Coast Corridor System, discusses the Border-to-Border Management System, Metropolitan Freight Mobility, and quality of life concepts. Many portions of this report help understand the global pressures I-5 is facing.

## Other States Level

***Washington DOT-Corridor and Route Development Team Study (2006)***
***Washington Department of Transportation, Office of Planning***
http://www.wsdot.wa.gov/planning/Studies/Default.htm#Major%20Investment

**Summary**
The purpose of corridor studies is to determine the best way to serve existing and future travel demand. The study defines alignment, mode(s) and facilities between activity centers or other logical termini. Route Development Plans (RDPs) are planning studies on state highway facilities, developed to identify deficiencies and propose solutions. These plans are part of the WSDOT long range-planning program and are intended to support local jurisdictions.

**Relevance to I-5**
There is a not a current Corridor Study or RDP for I-5 in Washington; however, the process of creating Corridor Studies and RDPs provided some insight to developing a twenty-year transportation-planning document.

***Oregon DOT-State of the Interstate-A Transportation Conditions Report (2000)***
***Oregon Department of Transportation, Highway Division***

**Summary**
This report provides an assessment of the existing and forecast safety, geometric design, and operating conditions on I-5 through Oregon. The report also contains overview of related plans, policies, and studies; trends in population, employment, land use, and transportation; existing and forecasted conditions for each I-5 interchange and mainline freeway segment, environmental conditions and potential development impact areas; and opportunities and recommendations for short-term improvements.

**Relevance to I-5**
District 2's connection to Oregon is relevant and facility concepts should be consistent at the two state borders. From the Oregon I-5 report, it is evident that Oregon faces some similar and unique challenges compared to I-5 in California. Understanding of these challenges allows for a more comprehensive understanding of the Interstate on a global scale.

## California State Level

***California Transportation Plan (CTP) (2006)***
***California Department of Transportation, Office of State Planning and Research***
http://www.dot.ca.gov/hq/tpp/offices/osp/ctp.html

**Summary**
This Plan is a statewide, long-range transportation plan that will guide transportation decisions and investments in the 21st century. It contains a vision for transportation in year 2025 and beyond, and sets goals, policies, and strategies to achieve this vision. The CTP does not recommend individual projects; rather, it provides guidance in the selection of strategies that will meet statewide targets for performance of the transportation system. Some of the acts guiding the CTP 2025 include the Federal *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for All Users (SAFETEA-LU)* and the *State GoCalifornia* mobility initiative.

**Relevance**
The policies, goals, and strategies in the Plan are designed to preserve the transportation system and provide mobility and accessibility for California's growing population, while enhancing the state's environment, economy, and social equity. One policy is "to increase system capacity", which aims to "add lanes and road were feasible and determined to be the best alternative (and this includes major arterial streets)." Another policy statement is to "enhance goods movement mobility, reliability, and system efficiency." The strategy to "focus a statewide system investments on corridors and gateways that handle the highest volumes of freight traffic and/or have the most significant transportation problems" fits I-5.

***Interregional Strategic Plan (ITSP) (1998)***
***State of California, Governor's Office of Advanced System Planning***
http://www.dot.ca.gov/hq/tpp/offices/oasp/links_files/Strategic.PDF

**Summary**
The Plan describes and communicates the framework in which the State will carry out its responsibilities for the Interregional Improvement Program (IIP). It also identifies how the Department will work with regional agencies to consult and seek consensus on the relative priority of improvements.

**Relevance to I-5**
This Plan conveys key elements of on-going and short and long-range transportation planning and discusses route classifications. Classifications of high emphasis routes are discussed, and this includes I-5. This classification is used to highlight a route's critical importance to interregional travel and the state as a whole.

***I-5 Transportation Concept Reports (TCRs)***
***California Department of Transportation, Office of System Planning***
http://www.dot.ca.gov/hq/tpp/offices/oasp/system_planning.html

**Summary**
The TCR is a twenty-year consensus-based transportation-planning document for State highways. Caltrans staff prepare these reports with assistance from Metropolitan Planning Organizations/Regional Transportation Planning Agencies, Local Transportation Commissions, counties, cities, Tribal Governments, community-based-organizations, and the public involved with the route. The TCR analyzes traffic conditions, demographics, local economies, land use, and environmental issues, and identifies potential future needs and projects.

**Relevance**
I-5 goes from border to border in California. This means that the interstate transverses other Caltrans' Districts (3, 6, 7, 10, 11, and 12). These Districts have the following dates on their I-5 TCR documents:

| | |
|---|---|
| **District 3-April 1997** | **District 10-November 2003** |
| **District 6-July 2005** | **District 11-May 1997** |
| **District 7-November 1998** | **District 12-April 2000** |

All of these TCRs are relevant to the District 2 I-5 planning process because they tell the global story of the interstate. They were referenced for general information regarding the corridor. It is particularly important that the facility concept in the District 2 and District 3 TCR be consistent at the Glenn/Tehama border.

***District 2 I-5 Route Concept Report (RCR) (1984)***
***California Department of Transportation, District 2, Office of System Planning***

**Summary**
The RCR is a document that focuses specifically on the route and identifies current operating conditions, future deficiencies, route concept, and concept level of service, and conceptual improvements for a route.
**Relevance to I-5**
The RCR is now known as the TCR. The 1984 I-5 RCR provides insight into the trends of that decade and provides factual information about I-5. Given that the document is now over twenty-years old, its value to decision makers and the general public is limited.

***Strategic Growth Plan and GoCalifornia (2005-2006)***
***California Department of Transportation, District 2, Office of Strategic Planning***
http://www.bondaccountability.ca.gov/Strategic_Growth_Plan/

**Summary**
Governor Schwarzenegger has sponsored the Strategic Growth Plan, part of which is a historic comprehensive transportation investment package that incorporates *GoCalifornia*, a mobility action plan designed to decrease

congestion, improve travel times, and increase safety. The Plan looks ahead twenty years and develops a program of strategies and projects to meet increasing transportation needs and reduce congestion to below today's levels. In May 2006, the California Legislature proposes a $36 million infrastructure bond (SB 1266) that was part of and is a direct result of the Governor's Strategic Growth Plan. California voters approved the full bond package on the November 2006 ballot.

**Relevance**
I-5 is a high priority corridor that is need of expansion. The Cottonwood Hills Truck Climbing Lanes Project in Shasta County received funding through the bond measure approved by voters in 2006.

***Goods Movement Action Plan (2007)***
***California Department of Transportation, Office of Goods Movement***
http://www.dot.ca.gov/hq/tpp/offices/ogm/products.html

**Summary**
Governor Schwarzenegger began an effort to assemble goods movement stakeholders to learn about the problems, opportunities, and challenges facing the future of goods movement within the State. Cabinet members from the BTH and Cal/EPA co-chaired the committee and their task was to develop a Goods Movement Action Plan.

**Relevance**
I-5 is identified as a one of the priority corridors in the California goods movement system. It was stated that I-5 has numerous bridge facilities in need of rehabilitation and maintenance due to growth in truck volumes on the route. No specific highway improvements on I-5 in District 2 were identified in the *Goods Movement Action Plan*.

***Global Gateways Development Program (2002)***
***California Department of Transportation, Office of Goods Movement***
http://www.dot.ca.gov/hq/tpp/offices/ogm/products.html

**Summary**
The Program reflects a strategy developed in cooperation with goods movement industry representative and other stakeholders for improving the flow of national and international trade to and through California's seaports, airports, international ports of entry, intermodal transfer facilities, and major highway and rail corridors. The Program identifies high-priority seaport, airport, and border access and intrastate transportation improvements for potential State, federal, and other funded. The identified improvements are intended to facilitate the movement of intrastate, interstate, and international trade that benefits the California economy.

**Relevance to I-5**
California's trade corridor highways, which includes the I-5 corridor, represents the largest trade transportation system in the United States. The nation relies heavily on this system, particularly for access to the Pacific Rim. The Program was designed to generate discussion among policy makers, the transportation industry and the public so that the state's most pressing goods movement issues can be solved.

***Statewide Goods Movement Strategy (1998)***
***California Department of Transportation, Office of Goods Movement***
http://www.dot.ca.gov/hq/tpp/offices/ogm/products.html

**Summary**
The Statewide Goods Movement Strategy is a strategic policy and action blueprint for improving the goods movement transportation system. Ten strategic policies are outlined to direct the State's response and improvement of the system.

**Relevance to I-5**
I-5 is listed in the document as a Major Urban Region Gateway Route. Gateways are considered principal centers of major State, national, or international trade and commerce, goods movement and intermodal transfer of freight. The

document presents forty-two actions recommended to improve goods movement transportation system in California. Most actions are related to I-5 in a general nature and can impact the whole corridor if implemented.

***The California Department of Transportation Guide for the Preparation of Traffic Impact Studies (TIS) (2001)***
***California Department of Transportation, District 6, Office of Community Development***
http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

**Summary**
This guide was developed to improve the Department's intergovernmental review/CEQA process. The guide promotes consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.

**Relevance to I-5**
Local development and land use changes happen daily on I-5. This guidance document allows for traffic impact analyses to be completed in a consistent matter.

## Regional/Local Level

***Regional Transportation Plans (RTPs)***
***Regional Transportation Planning Agencies***

**Summary**
State law requires each RTPA to adopt and submit an updated RTP to the CTC and the Department of Transportation. The plans are developed to provide a clear vision of the regional transportation goals, policies, objectives, and strategies. The vision must be consistent with financial constraints.

Each Regional Transportation Planning Agency/Metropolitan Planning Organization is required to develop a RTP every four–five years. Five years renewal requires federally designation of air quality attainment or that does not contain an urbanized area. For the I-5 corridor, the three involved are:
**Shasta County RTP-last updated 2004**
**Siskiyou County RTP-last updated 2005**
**Tehama County RTP-last updated 2005**

**Relevance to I-5**
I-5 is a component of all three RTPs. Caltrans provided information about I-5 to include in the RTPs. State highway information in the RTPs should be consistent with State Plans and Policies.

***General Plans***
***Cities and Counties Planning Departments***
http://ceres.ca.gov/planning/

**Summary**
Under state law, all cities and counties must prepare a general plan. The general plan is a legal document that serves as the "constitution" for a community's land use and development activities. There are seven mandatory elements of the general plan. They include the following: land use, circulation, housing, conservation, open space, noise, and safety.

Along the I-5 corridor, the 3 counties and 11 cities with general plans are:

| Counties: | Cities: |
|---|---|
| **Tehama** | **Tehama, Red Bluff, Corning** |
| **Shasta** | **Anderson, Redding, Shasta Lake** |
| **Siskiyou** | **Dunsmuir, Weed, Mt. Shasta, Yreka, and Montague** |

**Relevance to I-5:**
The general plan serves as a blueprint for a city or county's anticipated growth and likely future impacts to the state highways such as I-5. These documents are a key part of forecasts, as they tell the when and where of growth.

***Oasis Road Specific Plan (2004-2006)***
***City of Redding***
http://www.ci.redding.ca.us/devserv/envdocs/ORSP.html

**Summary**
The City of Redding developed the Oasis Road Specific Plan (ORSP)—a land use plan for 762 acres of largely undeveloped land at the northerly gateway to the City. This plan discusses development of Redding's next major regional commercial area, addressing infrastructure and circulation needs for potentially 4 million square feet of commercial space, as well as up to 1,800 single-family and multiple-family residential units.

**Relevance to I-5**
The ORSP shows that when developed the area will become a major traffic generator for I-5. The ORSP identifies numerous transportation improvements on I-5 and local roads that will be necessary to accommodate traffic from the plan area. Improvements include expansion/replacement of the Oasis Road and Twin View Interchanges and modification to the Market Street (SR 273)/I-5 Interchange.

***Stillwater Business Park (2005-2006)***
***City of Redding***
http://www.ci.redding.ca.us/cm/major_pr/still_buspk.html

**Summary**
The proposed project is a 700-acre business park east of Stillwater Creek in east Redding.

**Relevance to I-5**
Five interchanges (SR 44, Cypress Avenue, Churn Creek Road, Knighton Road, and Riverside Avenue) on I-5 are within a 5-mile radius of the project site. These interchanges will provide major regional access to the proposed business park and mitigation measures need to be undertaken to deal with the impacts on the transportation system.

***Southern Region Study (2006)***
***Shasta Regional Transportation Planning Agency***

**Summary**
The Southern Region Study addressed current and future transportation needs in the Southern Region and identified specific projects for future funding. A traffic impact fee program was adopted to help fund the improvements identified in the study. This study was undertaken by the Shasta County RTPA in cooperation with stakeholders from Shasta County Public Works, community of Cottonwood, City of Anderson, and Caltrans.

**Relevance to I-5**
The adopted traffic impact fee program provides funding for improved to the Gas Point Road and Main Street Interchanges.

***Shasta County Blueprint Study (2007-in progress)***
***Shasta Regional Transportation Planning Agency***

**Summary**
The Blueprint Study is being lead by the Shasta County Regional Transportation Planning Agency This comprehensive study is a twenty-year visioning exercise enabling local agencies and the public to "test drive" different "scenarios" or alternatives for regional growth. Information derived from the study will also assist local jurisdictions in making sound decisions consistent with community priorities.

**Relevance to I-5**
The plan will take into consideration the impacts of high growth occurring along the I-5 corridor and may result in land use changes to reduce travel demand.

***Fix 5 Partnership-Traffic Impact Fee Study (2007-in progress)***
***Shasta and Tehama RTPAs; Counties of Shasta and Tehama; Cities of Corning, Red Bluff, Anderson, Redding, Shasta Lake; Caltrans District 2; and Tribal Governments***
http://www.fixfive.org/

**Summary**
The Fix 5 Partnership is a multi-jurisdictional effort expressly to improve mobility and reduce congestion on I-5. The Shasta and Tehama RTPAs; Counties of Shasta and Tehama; Cities of Corning, Red Bluff, Anderson, Redding, Shasta Lake; Caltrans District 2; and Tribal Governments are the partners along the 61-mile stretch of Interstate 5. The partners agree that traffic volumes on I-5 are forecast to more than double during the next thirty years creating significant congestion on the freeway in Shasta and Tehama Counties. The Partnership was formed to support the study of these impacts, to develop a regionally responsive program of improvements and to prepare a financial plan for delivering these projects. The Fix 5 Partnership plans to increase capacity and mobility along the I-5 Corridor in Shasta and Tehama Counties by leveraging existing funds and implementing a fair-share developer fee to pay for prioritized projects. The main goal of this partnership is to add a third lane in both directions between the City of Corning and Mountain Gate. The study began in February 2007 and is expected to be complete by June 2008.

**Relevance to I-5**
Within 20 years from now, much of I-5 from Corning to the City of Shasta Lake will be stop-and-go traffic during commute hours. In order to stretch limited money, the state and federal government give priority to projects with locally generated matching funds. Counties and regions that show a commitment to projects by providing even a fraction of the overall cost are able to leverage additional funds in this competitive environment. The Fix 5 Program has the potential to generate substantial local revenues that, when combines with other transportation funds, will allow priority improvements on I-5 to be implemented.

***Fix Five Partnership Survey (2007)***
***Godbe Research for Fix 5 Partnership***
http://www.fixfive.org/

**Summary**
Godbe Research conducted a survey in July 2007 for the Fix Five Partnership. A total of 500 voters who reside in Tehama and Shasta Counties participated in this study through telephone interviews. The primary goal of this study was to collect, analyze, and document the results of the study to help determine regional and interregional travel patterns on both state and interstate routes in northern Tehama and southern Shasta Counties.

**Relevance to I-5**
The survey results indicate that an overwhelming majority of voters use Interstate 5 and think preventing future traffic congestion is an important issue in their community. A majority of voters support the plan to expand Interstate 5 to three lanes in each direction in Tehama and Shasta Counties. The survey results also indicated support for funding the expansion of Interstate 5 with an impact fee on new residential and commercial development as opposed to other new funding (including sales tax).

***Shasta County Interchange Study (1993)***
***Shasta Regional Transportation Planning Agency***

**Summary**
The Shasta County Interchange Study was managed and funded by Shasta County RTPA. The study identified current deficiencies and the needed future improvements under year 2020 traffic conditions at thirteen interchanges. The purpose of the interchange study was to provide the RTPA, Caltrans, Shasta County, Anderson, Redding, and

Shasta Lake with a detailed description of what improvements will be needed to accommodate the future growth within Shasta County.

**Relevance to I-5**
Most of the study interchanges are located on I-5. The study provides a valuable tool, which can assist each jurisdiction make improvement decisions as the need arises. It was used in the evaluation of interchanges in the TCR and will assist with the I-5 fee study.

***Shasta County Soundwall Study (2003)***
***Shasta Regional Transportation Planning Agency***

**Summary**
The Shasta County RTPA requested Caltrans complete a study and prioritize locations within Shasta County for construction of noise barriers.

**Relevance to I-5**
Noise levels were measured along I-5 corridor on several different occasions. The I-5 sections were divided and an average noise level was then calculated for each segment and ranked for relative priority for soundwall construction. Shasta RTPA may program soundwall projects during development and adoption of the RTIP.

***District 2 Intelligent Transportation System (ITS) Architecture and Development Plan (2008)***
***Provided by Caltrans District 2, Office of Community and Regional Planning for Regional Agencies***

**Summary**
The seven counties in District 2 (Modoc, Lassen, Plumas, Shasta, Siskiyou, Tehama, and Trinity), Caltrans District 2, along with stakeholders in the community, are working to complete the District 2 ITS Architecture and Deployment Plan. Shasta's Plan is completed. This document identifies where various electronics, communications, information processing systems, and hardware devices can be deployed to improve the safety and efficiency of the surface transportation system.

**Relevance to I-5**
The Plan lists from a strategic perspective how to manage the I-5 corridor, apply for Federal and State funding, and allow for opportunities for coordination between jurisdictions.

***Corning Area Traffic Study (2005-2006)***
***California Department of Transportation, District 2, Office of System Planning***
***Caltrans, Tehama Regional Transportation Planning Agency, and City of Corning***

**Summary**
Phase I of the South Avenue/I-5 interchange reconstruction in Tehama County is scheduled for completion in 2009. The purpose of the Corning Area Traffic Study was to determine the traffic flow and traveler patterns at the three main interchanges (Liberal Avenue, South Avenue, and Solano Avenue) in the Corning area. Traffic counts were collected and the data was modeled to assist with the traffic management plan to be used during the construction period.

**Relevance to I-5**
This study identifies the traffic patterns on major streets in the City of Corning that provide access to I-5. The study found that 15% of the traffic using South Avenue was traveling between SR 99 and I-5.

***Caltrans Origin and Destination Study (2006)***
***California Department of Transportation, District 2, Office of System Planning***

**Summary**
In the fall of 2006 Caltrans hired Kimley-Horn Associates, Inc to conduct an origin an destination (O & D) traffic study. The primary goal of this study was to collect, analyze, and document the results of the study to help determine

regional and interregional travel patterns on both state and interstate routes in northern Tehama and southern Shasta Counties.

**Relevance to I-5**
The study is a tool to aid in future project related decisions such as regional impact fees, determination of future project prioritization and funding, and other projects where the study results could provide better insight into travel patterns on I-5. It was found that the majority of traffic on I-5 was local. About 40% of traffic was interregional at the gateways. Only about 10% at Central Redding was interregional traffic.

***Caltrans, District 2 Cycling Guide for State Highways of Northern California (2004)***
***California Department of Transportation, District 2, Office of System Planning***
http://www.dot.ca.gov/dist2/pdf%20files/cycling_guide.pdf

**Summary**
The Guide is designed to give the cyclist an idea what to expect when cycling in the northeastern counties of California, the area covered by Caltrans District 2.

**Relevance to I-5**
Bicyclists are allowed to ride on some sections of I-5 in Caltrans District 2. For the locations where bicyclists are prohibited on I-5, alternative routes are identified in the cycling guide.

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# APPENDIX I

## Corridor Outreach and Tribal Fact Sheets

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# Interstate 5
# Transportation Corridor Report

## *Corridor Outreach*

## Introduction

This section presents information on the outreach done along the corridor. State and federal laws require that public involvement be a part of transportation decision-making. While such laws are meant to promote fairness and equity in decision-making, Caltrans realizes that there are recognizable benefits to involving the public early and continuously. The benefits included increased credibility, strengthened public support and trust, involved public in project development, and developed projects using public resources efficiently with less need for re-evaluation.

Public involvement for route and corridor specific planning offers unique opportunities for Caltrans to obtain and use region-wide community input about a transportation corridor. Because corridors like I-5 span multiple jurisdictions within a region, planning efforts must take care to address individual community issues, along with region-wide issues. These issues can range from local traffic flow, economic/business development, traveler information systems, regional mobility, and safety.

This appendix includes the following key sections:

- Outreach Plan
- Outreach Methods
- Outreach Meetings and Workshops
- Stakeholders Chart
- Tribal Government Fact Sheets
- I-5 TCR Brochure
- I-5 TCR Flier

**PUBLIC WORKSHOP. Presenting information about I-5 in the City of Mt. Shasta.**

**CITY COUNCIL MEETING. Presenting information about I-5 to the City of Corning.**

## Outreach Plan

The key objectives of the I-5 outreach plan included:

- Gain input and ideas for the I-5 TCR and provide forums for stakeholders to comment on the corridor.
- Identify common needs from the diverse stakeholder groups.
- Provide general and technical information about the corridor to interested parties.
- Develop an understanding of transportation funding and the project selection process.
- Clearly identify and communicate future segment improvement needs.
- Generate confidence and credibility in the process and the final plan.

The outreach involved stakeholders from external, semi-external, and internal audiences. A visual representation of these stakeholders is included in this appendix.

***External Audiences***

- General Public (for example commuters, taxpayers, recreational travelers and school children).
- Community-Based Organizations (for example, Chambers of Commerce, Senior Groups, and Environmental Clubs).
- Economic Interest Groups (for example, businesses along I-5, trucking/freight providers, manufacturers, and retailers).

***Semi-External Audiences***

- Regional Transportation Planning Agencies
- Technical Advisory Committees
- Cities
- Counties
- Tribal Governments
- Elected Officials
- Federal Highway Administration (FHWA)
- Other Governmental Agencies (examples include California Highway Patrol, California Fish and Game, and the United States Forest Service).

***Internal Audiences***

Caltrans units/functions involved in development of the TCR include:

- District 2 Executive Staff
- District 2 functional units: Traffic, Maintenance, Design, Right of Way, Environmental, Regional and Community Planning, and Advance Planning.
- Caltrans Headquarters Programs

## Outreach Methods

The outreach methods used during development of the I-5 TCR included:

- **Internet Website.** Information regarding the upcoming public workshops/presentations and the draft TCR were available at the following Caltrans website:

  http://www.dot.ca.gov/dist2/planning/concept_rpts.htm

  Additionally, the website was placed on RTPA and county websites.

- **I-5 TCR Brochure.** A brochure was create

- d to provide information about the TCR and upcoming public meeting dates. The I-5 TCR Brochure is attached.

- **I-5 TCR Spanish Flier.** The I-5 TCR brochure was translated into Spanish in order to reach the Hispanic audience in Tehama County. The I-5 TCR Spanish Flier is attached.

- **Mailing List/E-mail List.** For the I-5 TCR project, a mailing list of more than 600 contacts was used. The list was developed through stakeholder interviews; Internet research; and previous Department lists, comprised of CBOs, ethnic-based organizations, service clubs, elected officials and other individuals and organizations interested in transportation planning. Comment cards at the public workshops allowed for additional contacts to be added to this list.

- **Media Outreach.** Outreach to the media was done when upcoming public workshops were on the horizon. The Caltrans District 2 Public Information Office assisted with the media outreach process. Media Outreach included public service announcements and news stories with radio stations, newspapers and television broadcasts.

- **Local Radio Talk Show.** District 2 staff was asked to discuss I-5 on a local radio talk/call-in show and part of the focus of the show was on I-5.

- **Elected Official Outreach.** At the beginning of the project, elected officials were contacted by mail and/or phone. Communication continued with interested elected officials during the project.

- **Agency Presentations.** Presentations to agency boards allowed for the information to be provided to elected officials in an open public forum.

- **I-5 Route Development Team (RDT).** The RDT consisted of internal Caltrans functional managers. Regular RDT meetings were held throughout the document development process to gain input (institutional knowledge) from different functional units and educate RDT members about the TCR process.

- **Traffic Projections Advisory Committee**. This committee made up of Caltrans planning staff met to discuss traffic projections for the I-5 corridor.

- **Status Meetings.** Monthly informal meetings allowed for discussion on progress of the I-5 TCR. These meetings included a core group of representatives from System Planning, the Deputy Director for Planning and Local Assistance, and Shasta RTPA staff.

- **Presentations to Targeted Organizations.** The Rotary Club and the Associated Society of Civil Engineers (ASCE) both requested presentations during development of the I-5 TCR.

- **Interviews with Key Stakeholders**. Key stakeholder interviews provided valuable information regarding I-5. Specifically, these interviews focused on trucking companies, chambers of commerce, and economic development corporations.

- **Workshops.** There were ten workshops scheduled in the cities and communities along I-5. Workshops were held for the general public to gather information and update progress on the I-5 TCR.

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## I-5 Meetings and Workshops

| Date | Meeting Title |
|---|---|
| **Ongoing** | |
| | I-5 Status Meetings with System Planning, Deputy Director for Planning and Local Assistance, Shasta RTPA and other representatives as appropriate were held regularly at Caltrans District 2 |
| **2002** | |
| April 25 | Brian Crane, Caltrans District 2 Director |
| April 30 | Harry Khani, Federal Highway Administration |
| May 8 | Rotary East Presentation (with Deputy Director) |
| September 4 | Caltrans District 2 I-5 Route Development Team |
| September 12 | Shasta County Regional Transportation Planning Agency Staff |
| **2003** | |
| January 9 | Siskiyou County Local Transportation Commission Staff |
| January 29 | Caltrans District 2 Route Development Team |
| January 30 | Tehama County Technical Advisory Committee |
| February 11 | Tehama County Transportation Commission Staff |
| March 23 | Tehama, Shasta, and Siskiyou Boards of Supervisors' letters sent and follow-up contacts |
| April 30 | Caltrans District 2 I-5 Route Development Team |
| May 9 | Caltrans District 2 Environmental Branch Chiefs |
| May 14 | Caltrans Headquarters Scoping Meeting |
| June 5 | City of Weed (staff) |
| June 5 | City of Dunsmuir (staff) |
| June 25 | City of Montague (staff) |
| June 25 | City of Mt. Shasta (staff) |
| July 1 | City of Anderson (staff) |
| July 9 | City of Shasta Lake (staff) |
| July 21 | City of Redding (staff) |
| July 24 | City of Corning (staff) |
| July 24 | City of Red Bluff (staff) |
| July 29 | City of Yreka (staff) |
| July 29 | McCloud Service District (staff) |
| August 12 | Caltrans District 2 I-5 Route Development Team |
| August 12 | City of Tehama (staff) |
| August 19 | Rancho Tehama Board of Directors and Community Meeting |
| August 21 | Caltrans District 2 Public Information Office, Public Participation and Outreach Plan |
| August 26 | United States Fish and Wildlife, Sacramento Office |
| September 23 | Tribal Governments Consultation (letter) |
| September 24 | Anderson Public Workshop (combined with State Route 273) |
| October 1 | Shasta Lake City Public Workshop (combined with State Route 151) |
| October 2 | Yreka Public Workshop (combined with State Route 263) |
| October 14 | Dunsmuir Public Workshop |
| October 14 | Corning Public Workshop |
| October 16 | Red Bluff Public Workshop |
| October 21 | Weed Public Workshop |

| Date | Meeting Title |
|---|---|
| **2003 continued** | |
| October 23 | Mt. Shasta Public Workshop |
| November 5 | Redding Public Workshop (combined with State Route 273) |
| November 6 | Cottonwood Public Workshop |
| November 19 | District 2 Planning Division Scoping Session |
| November 24 | KQMS call-in talk show with Ken Murray (with Deputy Director of Maintenance and Operations) |
| **2004** | |
| March 3 | Brian Crane, Caltrans District 2 Director |
| March 8 | Tehama County Technical Advisory Committee, Summary Working Paper A (Base) |
| March 10 | Siskiyou County Local Transportation Commission, Summary Working Paper A (Base) |
| March 24 | Corning Planning Department |
| March 24 | Red Bluff Planning Department |
| March 24 | Tehama County Planning Department |
| March 25 | Redding Planning Department |
| March 25 | Anderson Planning Department |
| March 29 | District 2 Maintenance and Planning Division Seniors |
| April 1 | Mt. Shasta Planning Department |
| April 1 | Shasta Lake Planning Department |
| April 13 | Shasta County Regional Transportation Planning Agency, Summary Working Paper A (Base) |
| **2005** | |
| January 20 | Caltrans District 2 I-5 Route Development Team |
| March 14 | Traffic Projections Committee |
| March 20 | Traffic Projections Committee |
| March 25 | Traffic Projections Committee |
| April 18 | Traffic Projections Committee |
| April 20 | Traffic Projections Committee |
| April 25 | Traffic Projections Committee |
| May 31 | Caltrans Public Information Office, Public Participation and Outreach Plan |
| June 9 | Traffic Projections Committee |
| June 27 | Caltrans District 2 I-5 Route Development Team |
| July 13 | District 2 Planning Division, I-5 Corridor Projects Meeting |
| July 25 | District 2 Executive Staff, Summary Working Paper B (Future) |
| August 4 | District 2 Senior Staff, Summary Working Paper B (Future) |
| September 1 | Tehama County Technical Advisory Committee, Summary Working Paper B (Future) |
| September 20 | Tehama County Transportation Commission, Summary Working Paper B (Future) |
| September 27 | Corning City Council, Summary Working Paper B (Future) |
| October 4 | Siskiyou County Local Transportation Commission, Summary Working Paper B (Future) |
| October 18 | Tehama County Board of Supervisors, Summary Working Paper B (Future) |
| October 18 | Lake California Board and Community Meeting, Summary Working Paper B (Future) |
| November 1 | Red Bluff City Council, Summary Working Paper B (Future) |
| November 10 | Tehama County General Plan Committee, Summary Working Paper B (Future) |
| December 7 | Caltrans District 2 Administration Department, Summary Working Paper B (Future) |
| **2006** | |
| January 17 | Caltrans District 2 Planning Division |
| January 23 | Caltrans District 2 Planning Division |

| Date | Meeting Title |
|---|---|
| **2006 continued** | |
| March 9 | American Society of Civil Engineers, Summary Working Paper B (Future) |
| May 1 | Caltrans District 2 Planning and Local Assistance Deputy District Director, Tim Huckabay |
| September 14 | Caltrans District 2, Advance Planning, Preliminary Cost Estimates for Improvements |
| **2007** | |
| February 5 | Tribal Governments Consultation letter |
| April 3 | Shasta County Technical Advisory Committee, Summary Working Paper B (Future) |
| April 17 | Shasta County Regional Transportation Agency, Summary Working Paper B (Future) |
| **2008** | |
| February 11 | Shasta County Technical Advisory Committee, Draft I-5 TCR |
| February 26 | Shasta County Regional Transportation Agency, Draft I-5 TCR, **Resolution of Concurrence Adopted** |
| March 6 | Tehama County Technical Advisory Committee, Draft I-5 TCR |
| March 18 | Tribal Governments Draft I-5 TCR copy mailed |
| March 18 | Tehama County Transportation Commission, Draft I-5 TCR |
| April 8 | Corning City Council, Draft I-5 TCR |
| May 6 | Siskiyou County Local Transportation Commission, Draft I-5 TCR |
| May 7 | Tehama County Technical Advisory Committee, Draft I-5 TCR |
| May 20 | Tehama County Transportation Commission, I-5 TCR, **Resolution of Concurrence Adopted** |
| June 3 | Siskiyou County Local Transportation Commission, I-5 TCR, **Resolution of Concurrence Adopted** |
| June 24 | Caltrans District 2, Executive Staff, **Approved** |
| | |

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# I-5 Stakeholders

## Internal Audiences

### California Department of Transportation

*District 2 Executive Staff, I-5 Route Development Team, Other Functional Units, Other Districts, Headquarters*

## Semi - External Audiences

### Cities

*Corning, Red Bluff, Anderson, Redding, Shasta Lake, Dunsmuir, Mt. Shasta, Weed, Yreka*

### Counties

*Tehama, Shasta, Siskiyou*

### Tribal Governments

*Federally Recognized Tribes-*

*Paskenta Band of Nomlaki Indians, Redding Rancheria, Greenville Rancheria, and Quartz Valley Rancheria*

*Non-Federally Recongnized Tribes-*

*Wintu Tribe of Northern California, Winnemen-Wintu Tribe, and Shasta Nation*

### Regional Transportation Planning Agencies

*Tehama, Shasta, Siskiyou*

### Other Governmental Agencies

*For example Federal Highway Administrative, Oregon Department of Transportation, Washington Department of Transportation, Bureau of Reclamation, and United States Forest Service*

## External Audiences

### General Public

*For example, commuters, taxpayers, recreational travelers, and school children*

### Community Based Organization and Clubs

*For example, chambers of commerce, senior groups, and environmental clubs.*

### Economic Interest Groups

*For example, businesses along I-5, trucking/freight providers, manufacturers, retailers, and economic development corporations.*

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# GREENVILLE RANCHERIA
# INFORMATION AND COMMUNITY FACT SHEET

## STATUS: Federally Recognized

Due to the California Rancheria Act of 1958, the original Greenville Rancheria (275 acres) and Tribal members were terminated from Federal Recognition. In 1983, a U.S. District Court for the Northern District of California (*Tillie Hardwick v. United States of America*.) ruled that the failure of the BIA to comply with its obligations under the California Rancheria Act invalidated the Act. As a result, the Greenville Rancheria and 17 other California tribes were restored as federally recognized Indian tribes. The Greenville's Rancheria Tribal affiliation is Maidu, Wintu, Pit River and Washoe Indian.

## LAND BASE

Land Status: The Tribe has no land in Trust with the Federal Government. At the original Rancheria site, the old church is still standing but is in non-native ownership In addition the Tribe also holds 11.5 acres of land in fee status in the city of Greenville where residential/ commercial/tribal offices and clinics are located, and 15 acres in Red Bluff that is used for economic development/clinics. Currently Greenville Rancheria has three fee- to-trust applications pending.

In addition to a Tribal fee land, the Tribe claims ancestral territories in Tehama, Plumas, Sierra and parts of Butte, Yuba, Glenn and Shasta counties, the territories represent the areas that were once inhabited by the Tribes to camp, hunt, and fish, as well as gathering of vegetation for food consumption and basketry material, sacred ceremonial and burial sites.

## TRIBAL GOVERNMENT

The Tribe falls under the Indian Reorganization Act of 1934. The Tribal Council/Business Council meets every Wednesday of the month, the elected Council is made up of a Tribal Chairperson, Vice Chair, Secretary, Treasurer, and Members at large. The membership meetings are on the 2nd Saturday of the month, meetings are limited to members of the Tribe. There are 150 +/- enrolled Tribal members.

**Services**- The Tribe runs a medical and dental facility in Greenville and Red Bluff to serve tribal and non-tribal members.

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# PASKENTA BAND OF NOMLAKI INDIANS
# INFORMATION AND COMMUNITY FACT SHEET

## STATUS: Federally Recognized

Due to the California Rancheria Act of 1958, the Paskenta Band of Nomlaki Indians (Wintu) suffered termination of Federal recognition in 1959: the Rancheria was then sold to private parties. Despite the denial of federally recognized tribal status, the Paskenta Band maintained its tribal identity and culture while it worked for restoration as a Federally Recognized Native American tribe. On November 2, 1994, Congress enacted the Paskenta Band Restoration Act ("Restoration Act") and the Tribe received full tribal status.

## LAND BASE

The land base is a 1898 +/- acre Reservation which is located in Tehama County, approximately five miles south of Corning, California, and is adjacent to Interstate 5, the Tribe recently purchased a 320 acre parcel adjacent to the reservation, and has petitioned to the Bureau of Indian Affairs for Trust land status.

In addition to Tribal Trust land the Tribes claims ancestral territories, in Tehama and adjacent counties in the Northern Sacramento Valley, the territories represent the areas that were once inhabited by the Tribe to camp, hunt, and fish, as well as gathering of vegetation for food consumption and basketry material, sacred ceremonial and burial sites.

## TRIBAL GOVERNMENT

The Tribe falls under the Indian Reorganization Act of 1934. The Tribes General Membership is 240 members all enrolled members are over 18 years old. The Tribes initial Constitution and bylaws was adopted in December 18, 1993. The Tribal Council consist of a Tribal Chair, Vice-Chair, Secretary and Treasurer.

The Tribe has developed a strong, diverse economic base for its 240 members and surrounding communities. There are now two hotels, a nightclub, traveler's center, and a hunting and fishing club at the Rolling Hills Casino. An RV park, gas station, and an 18-hole golf course opened in 2007. In addition, the tribe has helped fund health care, public safety, education and other programs in the area while it also has pursued other economic development opportunities. Rolling Hills is one of the county's largest employers and has created additional jobs every year of its operation.

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# QUARTZ VALLEY RANCHERIA
# INFORMATION AND COMMUNITY FACT SHEET

## STATUS: Federally Recognized

The original Quartz Valley Reservation was approximately 364 acres located in northwestern California, eight miles from Greenview, 10 miles from Fort Jones, 16 miles from Etna, and 30 miles from Yreka. The Scott River was three miles away. The original reservation was terminated in the 1960s, as a result of the House of Representatives and the Senate, Concurrent Resolution 108. "To end their status as wards of the United States." The tribe was reinstated on December 15, 1983 as a result of the class-action suit *Tillie Hardwick v. United States of America and* is still in the process of reacquiring land for the reservation.

## LAND BASE

Quartz Valley is a federal reservation of Upper- Klamath, Karuk, and Shasta Indians. Total area 174.02 acres, Tribally owned 7 acres, Planned purchase 142 acres, Federal trust 31.02 acres, Government 91 acres, Allotted 24.2 acres, Population 57, Tribal enrollment 150. Many tribal members live in or near the communities of Greenview, Fort Jones, and Etna in Siskiyou County, in northwestern California.

In addition the Tribe claims ancestral territories that were once inhabited by the Tribes to camp, hunt, and fish, as well as gathering of vegetation for food consumption and basketry material, sacred ceremonial and burial sites.

## TRIBAL GOVERNMENT

After the *Tillie Hardwick v. United States of America* decision in 1983, which restored federal recognition to the tribe, the General Council of all adult tribal members elected an interim government. The present government has amended the 1939 constitution, written under the authority of the Indian Reorganization Act. The tribe governs itself through the General Council, headed by a Tribal Chairperson, a Vice-Chair, a Secretary, and a Treasurer. The current Tribal enrollment is approximately 225 members. Elections are held annually.

The tribe has a number of plans for economic development, but these depend on the acquisition of a suitable land base. The tribe is involved in a forestry operation that is contracted by the U.S. Forest Service for erosion control, rehabilitation of burnt areas, forest improvement, and surveys. The tribe employs approximately 25 people. The tribe owns and operates the Kee-Tutch Gift Shop in Etna.

Today, the reservation provides services to the Indian people and to the Scott Valley community. Goals include education, health, cultural programs and housing.

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# REDDING RANCHERIA
# INFORMATION AND COMMUNITY FACT SHEET

## STATUS: Federally Recognized

The Bureau of Indian Affairs purchased the land that is now considered the Redding Rancheria in 1922. The purpose of this purchase was to provide a place for homeless Indians to camp and live. The Rancheria includes Indians from not just one tribe but Indians of Pit River, Wintu and Yana descent. Even Prior to the purchase of the land by the government for Indian homes, many Indians gathered in the area to fish for salmon in Clear Creek.

In 1958, Congress enacted the California Rancheria Act and with this act the Redding Rancheria was terminated on July 6, 1959. The act set forth the distribution of assets of the Rancheria. As the years progressed the Rancheria was parceled off and sold to Indians and non-Indians alike. The government no longer recognized the Rancheria.

In 1983, a U.S. District Court for the Northern District of California (*Tillie Hardwick v. United States of America*) Ruled that the failure of the BIA to comply with its obligations under the California Rancheria Act invalidated the Act. As a result, the Redding Rancheria and 17 other California tribes were restored as federally recognized Indian tribes.

In 1987 the restored Redding Rancheria formally adopted its Constitution, and membership roll of the Redding Rancheria, members of the Rancheria are all descendents of the 17 original distributees who owned land on the Redding Rancheria, commonly known as the “flat”, when the Tribe was re-recognized by the federal government in 1986.

## LAND BASE

Redding Rancheria Land-base itself is 30.89 acres and is located adjacent to State Route 273, south of Redding. The Tribe has acquired an additional 150-acre parcel along Interstate 5 corridor, just south of Redding, and another 56 acres along I 5 in Anderson.

In addition to Tribal Trust land the Tribes claims ancestral territories in Shasta, and Trinity counties, the territories represent the areas that were once inhabited by the Tribes to camp, hunt, and fish, as well as gathering of vegetation for food consumption and basketry material, sacred ceremonial and burial sites.

## TRIBAL GOVERNMENT

The Tribal government falls under the Indian Reorganization Act of 1934, The Constitution of the Redding Rancheria requires that to be a member of the Redding Rancheria you must be a lineal descendent of one of the original distributees. The Tribe starts with the general membership consisting of 292 members that meet at least every other month. The Tribal Council consists of seven elected officials, a Tribal-Chair and Vice- Chair, Treasurer, Secretary, with three Alternates, which meet when designated by the Tribal Council. The Tribal Council elections are held every year with staggered two year terms and Alternates every 1-year. All enrolled members are enrolled shortly after birth and older. 18 years.

**Services** the Rancheria operates the Tribal Governmental offices, the Redding Rancheria Headstart, the Redding Rancheria Health Clinic in Redding and Weaverville, Win-River Mini-Mart, Redding Rancheria’s Win-River Casino, and the Hilton Garden Inn.

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## NON- FEDERALLY ACKNOWLEDGED TRIBES
## FACT SHEET

**STATUS: Non-Federally Recognized**
Along with the federally acknowledged tribes that are listed, there are many non-federally acknowledged tribes that have been terminated or unrecognized of federal status. Many non-federally acknowledged tribes do not have the benefit of living on federal trust lands, yet still retain their own governmental structures and functions. These tribes often represent distinct and separate cultures from the federally acknowledged tribes and they continue their cultural traditions and their interest in protecting cultural resources throughout their aboriginal territories.

In Order for a tribe to receive federal acknowledgment/recognition, and the benefits it confers, the Tribe must prove their continuous existence since 1900, by means of anthropological, genealogical, and historical data. The Office of Federal Acknowledgment implements the administrative process and is within the Office off the Assistant Secretary- Indian Affairs of the Department of the Interior.

Tribes can achieve federal acknowledgement/recognition through these ways:

- restoration through Congress (if they were previously recognition)
- judicial process
- merging with an acknowledge/recognized tribe
- the administrative process

**STATUS OF APPLICATIONS:**

**SHASTA**

| | |
|---|---|
| Winnemem-Wintu Tribe- | Congressional |
| Wintu Tribe of Northern California | Administrative Process |

**SISKIYOU**

| | |
|---|---|
| Shasta Nation- | Administrative Process |
| Winnemem-Wintu Tribe | Congressional |
| Wintu Tribe of Northern California | Administrative Process |

**TEHAMA**

| | |
|---|---|
| Wintu Tribe of Northern California | Administrative Process |

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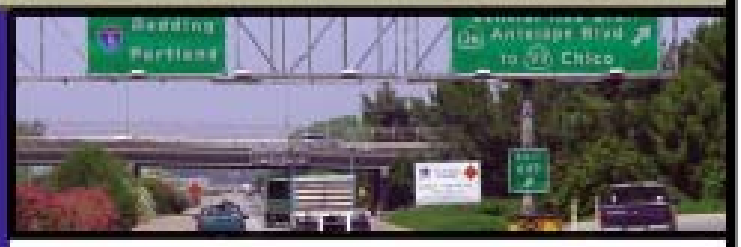
# California Department of Transportation

## District 2
## Transportation Concept Report for Interstate 5




### What a Transportation Concept Report is:

- A long-term, 20-year plan for California's state highway system.
- A report prepared by Caltrans with assistance from Regional Transportation Planning Agencies, Local Transportation Commissions, cities, counties, Tribal Governments, private businesses, and the general public.
- A route-specific document.

### What a Transportation Concept Report does:

- Analyzes traffic conditions, demographics, local economies, land use, and environmental issues.
- Considers multimodal alternatives such as transit services, bicycle and pedestrian facilities, railways, seaports, airports, and highways.
- Identifies potential future projects.

## Why a Transportation Concept Report is Necessary:

- Helps Caltrans determine if a particular route can meet future demands.
- Identifies social, environmental, economic, and quality-of-life goals.
- Assists Caltrans in addressing the specific needs of the communities it serves.
- Serves as a basis for future projects and improvements.
- Provides Caltrans with a more coordinated and integrated approach to managing transportation resources.

## What a Transportation Concept Report is NOT:

- A funding document that provides money for specific projects.
- An environmental document that conducts an environmental review for specific projects.
- A design document that identifies specific project features.

California Department of Transportation
District 2
Office of System Planning, MS 3
P.O. Box 496073
Redding, CA 96049-6073

## About Interstate 5:

- Interstate 5 is an interstate and international route that stretches from San Ysidro, California on the Mexican border, to Blaine, Washington on the Canadian border.
- Interstate 5 serves many purposes: international trade route, defense highway, emergency route, truck route, commuter route, and access route to recreational facilities and areas throughout California, Oregon, and Washington.
- Interstate 5 covers 797 miles in California and is the main north-south freeway in the state.
- Within Caltrans District 2, Interstate 5 is 175 miles in length and passes through Tehama, Shasta, and Siskiyou counties.
- Interstate 5 provides a unique traveling experience in District 2. The freeway tops the crest of the Siskiyou mountains, winds through the scenic Sacramento River canyon, runs across the Northern Sacramento River valley, passes through fertile fields and orchards, and connects cities and communities.

## How Can I Become Involved in the TCR Planning Process?

- Attend a public workshop in your community in the Fall of 2003.
- Submit comments about Interstate 5 through public workshops, comment cards, e-mail, phone or mail to Caltrans District 2 or contact your local transportation partner (listed below).

**Contact information:**

California Department of Transportation
District 2 System Planning, MS 3
Kathy Grah
P.O. Box 496073
Redding, CA 96049-6073
(530) 225-3236
kathy_grah@dot.ca.gov

Shasta County Regional Transportation Planning Agency
Thomas Hays
1855 Placer Street
Redding, CA 96001
(530) 225-5654
shasroad@snowcrest.net

Siskiyou County Transportation Commission
Tom Anderson
305 Butte Street
Yreka, CA 96097
(530) 842-8081
tanderso@co.siskiyou.ca.us

Tehama County Transportation Commission
Jeff Schwein
9380 San Benito Avenue
Red Bluff, CA 96035
(530) 385-1462
jschwein@tco.net

# Caltrans Improves Mobility Across California


For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write: Department of Transportation, Attn: Equal Employment Opportunity Officer, 1657 Riverside Drive, Redding, CA 96001, (530) 225-3425 Voice, (530) 225-2019 TTY.

## Public Workshops/Presentations Interstate 5

| Meeting Date/Time | Location | Comment |
|---|---|---|
| Thursday, September 25, 2003<br>4:00pm-6:00pm | **ANDERSON**<br>Anderson City Council Chambers<br>1887 Howard Street<br>Anderson, CA 96007 | (State Route 273 meeting at same event) |
| Wednesday, October 1, 2003<br>6:00pm-8:00pm | **CITY OF SHASTA LAKE**<br>John Beaudet Senior Community Center<br>1525 Median Avenue<br>Shasta Lake, CA 96019 | (State Route 151 meeting at same event) |
| Thursday, October 2, 2003<br>7:30pm-8:30pm | **YREKA**<br>Yreka City Council Chambers<br>701 Fourth Street<br>Yreka, CA 96097 | (in conjunction with City Council Meeting; State Route 263 discussed at same event) |
| Tuesday, October 14, 2003<br>9:30am-11:30am | **DUNSMUIR**<br>Dunsmuir City Council Chambers<br>5902 Dunsmuir Avenue<br>Dunsmuir, CA 96025 | |
| Tuesday, October 14, 2003<br>7:30pm-8:30pm | **CORNING**<br>Corning City Council Chambers<br>794 Third Street<br>Corning, CA 96021 | (in conjunction with City Council Meeting) |
| Thursday, October 16, 2003<br>6:00pm-8:00pm | **RED BLUFF**<br>Red Bluff Community Center<br>1500 South Jackson Street<br>Red Bluff, CA 96080 | |
| Tuesday, October 21, 2003<br>6:00pm-8:00pm | **WEED**<br>Weed City Council Chambers<br>550 Main Street<br>Weed, CA 96094 | |
| Thursday, October 23, 2003<br>6:00pm-8:00pm | **MT. SHASTA**<br>Mt. Shasta Community Center<br>629 Alder Street<br>Mt. Shasta, CA 96067 | |
| Wednesday, November 5, 2003<br>6:00pm-8:00pm | **REDDING**<br>Redding City Hall-Community Room<br>777 Cypress Avenue<br>Redding, CA 96001 | (State Route 273 meeting at same event) |
| Thursday, November 6, 2003<br>6:00pm-8:00pm | **COTTONWOOD**<br>Community Center<br>20595 Gas Point Road<br>Cottonwood, CA 96022 | |

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Caltrans

# El Departamento de Transporte de California

## El Informe de Conceptos de Transportación - Autopista I-5

### El Informe de Conceptos de Transportación Se Trata De:

- Un plan a largo plazo, de 20 años, para el sistema de carreteras estatales de California.
- Un informe preparado por Caltrans, con la ayuda de las Agencias Regionales de Planificación, Comisiones de Transportación Regionales, ciudades, condados, Gobiernos Indígenas, empresas privadas, y el público en general.
- Un documento sobre rutas específicas relacionadas con la Autopista I-5 en los condados de Tehama, Shasta y Siskiyou.

### El Informe de Conceptos de Transportación Logra El:

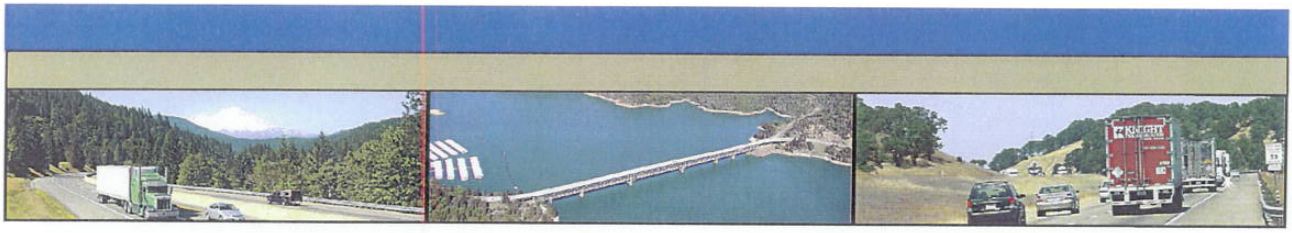
- Análisis de las condiciones de tránsito, información demográfica, economía local, uso de terrenos, y asuntos sobre el medio ambiente.
- Consideración de sistemas multi-modales como las carreteras, servicios de autobús, instalaciones para bicicletasy peatones, trenes comerciales, puertos marinos y aéreos.
- Identificación de proyectos con potencialidad en el futuro.

### Se Necesita el Informe de Conceptos de Transportación Porque:

- Ayuda a Caltrans a determinar si una ruta en particular puede cumplir con las futuras demandas.
- Identifica metas sociales, ambientales, económicas y de calidad de la vida.
- Asiste a Caltrans en el enfoque de las necesidades de la comunidades a quienes da servicios.
- Sirve como base para los futuros proyectos y mejoras.
- Provee a Caltrans con un modo más coordinado e integrado de administrar los recursos.

### El Informe de Conceptos de Transporte No Es:

- Un documento de asignaciones de fondos para los proyectos.
- Un documento ambiental que investiga los impactos al medio ambiente relacionados con un proyecto específico.
- Un documento de diseño que identifica características de un proyecto específico.



## Sobre la Autopista I-5

- La Autopista I-5 es una ruta entre estados e internacional que cubre desde Blaine, Washington en la frontera canadiense hasta San Ysidor, California en la frontera mejicana.
- I-5 tiene muchos usos: comercio internacional, autopista de defensa, ruta de emergencia, ruta para camiones, ruta para los viajeros diario, y como ruta de acceso a las instalaciones de recreación y a las regiones por todo California, Oregon y Washington.
- I-5 cubre 797 millas en California y es la carretera más importante a través del norte y sur del estado.
- Dentro del Distrito 4 de Caltrans, I-5 contiene 175 millas de largo y atraviesa por los condados de Tehama, Shasta y Siskiyou.
- I-5 provee una experiencia de viaje única en el Distrito 2. La carretera llega a la cumbre de las montañas Siskiyou, viaja por los tortuosos cañones del Río Sacramento,


## Caltrans Mejora la Mobilidad Por Todo

correr por la parte norte del Valle del Río Sacramento que se encuentra puntuado de magníficos robles, pasa por fincas y huertos fertiles, y se conecta con ciudades y comunidades.

## ¿Como Puedo Envolverme en el Proceso de Planificación del Informe?

- Participe en las juntas públicas que se llevarán a cabo en su comunidad en el otoño del 2003.
- Comente sobre la I-5 durante las juntas públicas, o vía tarjetas de comentarios, correo electrónico, teléfono, o por correo dirigido a Caltrans Distrito 2 or comuníquese con su asociado de transportación a nivel local.

## Información de Contacto

Kathy Grah
Planificadora de Transportación
Departamento de Transporte de California
Distrito 2 Planificación de Sistema, MS 3
P.O. Box 496073
Redding, CA 96049-6073
(530) 225-3236
kathy_grah@dot.ca.gov

Agencia Regional de Planificación de Trasnportación
Condado de Shasta
Thomas Hays
1855 Calle Placer
Redding, CA 96001
(530) 225-5112
thays@co.shasta.ca.us

Comisión de Transportación del Condado de Shasta
Tom Anderson
305 Calle Butte
Yreka, CA 96097
(530) 842-8081
tanderso@co.siskiyou.ca.us

Comisión de Transportación del Condado de Tehama
Jeff Schwein
9380 Avenida San Benito
Red Bluff, CA 96035
(530) 385-1462
jschwein@tco.net

# APPENDIX J

## References and Contacts

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# Interstate 5
# Transportation Concept Report

## *References and Contacts*

## References

This section provides the reference materials used to create the I-5 TCR. The **Appendix A Corridor History** and **Appendix H Other Plans and Studies** list additional references used to prepare the report.

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Shasta Regional Transportation Planning Agency. *Shasta Regional Transportation Planning Agency Regional Travel Demand Model. 2005.*

Transportation Research Board, National Research Council. *Highway Capacity Manual 2000.* Washington, D.C., 2001).

## Contacts

External primary contacts assisting with the I-5 document include:

| Contact | Organization |
|---|---|
| Anderson, Tom | Siskiyou County Transportation Commission |
| Cole, Terri | Oregon Department of Transportation |
| Hays, Thomas | Shasta County Regional Transportation Planning Agency |
| Khani, Harry | Federal Highway Administration |
| O'Keeffe, Barbara | Tehama County Transportation Commission |

# APPENDIX K

## Glossary

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# Interstate 5
# Transportation Corridor Report

## *Glossary*

## Aa

**Access Control:** The condition where the right of owners or occupants of abutting land or other persons to access a highway is fully or partially controlled by public authority.

**Agricultural Inspection Stations:** These stations conduct agricultural inspections on all private and commercial vehicles near major borders.

**Air Basin:** An area or territory that contains similar meteorological and geographical conditions. In California, the Air Resources Board (ARB) has established nine air basins.

**Air Quality:** A general term used to describe various aspects of the air that plants and human populations are exposed to in their daily lives.

**Americans with Disabilities (ADA):** In 1990, the act was enacted, which prohibits discriminations against persons because of their disabilities.

**Annual Average Daily Traffic (AADT):** Traffic volume for the year divided by 365 days.

**Arterials:** a through road or street.

**At-grade Crossings:** A junction at which two or more intersections cross at the same grade

**Attainment:** Air quality status indicates that the area has never been designated non-attainment for that particular standard.

**Audiences:** External, semi-external, and internal.

**Auxiliary Lane:** The portion of the roadway for weaving, truck climbing, speed change, or other purposes supplementary to through traffic movement.

**Average Daily Traffic (ADT):** The average number of vehicles passing a specified point during a 24-hour period. Frequently used in relation to the "peak-month" average daily traffic.

## Bb

**Bicycle Status:** The ability to ride the bike on the freeway or provide an alternate facility for bicycle travel.

**Bicycle Transportation Account:** This account provides state funds for city and county projects that improve safety and convenience for bicycle commuters.

**Blue Star Memorial Highways:** A nationwide movement to designate highways for the nation's armed forces.

**Bridge Preservation/Restoration:** The goal is to prevent closures is to prevent route closures dues to bridge failures and to provide for the periodic rehabilitation of the 12,500 bridges on the SHS.

**Bridges:** Structures of more that 20 feet in length that span a body of water.

**Bridge Scour:** Scour is the removal of sediment (soil and rocks) from streambeds and streambanks caused by moving water.

**Built:** to make or to fabricate.

## Cc

**California Environmental Quality Act (CEQA):** 1970 State legislation that requires that State agencies regulate activities with major consideration for environmental protection.

**California Transportation Commission:** A body appointed by the governor responsible for the STIP, the development of the RTP guidelines, and the statewide transportation policy.

**California Truck Route Classifications:** "California Legal" Trucks can use the STAA Network and California Legal Routes.

**Caltrans or Department:** California Department of Transportation.

**Capacity:** The maximum number of vehicles or persons that can pass a point on a roadway during a specified time period (usually one hour) under prevailing roadway, traffic and control conditions.

**Capacity-Increasing Projects:** Projects that allow for more capacity on the roadway such as adding a lane.

**Carbon Monoxide (CO):** A product of incomplete burning of fuel, produced by motor vehicles (the primary source), home heating, and, to a lesser extent, industrial activities.

**Carpool:** A group of people who share automobile transportation to designated destinations, usually alternating drivers and vehicles.

**Chain Locations:** These are the signed locations that drivers are allowed to stop and pit on chains.

**Changeable Message Signs (CMS):** Electronic signs that can change the message it displays. Often used on highways to warn and redirect traffic. Also referred to as variable or electronic message signs.

**Class I Railroads:** Railroads that consist of the largest amount of freight and have operating revenue of over $319 million (2006).

**Class II Railroads:** Railroads that consist of a mid-size amount of freight and have operating revenue of over $319 million (2006).

**Class III Railroads:** Railroads with an annual operating expense of less than $10 million and are usually short lines.

**Classifications:** Special designations for the freeway.

**Clean Air Act:** A 1990 environmental policy act relating to the reduction of smog and air pollution.

**Clear Recovery Zone:** An area clear of fixed objects adjacent to the roadway to provide a recovery zone for vehicles that have left the traveled way. A minimum clear recovery area of 20 feet on conventional highways and 30 feet on freeways and high speed expressways is desirable.

**Climbing lane:** A lane added on an uphill grade for use by trucks, recreational vehicles, and other heavy vehicles with speeds significantly reduced by grade.

**Closed Circuit Television (CCTV):** This ITS technology allows a camera to display remote verification of road and weather conditions, traffic conditions, and incidents. This television can have compatibility with other communication technologies, such as, cable TV, kiosks, and the Internet.

**Collector:** A roadway providing land access and traffic circulation within residential, commercial and industrial areas.

**Collision Reduction:** The goal of collision reduction category is to reduce the number of fatal and injury collisions.

**General Commercial:** The land use definition applies to a diversity of retail sales and services, office, and auto-oriented uses.

**Commercial Airports:** Publicly owned airports that have at least 2,500 passenger boardings each calendar year and receive scheduled passenger service.

**Concept LOS:** A strategy for future improvements that will reduce congestion or maintain the existing level of service on a specific route.

**Conformity:** Process to assess the compliance of any Federally funded or approved transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act.

**Congestion:** The condition on the freeway when travels speeds are reduced and the operating conditions are at LOS D or lower.

**Congestion Mitigation and Air Quality Funds:** This funding is for transportation projects and programs in non-attainment areas for air quality. Typical projects include HOV lanes, public transit incentives, and flexible work hours.

**Content Sensitive Solutions/Design (CSS/D):** Caltrans utilizes this process to ensure that transportation projects are in harmony with communities and preserve and enhance intrinsic qualities such as historic, aesthetic, and scenic resources.

**Corridor:** Generally refers to a geographic area that accommodates travel or potential travel.

**Corridor of the Future:** A US DOT initiative to encourage states to explore innovative financing as a tool to reduce congestion.

**County:** Governmental jurisdiction freeway/route is in.

**Cultural Resources:** Encompass archaeological traditional, and built resources including but not necessarily limited to buildings, structures, objects, districts, and sites.

# Dd

**Daily Vehicle-Miles of Travel (DVMT):** An estimate of Annual Vehicle Miles of Travel is the product of AADT X Segment Length X 365 days.

**Delay:** The time lost while traffic is impeded by some element over which the driver has no control.

**Demographics:** refers to selected population characteristics.

**Density:** The number of vehicles per mile (or per lane per mile) on the traveled way at a given instant.

**Design Speed:** A speed selected to establish specific minimum geometric (horizontal, vertical, site distance) design elements for a particular section of highway.

**Directional:** Or of indicating a direction.

**Directional Split:** During the peak period, the directional distribution of traffic.

**District:** Department of Transportation Districts.

**District 2:** Department of Transportation, District 2, Redding office.

**Divided Highway:** A highway with separated roadbeds for traffic in opposing directions.

# Ee

**Economic Forecasts:** Decision makers must use economic data to identify trends and project into the future.

**Elevation:** A location's height above a fixed reference point, often measured from mean sea level.

**Emergency Response:** The goal is to respond to earthquakes, floods, fires, and other emergencies to restore the roadway to full service.

**Emissions Fee:** This is a fee based on levels of emissions.

**Enterprise Zone:** An area identified by a city, county, or state government that makes a business moving into the zone eligible for special tax considerations, financing, special access to bids on government contracts, or other benefits from the government. Governments create enterprise zones because they want to revitalize depressed areas.

**Erosion:** The carrying away or displacement of solids usually by the agents of current such as, wind, water, or ice by downward movements in response to gravity or living organisms.

**Exit Number:** This is a unique numbering system for freeways across California.

# Ff

**Facility Concept:** General term used to describe the number of lanes and degree of access control on a State Route or Freeway. The term can be used to describe the existing facility or the future facility that will be required to handle projected traffic volumes within adopted level of service standards.

> **Present Facility Concept:** Defines the current built facility.
>
> **Twenty-Year Facility Concept:** Defines the desired facility during the next twenty years.
>
> **Long-Range (Post Twenty-Year):** Defines the facility that may ultimately be needed sometime beyond the twenty year planning horizon.

**Farmlands:** Rural agricultural areas.

**Fatal-Plus-Injury Collision Actual:** Contains specific data for collisions that are State highway related. Each collision record contains a ramp, intersection or highway post-mile address that ties it to the highway database.

**Fatal-Plus-Injury Collision Average:** The Statewide Average Accident Rate (SWA) is based on a rated segment. The accident-rating factor (ARF) indicates how the existing segment compares to other segments on the State Highway System. The ARF is a comparison of then segment's accident rate to the statewide average accident rate for roads of the same type and having similar characteristics. Accident severity as well as accident frequency is considered in calculating the ARF.

**Fatal-Plus-Injury per Million Vehicle Miles:** The fatality rate of those killed in vehicles plus the injury rare of those injured in vehicles.

**Federal Highway Administration (FHWA):** An agency of the US Department of Transportation that funds highway planning programs.

**Federal Transit Administration (FTA):** An agency of the US Department of Transportation that funds transit planning and deployment programs.

**Federally Recognized Tribes:** Those Native American Tribes recognized by the US Bureau of Indian Affairs for certain federal government purposes.

**Floodplain**: is flat or nearly flat terrain adjacent to a stream or river that experiences occasional or periodic flooding.

**Free Flow Speed:** The average speed of vehicles on a given facility, measured under low-volume conditions, when drivers tend to drive at their desired speed and are not constrained by delay from traffic control devices.

**Freeway:** A divided arterial highway with full control of access and with grade separations at intersections. A freeway, as defined by statute, is also a highway in respect to which: (1) the owners of abutting lands have no right or easement of access to or from their abutting lands; or (2) such owners have only limited or restricted right or easement of access.

**Freeway and Express System:** The Statewide system of highways declared by the Legislature to be essential to the future development of California. The F&E System has been constructed with a large investment of funds for the ability of control access, in order to ensure the safety and operational integrity of the highways.

**Freeway Commercial:** The land use definition applies to a diversity of retail sales and services, office, and auto-oriented uses surrounding the freeway interchange.

**Functional Classification:** Guided by Federal legislation, refers to a process by which streets and highways are grouped into classes or systems, according to the character of the service that is provided, i.e., Principal Arterials, Minor Arterials and Major Collectors).

# Gg

**Gateway:** A location where traffic was collected for the O & D study.

**General Aviation**: General aviation refers to all flights other than military and scheduled airline flights, both private and commercial.

**General Issues:** Description of segment concerns.

**General Plans:** A policy plan of acceptable land uses in each jurisdiction. Each city and county adopts and updates their General Plan to guide the growth and land development of their community, for both the current and long term.

**Geometric Design:** Geometric design is the arrangement of the visible elements of a road, such as alignment, grades, sight distances, widths, slopes, etc.

**Goods Movement:** The general term referring to the goods or produce transported by ship, plane, train, or truck.

**Grade:** As used in capacity analysis, grade refers to the average change in elevation on the segment under study, expressed as a percentage.

# Hh

**High Emphasis Routes:** Routes that are characterized as being the most critical Interregional Road System (IRRS) routes. More importantly, these routes are critical to interregional travel and the state as a whole.

**High Occupancy Vehicle (HOV):** Term for multi-occupant highway vehicles such as buses, jitneys, vans and carpools.

**High Priority (Demonstration):** Provides designated funding for specific projects (commonly referred to as demonstration projects) identified by Congress during reauthorization of the Federal Transportation Act.

**High Priority Routes:** Routes part of the NHS that are selected through Congress to be critical links in the transportation system.

**Highway:** Term applies to roads, streets, and parkways, and also includes right of way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

**Highway Advisory Radio (HAR):** An ITS technology that provides valuable information to travelers through prerecorded messages that contain traffic information, road conditions, chain requirements and road closures, etc. Transmission is generally accomplished through low-powered AM broadcast.

**Highway Capacity Manual (HCM):** Updated in 2000 by the Transportation Research Board of the National Research Council, the HCM presents various methodologies for analyzing the operation defined as Level-of-Service of transportation systems.

**Highway Capacity Software (HCS):** Implementing software tool designed to replicate procedures in the HCM.

**Highway Planting:** Vegetation placed for aesthetic, safety, environmental mitigation, or erosion control purposes, including necessary irrigation systems, inert materials, mulches and appurtenances.

**Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006:** As approved by the voters in the November 2006 general elections, Proposition 1B enacts the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 to authorize $19.925 billion of state general obligation bonds for specified purposes.

**Highway Trust Fund:** Federal user fees on gasoline, etc. go into this fund. Used to reimburse states for Federal-aid projects.

**Historic Highways Program:** By application to Caltrans, a local agency or private group may designate and sign an area that was former U.S. Highway 99.

**Hydrology:** The study of the movement, distribution, and quality of water throughout the Earth.

# Ii

**IMPROVED LOS:** This represents the LOS that will be achieved if identified capacity improvements are completed.

**Incident:** Any occurrence on a roadway that impedes the normal flow of traffic.

**Incident Management:** the activities of an organization to identify, analyze, and correct hazards.

**Intactness:** 00The integrity of visual order in the natural or built landscape, and the extent to which the landscape is free from visual encroachment.

**Intelligent Transportation Systems (ITS):**. Use of transportation technology that enhances the safety and efficiency of vehicles and roadway systems.

**Initial Site Assessment (ISA):** are conducted to discover potential sources of hazardous wastes and potentially contaminated areas within and adjacent to existing and proposed Caltrans rights of way.

**Interchange:** A system of interconnecting roadways in conjunction with one or more grade separations providing for the interchange of traffic between two or more roadways on different levels.

**Interchange Density:** The average number of interchanges per mile, computed for 6 miles of freeway including the basic freeway segment.

**Intermodal:** The ability to connect, and make connections between modes of transportation.

**Intermodal Corridor of Economic Significance (ICES):** Significant National Highway System (NHS) Corridors that link intermodal facilities most directly, conveniently, and efficiently to intrastate, interstate, and international markets.

**Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991:** Federal transportation legislation signed into law in 1991 that substantially changed the way transportation funding decisions are made. The Act emphasized diversity, balance of modes, and the preservation of the existing system. It was superseded by TEA 21 in 1998.

**Interregional Road System (IRRS):** A series of interregional state highway routes, outside the urbanized areas, that provides access to, and links between, the State's economic centers, major recreational areas, and urban and rural regions.

**Interregional Transportation Strategic Plan (ITSP):** The ITSP identifies six key objectives for implementing the Interregional Improvement Program and strategies and actions to focus improvements and investments. This document also addresses development of the interregional road system and intercity rail in California, and defines a strategy that extends beyond the 1998 State Transportation Improvement Program (STIP).

**Interstate 5 (I-5):** The main Interstate highway on the West Coast of the United States paralleling the Pacific Ocean.

**Intersection:** The general area where two or more roadways join or cross, which include roadside facilities for traffic movements in that area.

**Interstate Highway System:** The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the US to internationally significant routes in Mexico and Canada.

# Jj

# Kk

**K-factor:** The two-way peak hour percent of AADT.

# Ll

**Land Use:** The human modification of natural environment or wilderness into built environment such as fields, pastures, and settlements.

**Lane Width:** The arithmetic mean of the lane widths of a roadway in one direction expressed in feet.

**Level-of-Service (LOS):** A rating using qualitative measures that characterize operational conditions within a traffic stream.

**LOS AADT:** Term used to describe the quality of traffic flow on a typical day on the facility.

**LOS Peak:** Term used to describe the quality of traffic flow on a peak day on the facility.

**Level terrain:** A combination of horizontal and vertical alignments that permits heavy vehicles to maintain approximately the same speed as passenger cars; this generally includes short grades of no more than 1 to 2 percent.

**Lifeline Route:** A route on the State Highway System that is deemed so critical to emergency response/life safety activities of a region or the state. It must remain open immediately following a major earthquake, or for which preplanning for detour and/or expeditious repair and reopening can guarantee the through movement of emergency equipment and supplies.

**Local Street or Local Road:** A street or road primarily for access to residences, businesses, or other abutting property.

**Local Transportation Commission (LTC):** A designated transportation planning agency for a county which is not within the jurisdiction of a statutorily created Regional Transportation Planning Agency or a Council of Governments. Along this route, Siskiyou and Tehama Counties have these commissions.

**Location:** Limits for the sgement.

**Long-Range Facility Concept:** The facility that be ultimately needed beyond the Twenty-Year Facility Concept.

# Mm

**Maintenance Stations:** Facilities used by Caltrans to maintain the highway year round.

**Median:** The portion of a divided highway separating the traveled ways for traffic in opposite directions.

> **Median Barrier:** The type of barrier present in the roadway.
>
> **Median Type**: The type of divider present in the roadway.
>
> **Median Width:** The arithmetic mean of the median widths of a roadway expressed in feet.

**Metropolitan Planning Organization (MPO):** By federal provision, the Governor designates this organization by principal elected officials of general-purpose local governments. MPOs are established to create a forum for cooperative decision-making. Each MPO represents an urbanized area with a population of over 50,000 people.

**Mitigation measures:** Actions to reduce the impact of a project.

**Mobility Improvement:** The goal is to reduce congestion and restore productivity on the State Highway System.

**Modal Options or Mode:** Different types of transportation. Some examples include auto, bus, rail, airplane, and ship.

**Mountain Summits:** The height of a mountain is measured as the elevation of its summit above mean sea level.

**Mountainous terrain:** A combination of horizontal and vertical alignments causing heavy vehicles to operate at crawl speeds for significant distances or at frequent intervals.

**Multimodal:** The availability of transportation options using different modes within a system or corridor.

**Multilane freeway:** A highway with at least two for the exclusive use of traffic in each direction, with no partial or control of access, but they may have periodic interruptions to flow at signalized intersections no closer than 2 miles apart.

# Nn

**National Ambient Air Quality Standards (NAAQS):** Standards established by the US EPA that apply for outdoor air throughout the country.

**National Environmental Policy Act (NEPA):** 1969 legislation requiring all Federal agencies to prepare an environmental impact statement evaluating proposed Federal actions which may significantly affect the environment.

**National Highway System (NHS):** ISTEA established a 155,000-mile NHS to provide an interconnected system of principle arterial routes to serve major travel destinations and population centers, international border crossings, as well as ports, airports, public transportation facilities and other intermodal transportation facilities. The NHS must also meet national defense requirements and serve interstate and interregional travel.

**National Network (NN) for Trucks:** This network is comprised of the National System of Interstate and Defense Highways, examples are I-10, I-5, and I-80. The NN, Terminal Access, and Service Access routes together make up the "STAA Network."

**National Scenic Byway:** The U.S. Secretary of Transportation designated certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historical, natural, recreational, and scenic qualities.

**Natural:** existing in or formed by nature.

**Natural Occurring Asbestos (NOA):** Includes fibrous minerals found in certain rock formations. When airborne NOA is inhaled, these thin fibers irritate tissues and resist the body's natural defenses.

**Nitrogen Dioxides ($NO_2$):** It is one of the several nitrogen oxides that are products of high-compression internal combustion engines, power plants, and other large burners.

**Nomlaki Highway:** A designated portion of I-5 between the interchanges of Gyle Road and Flores Avenue for the Nomlakli Tribal Government.

**Non-attainment:** Areas with air quality levels that exceed the standard for specific pollutants.

**Non-federally Recognized:** Those Native American Tribes not recognized by the US Bureau of Indian Affairs for certain federal government purposes.

**Nonmotorized Transportation:** Transportation that includes bicycle and pedestrian travel to permit the transport of people.

**Northbound (NB):** Moving towards the north.

**Northern Sacramento Valley:** This 46-mile region runs from Mountain Gate in Shasta County to Dunsmuir in Siskiyou County. Key issues in this region include: high percentage of truck traffic, no parallel links, limited detours (detours can exceed 115 miles), limited services, limited development, high Federal/State land ownership, sensitive environmental/cultural/historical locations, harsh winter conditions, portions of divided alignment with major differences in elevation and mostly mountainous terrain.

**Number of Lanes:** Amount of lanes on the freeway.

## Oo

**Operational Improvements:** Improvements addressing deficiencies related to the flow and movement of traffic without expanding design capacity. Some examples include adding auxiliary and truck climbing lanes, ramp metering, and intelligent transportation systems.

**Origin and Destination (O & D) Study:** A study used often to understand travel patterns in an area.

## Pp

**Parallel or Connecting Routes:** A local road auxiliary adjacent to an arterial highway for service to abutting property and adjacent areas and for control of access.

**Paratransit:** An alternative mode of flexible passenger transportation that does not follow fixed routes or schedules. Typically vans or mini-buses are used to provide paratransit service and often the service is for individuals with disabilities who are unable to use fixed route transportation systems.

**Park and Ride Lot:** Park and Ride lots provide a location for free parking for commuters.

**Particulate Matter ($PM_{10}$):** Mostly carbon particles much like soot; however, fine particles of dust, metals, asbestos and suspended droplets are also found. Produced by industry, motor vehicles and natural processes. Fugitive dust comes from such sources as agricultural tilling, construction, mining and quarrying, paved and unpaved road, and wind erosion.

**Passing Lane:** A lane added to improve passing opportunities in one direction of travel on a two-lane highway.

**Peak Hour:** The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak.

**Peak Hour Factor:** The hourly volume during the maximum-volume hour of the day divided by the peak 15-minute flow rate within the peak hour; a measure of traffic demand fluctuation within the peak hour.

**Peak Month:** The average daily traffic for the month of the heaviest flow.

**Posted Speed:** A road speed limit is the maximum speed as allowed by law for road vehicles.

**Postmile (PM):** The mileage measured from the southern county line or from a beginning or a route. Each postmile along the route in a county is a unique location in the California State Highway System.

**PrePass:** A high speech weigh in motion technology used at the three weight stations on I-5 and enables registered heavy vehicles to legally bypass open weigh stations after electronic verification of their size, weight, registration, safety inspection, and other credentials.

**Programming:** Process of scheduling high-priority projects for development and implementation.

**Project Initiation Documents (PIDs):** Documents that identify in detail the cost, scope, and schedule of a project and provide the basic information necessary for better understanding the nature of the project. A PID must be completed for any project to be programmed.

**Project Report:** Report summarizing the feasibility of needs, alternatives, costs, etc., of a proposed transportation project affecting state transportation facilities. Often project reports consist of a Transmittal Letter and a draft environmental document.

**Public Participation:** The active and meaningful involvement of the public in the development of transportation plans and programs.

**Public Transportation:** Transportation service to the public on a regular basis using vehicles that transport more than one person for compensation, usually but not exclusively over a set route or routes from one fixed point or another. Routes and schedules may be determined through a cooperative arrangement.

**Public Transportation Account(PTA):** The purpose of the PTA is to promote the development of a public transportation infrastructure by providing funds to local and state transportation agencies primarily for transit (including bus and rail) purposes.

# Qq

**Qualitative:** Descriptions based on quality rather than on quanity.

**Queues:** A line of vehicles, bicycles, or persons waiting to be served by the system in which the flow rate of the front of the queue determines the average speed within the queue.

# Rr

**R:** When a section of road is relocated, there is an R in front of a postmile.

**Rail Freight:** The transport of goods along railroads.

**Ramp:** A connecting roadway between a freeway or expressway and another highway, road, or roadside area.

**Ramp Metering:** A traffic management strategy that utilizes a system of traffic signals on freeway entrance and connector ramps to regulate the volume of traffic entering a freeway corridor. This is to maximize the efficiency of the freeway and thereby minimize the total delay in the transportation corridor.

**Redevelopment Agency:** California State law allows local governments to establish Redevelopment Agencies. A Redevelopment Agency is established to define and address areas within the City that require redevelopment, due to blight, lack of affordable housing, and/or economic distress within a given geographic area.

**Region**: A broad geographic area distinguished by similar features.

**Regional Blueprint Program:** A state initiative that encourages regional agencies to seek input from the public and do a comprehensive visioning exercise set 20- to 40 years in the future.

**Regional Improvement Program (RIP):** Statutes of 1997, Chapter 622 (SB 45), established the Regional Improvement Program, which includes projects that are needed to improve transportation within the region. The projects may include, but are not limited to, improving State highways, local roads, public transit, intercity rail, pedestrian, and bicycle facilities, and grade separation, transportation system management, transportation demand management, soundwall projects, intermodal facilities, and safety. Only projects planned on State highways are to be included in this program.

**Regional Transportation Plan (RTP):** RTPs are mandated planning documents developed by MPOs and RTPAs in cooperation with Caltrans and other stakeholders. The purpose of the RTP is to establish regional goals, identify present and future needs, deficiencies, and constraints, analyze potential solutions, estimate available funding and propose investments.

**Regional Transportation Planning Agency (RTPA):** Created by AB 69 to prepare regional transportation plans and designated by the Business, Transportation, and Housing (BT&H) secretary to receive and allocate transportation funds. RTPAs can be Councils of Government (COGs), Local Transportation Commissions (LTCs), Metropolitan Planning Organizations (MPOs), or statutorily-created agencies.

**Rehabilitation:** Activities that preserve the quality and structural integrity of a roadway by supplementing normal maintenance activities.

**Resolution:** a written motion adopted by a deliberative body.

**Resurfacing:** A supplemental surface or replacement placed on an existing pavement to restore its riding qualities or increase its strength.

**Ridesharing:** Transportation system management (TSM) technique providing the systems and management to facilitate carpooling, vanpooling, and increasing transit usage.

**Right of Way:** Real estate acquired for transportation purposes, which includes the facility itself (highway, fixed guideway, etc.) as well as associated uses (maintenance structures, drainage systems, roadside landscaping, etc.)

**Roadside:** A general term denoting the area adjoining the outer edge of the roadbed. Areas between the roadbeds of a divided highway may also be considered roadside.

**Roadway:** That portion of the freeway including the appertaining structures, and all slopes, ditches, channels, waterways, and other features necessary for proper drainage and protection.

**Roadway Preservation:** The goal is to keep the distressed roadway lane miles at a steady state.

**Roadway Rehabilitation:** Improving the roadway through grinding and replacing roadway surfacing, curb and gutter, storm water collection inlets, signs, and pavement markings.

**Road Weather Information Systems (RWIS):** This ITS system collects pavement temperature, visibility, wind speed and direction, and precipitation data and presents the data in a useable format to transportation system operators. This information can be provided for the traveling public.

**Rolling terrain:** A combination of horizontal and vertical alignments causing heavy vehicles to reduce their speed substantially below that of passenger cars but not to operate at crawl speeds for a significant amount of time.

**Roundabouts:** A road junction at which traffic streams circularly around a central island.

**Route:** 5.

**Route Development Tean (RDT):** Internal Caltrans staff (mostly functional managers) providing information to the Project Manager.

**Rural:** An area with widely scattered development and a low density of housing and employment.

# Ss

**Sacramento River Canyon**: This 46-mile region runs from Mountain Gate in Shasta County to Dunsmuir in Siskiyou County. Key issues in this region include: high percentage of truck traffic, no parallel links, limited detours (detours can exceed 115 miles), limited services, limited development, high Federal/State land ownership, sensitive environmental/cultural/historical locations, harsh winter conditions, portions of divided alignment with major differences in elevation, and mostly mountainous terrain.

**Sales Tax Measures:** In the California State Constitution and authorizes cities and counties to impose up to one percent additional local sales taxes for transportation if approved by the voters in the local jurisdiction.

**Sandhouses:** Storage facilities for abrasives and deicers.

**Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) :** In August 2005, the president signed this act authorizing the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.

**Safety Roadside Rest:** A roadside area provided for motorists to stop and rest for short periods. It includes paved parking areas, drinking water, toilets, tables, benches, telephones, information panels, and may include other facilities for motorists.

**Section 4(f):** This act stipulated that the FHWA and other DOT agencies cannot approve the use of land from a significant publicly owned public park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless there is no feasible and prudent alternative use of land and the action includes all possible planning to minimize harm to the property resulting from use.

**Segment:** A portion of highway identified for analysis that is homogenous in nature.

**Segment #:** A specific route/county/number for each segment.

**Segment Description:** Provides the starting and ending locations for a segment. Usually a segment breaks at a county line, interchange, structure, or change in number of travel lanes.

**Segment Improvements:** List of upgrades that could be made to a specific segment.
**Seismic:** Caused by an earthquake or earth vibration.

**Shasta Valley**: This 43-mile region runs from Dunsmuir in Siskiyou County to Yreka in Siskiyou County. Key issues in this region include: high percentage of truck traffic, a steep summit at Black Butte, harsh winter conditions, high winds conditions and widely varying types of terrain.

**Shoulder:** The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

> **Inside Shoulder:** Left hand side of roadway with solid line.
>
> **Outside Shoulder:** Right hand side of roadway with solid line.

**Signalized Intersection:** A place where two roadways cross and have a signal controlling traffic movements.

**Signed HAR:** Signed for the Highway Advisory radio.

**Siskiyou Mountains:** This 18-mile region runs from Yreka in Siskiyou County to the California/Oregon Border. Key issues with this region include: high percentage of truck traffic, limited detours, limited services, limited development, harsh winter conditions, high winds, steep grades and a combination of mountainous and rolling terrain.

**Siskiyou Mountains:** This 18-mile region runs from Yreka in Siskiyou County to the California/Oregon Border. Key issues with this region include: high percentage of truck traffic, limited detours, limited services, limited development, harsh winter conditions, high winds, steep grades and a combination of mountainous and rolling terrain.

**Socio-economics:** The study of the relationship between economic activity and social life.

**Southbound (SB):** Moving towards the south.

**Stakeholders:** In transportation, stakeholders include FHWA, CTC, RTPAs and Transportation Commissions, transportation departments, cities and counties, Native American Tribal Governments, economic development, business interests, resource agencies, transportation interest groups, the public, and the Legislature.

**State Highway Operation and Protection Program (SHOPP):** A four-year program limited to projects related to state highway safety and rehabilitation.

**State Highway System:** The intent of this state legislation was to identify a set of routes in the state that serve the heavily traveled rural and urban corridors, connect the communities and regions, and support the economy by connecting centers of commerce, industry, agriculture, mineral wealth, and recreation.

**State Implementation Plan (SIP):** Plan required by the Federal Clean Air Act of 1970 to attain and maintain national ambient air quality standards.

**State Routes:** State highways within the State, other than Interstate and US routes, which serve intrastate and interstate travel. These highways can be freeways, expressways or conventional highways.

**State Transportation Improvement Program (STIP):** Biennial document, adopted by the California Transportation Commission (CTC), which provides the schedule of projects for develop over the upcoming five years.

**Strategic Highway Network (STRAHNET):** A network of highways important to the United States strategic defense policy and which provides defense access, continuity, and emergency capabilities for the movement of personnel, materials and equipment in both peace time and war time.

**Surface Transportation Assistance Act Network (STAA):** The National Network (NN), Terminal Access (TA) and Service Access Route make up this network. These routes allow STAA trucks.

**Surface Transportation Assistance Act (STAA) Trucks:** This act required states to allow larger trucks on the National Network (NN) which is comprised of the Interstate State plus the non-Interstate System Federal-aid Primary System. "Larger trucks" includes (1) doubles with 28.5-foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle (KRPA) distance, (3) unlimited length for both vehicle combinations, and (3) width up to 102 inches.

**State Highway Account (SHA):** The State Highway Account is used for the deposit of all money from any source for expenditure for highway purposes including major and minor construction, maintenance, right-of-way acquisition, improvements and equipment, services, investigations, surveys, experiments and reports.

# Tt

**Telecommuting:** The substitution, either partially or completely, of transportation to a conventional office through the use of computer and telecommunications technologies (telephones, personal computers, modems, facsimile machines, electronic mail, etc.)

**Terminal Access (TA) Routes:** Terminal Access routes are portions of State routes, local roads that can accommodate STAA trucks. TA route allow STAA trucks to (1) travel between NN routes, (2) reach a truck's operating facility, or (3) reach a facility where freight originates, terminates, or is handled in the transportation process.

**Terrain:** The surface features of an area of land; topography. In capacity analysis, classification falls into one of three categories: flat, rolling, or mountainous. The terms "terrain" and "grade" are not interchangeable (see "Grade").

- **Flat:** The land surrounding the highway is level or nearly level. The most typical example of flat terrain is a valley.
- **Rolling:** Land in the vicinity of the highway is composed of low hills, dips and rolls, or other types of undulations. Rolling terrain is found in many locations, including the foothills surrounding the Central Valley of California.
- **Mountainous:** Terrain with extensive, steep slopes (often in excess of 6 percent) that may rise sharply on one side of the highway while dropping away rapidly on the other.

**Three C Process (3C):** "Continuing, cooperative and comprehensive" planning process. Required of metropolitan planning organizations (MPOs) as a condition for receiving federal capital or operation assistance.

**Toll Roads:** Sum levied on users of certain roads, canals, bridges, tunnels, and other such travel and transportation infrastructure, primarily to pay for construction and maintenance.

**Topography:** The surface features of the land that a highway passes through (i.e. the topographic features of the surrounding land).

**Traffic Count Stations:** There are three types of traffic count stations on the highway:

- **Control stations:** Counted in one-hour intervals by direction.
- **Profile counts:** Obtained on conventional highways and expressways got one to seven days in order to determine the number of vehicles at points of significant change.
- **Classification counts:** Generally collected at control station sites or at locations or significant truck traffic.

**Traffic Noise:** The level of highway traffic noise depends on three things: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of the traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater numbers of trucks.

**Traffic Projections:** Estimates of future traffic growth.

**Traffic Accident Surveillance and Analysis System (TASAS):** A system that provides a detailed list and/or summary of accidents that have occurred on highways, ramps, or intersections in the State Highway System, Accidents can be selected by location, highway characteristics, accidents data codes or any combinations of these.

**Traffic Conditions:** Any characteristics of the traffic stream that may affect capacity or operation, including the percentage composition of the traffic stream by vehicle type and driver characteristics (such as the differences between weekday commutes and recreational drivers).

**Traffic Impact Fees:** One-time fees typically paid when a building permit is issued and paid to development projects to local agencies responsible for regulating land use (cities and counties) to mitigate their traffic impacts.

**Traffic Monitoring Stations (TMS):** Stations are electronic devices that are installed along the freeway to monitor traffic conditions on a freeways segment. The real-time data that the monitoring stations collect are the traffic volumes and occupancy. This data is then used for incident detection, ramp metering control, and the data collections/analysis through the Central Management Applications for efficient incident response.

**Traffic Signal:** A traffic control device regulating the flow of traffic with green, yellow and red phases.

**Transit:** Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares. Relate terms include: public transit, mass transit, public transportation, urban transit and paratransit.

**Transportation Concept Report (TCR):** Planning document that identifies current operating conditions, future deficiencies, route concept, concept level of service (LOS) and conceptual improvements for a route or corridor.

**Transportation Demand Management (TDM):** "Demand-based" techniques for reducing traffic congestion, such as telecommuting, ridesharing programs, and flexible work schedules enabling employees to commute to and from work outside of the peak hours.

**Transportation Enhancement:** A competitive grant funded program to fund environmental and alternative transportation projects that enhance the system.

**Transportation Equity Act for the 21st Century (TEA21):** Federal legislation enacted June 9, 1998, as Public Law 105-178. TEA-21 authorizes the Federal Surface Transportation Programs (FSTP) for highways, highway safety, and transit for the 6-year period from 1998-2003. This legislation superseded the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), but maintained its basic structure and built on its key initiatives.

**Transportation Management Center (TMC):** A focal point that can monitor traffic and road conditions, as well as train and transit schedules, and airports and shipping advisories. From here, information about accidents, road closures, and emergency notification is relayed to travelers.

**Transportation Permits:** The California Department of Transportation has the discretionary authority to issue special permits for the movement of vehicles/loads exceeding statutory limitations on the size, weight and loading of vehicles contained on Division 15 of the California Vehicle Code. Requests for such special permits requires the completion of an application for a Transportation Permit from the office Traffic Operations-Transportation Permits. Route Classes for length are labeled yellow, green, blue, brown and red. Route Classes for weight are labeled purple, orange and green. See http://www.dot.ca.gov/hq/traffops/permits/ for more information.

**Travel Demand Model:** A software tool used to predict future demand for transportation demand and services.

**Traveler Information Systems:** Another name for Intelligent Transportation Systems (ITS).

**Truck Climbing Lane:** A lane added to improve passing opportunities for trucks.

**Truck Escape Ramp:** A long, ravel filled lane adjacent to the highway that enables vehicles that are having braking problems to safely stop.

**Typical Section:** Depiction of the basic (or typical) design elements/features for an existing or planned facility. Typical sections can be prepared for a variety of facilities, including: highway sections, lane transition areas, medians, interchanges, pavement structural sections, bike paths, and drainage systems.

# Uu

**UNIMPROVED LOS:** This represents the unimproved LOS if not capacity projects were undertaken.

**United States (US) Department of Transportation:** The principal direct Federal funding agency for transportation facilities and programs. Includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Railroad Administration (FRA), and other.

**United States (US) Route:** A network of highways of statewide and national importance. These highways can be freeways, expressways or conventional highways.

**Unity:** The degree to which the visual resource of the landscape join to form a coherent, harmonious visual pattern. Unity refers to the compositional harmony or inter-compatibility between landscape elements.

**Unsignalized intersections:** An intersection not controlled by traffic signals.

**Urban:** An area typified by high densities of development or concentrations of population, drawing people from several areas of the region.

# Vv

**Vehicle Miles Traveled (VMT):** Used in trend analysis and forecasts. (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specific time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the time period. (2) In transit, the number of vehicle miles operated on a given router or line or network during a specific time period.

**Vehicle Miles Traveled (VMT) Fee:** This fee is based on the number of miles driven and is used to generate revenue.

**Video Imaging Processing System (VIPs):** Images of real-time traffic are portrayed on a screen.

**Vista Point:** A paved area beyond the shoulder, which permits travelers to safely exit the highway to stop and view a scenic area. In addition to parking areas, trash receptacles, interpretive displays, and in some cases rest rooms, drinking water, and telephones may be provided.

**Visual Assessment:** An assessment to look at impacts to the scenery.

**Vividness:** The memorability of the visual impression received from contrasting intrinsic elements they combine to form a striking and distinctive visual pattern.

**Volume:** The number of vehicles passing a given point during a specified period of time.

## Ww

**Water Quality:** The physical, chemical, and biological characteristics of water in relationship to a set of standards.

**Weaving:**. The crossing of two or more traffic streams traveling in the same direction along a significant length of the highway, without the aid of traffic control devices.

**Weaving Section:** A length of roadway over which traffic streams cross paths through lane-changing maneuvers, at one end of which two one-way roadways merge and at the other end of which they separate.

**Weigh Stations:** Weigh stations (also called "truck scales) are where commerical trucks stop to get weighed and inspected.

**Weigh-in Motion (WIM):** Technology that determines a vehicle's weight without requiring it to stop on a scale.

## Xx

## Yy

## Zz