

Transportation Concept Report State Route 169 District 1 June 2017





Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 1 System Planning Branch makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.





California Department of Transportation

Providing a Safe, Sustainable, Integrated and Efficient Transportation System to Enhance California's Economy and Livability

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ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) (Government Code §65086) by evaluating conditions and proposing enhancements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety, mobility, delivery, stewardship, and service.

The System Planning process for District 1 is primarily composed of three parts: the District System Management Plan (**DSMP**), the DSMP Project List, and the Transportation Concept Report (**TCR**). The District-wide DSMP is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The DSMP Project List is a list of planned and partially programmed transportation projects used to recommend projects for funding. The TCR is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. These System Planning products are also intended as resources for stakeholders, the public, regional agencies, and local agencies. This document is formatted to conform to a standardized State wide template for TCRs.

TCR Purpose

California's State Highway System needs long range planning documents to guide the logical development of transportation systems as required by CA Gov. Code §65086 and as necessitated by the public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

STAKEHOLDER PARTICIPATION

A draft copy of this TCR has been circulated to our transportation partners in Humboldt County including the Humboldt County Association of Governments, and several Native American Tribes with interest along the route. The draft TCR was circulated to other functional units within District 1 for compliance and compatibility with district and statewide directives and policies. Input was received and revisions made as appropriate.





EXECUTIVE SUMMARY

State Route (SR) 169 is a rural highway in Humboldt and Del Norte counties. It is located entirely within the boundaries of the Yurok Reservation. The route follows the northerly side of the Klamath River for 42 miles, from US 101 at the community of Klamath to SR 96 at the community of Weitchpec. An 18-mile long section of SR 169 has not been constructed. As a result, SR 169 is split between a 3.5 mile stub route from US 101 at the community of Klamath Glen in Del Norte County, and a nearly 21 mile stub route from the community of Wautec to SR 96 at the community of Weitchpec in Humboldt County.

SR 169 is functionally classified as a rural major collector, and is mainly used for access to school, emergency services, employment, mail and fuel delivery, access to traditional cultural areas, property access, and commercial purposes. In Del Norte County, SR 169 is a 2-lane highway, with a minimum width of 24 feet. In Humboldt County, approximately one-half of the route is 16-feet wide or less, and functions as a one-lane highway.

CONCEPT SUMMARY

SR 169 has four segments in District 1. Segment 1 has an existing, 20-year concept, and post 20-year concept facility of a 2-lane conventional highway. Segments 2 and 3 are unconstructed, but include a post 20-year concept facility of a 2-lane conventional highway. Segment 4 has an existing and 20-year concept facility of a 1-lane conventional highway, and a post 20-year concept facility of a 2-lane conventional highway. The Yurok Tribe is interested in completing the 18.2 mile unconstructed portion of Route 169, and widening segment 4 to 2-lanes. While Caltrans supports this concept, funding constraints and environmental issues may be too great to overcome. The 20 year and post 20 year system operations and management concept for all segments includes safety improvements as necessary, and maintenance and rehabilitation.

Segment	Segment Description	Existing Facility	20 Year Capital Facility Concept	20 Year System Operations and Management Concept	Post 20 Year Concept
1	US 101 to Klamath Glen (1-DN-169-R0.0/3.5)	2-Lane C	2-Lane C	Safety Improvements as Identified, Maintenance and Rehabilitation	2-Lane C
2	Klamath Glen to Humboldt County Line (Unconstructed) (1-DN-169-3.5/8.5)	Unconstructed	Unconstructed	N/A	2-Lane C
3	Humboldt County Line to Wautec (Unconstructed) (1-HUM-0.0/13.2)	Unconstructed	Unconstructed	N/A	2-Lane C
4	Wautec to Weitchpec (1-HUM-13.2/33.84)	1-Lane (brief sections of 2- lane) C	1-Lane (brief sections of 2-lane) C	Safety Improvements as Identified, Maintenance and Rehabilitation	2-Lane C

C – Conventional Highway





CONCEPT RATIONALE

The corridor concept serves as a guide for long range planning of route improvements. It protects the State's investment in SR 169, while recognizing financial and environmental constraints, which will not allow the programming of extensive improvements for all State Highways.

The concepts for SR 169 were selected based on the Route's role as a rural major collector roadway expected to show low growth and development with the route continuing to serve generally low traffic volumes, while considering the importance of this link in the Yurok reservation.

Proposed Projects and Strategies

One project to upgrade bridge rail is in development.

Projects to widen Segment 4 to two lanes and construct the unconstructed segments may be considered in the long range depending on funding availability and need.

Strategies Developed to Achieve and Maintain the Corridor Concept

- Safety: Safety is the highest priority of Caltrans and our Regional partners. Necessary safety improvements will be made as needs are identified.
- Maintenance and Rehabilitation: Maintain and rehabilitate as necessary. Consideration should be given to widening in conjunction with pavement rehabilitation projects where necessary to provide adequate paved shoulder width for both motorized and non-motorized traffic. Bridge replacement, storm damage and operational improvement projects will also be considered as necessary.
- Community Planning Strategy: The District will continue to cooperate with the Yurok Tribe and other local transportation and land use planning agencies on SR 169 to assure that the highway will be a community asset.
- Cooperation with Transportation Partners: The District appreciates the cooperation of its transportation partners in the development of this Transportation Concept Report, and looks forward to continuing cooperation to achieve the selected concept.





CORRIDOR OVERVIEW

ROUTE SEGMENTATION

SR 169 in District 1 had been divided into four segments for system planning purposes. The first segment is approximately 3.5 miles in length, starting at the US 101 SR 169 intersection to the community of Klamath Glen. Segments 2 and 3 are currently unconstructed. Segment 4 is approximately 10.5 miles long, starting near Wautec to Ke'pel Road. Segment 5 is approximately 6.3 miles long, starting at Ke'pel Road to Martins Ferry. Segment 6 is approximately 3.8 miles long, starting at Martins ferry to SR 96 near Weitchpec.

Segment #	Location Description	County-Route-Beg. PM	County-Route-End PM
1	Route 101 to Klamath Glen	DN-169-R0.00	DN-169-3.50
2	Klamath Glen to Humboldt County Line (Unconstructed)	DN-169-3.50	DN-169-8.50
3	Humboldt County Line to Wautec (Unconstructed)	HUM-169-0.00	HUM-169-13.20
4	Wautec to Weithcpec	HUM-169-13.20	HUM-169-33.84

PM - Post mile







ROUTE DESCRIPTION

Route Location:

SR 169 is located entirely in District 1, and entirely within the boundaries of the Yurok Reservation. The constructed portions of the route follow the northern side of the Klamath River in both Del Norte and Humboldt Counties. SR 169 has a legislatively designated length of approximately 42.3 miles, and a constructed length of approximately 24.1 miles. It has a legislatively designated post mile description of DN-169-R0.00/8.5 HUM-169-0.00/33.84 and a constructed post mile description of DN-169-R0.384.

Route Purpose:

Route 169 is functionally classified as a rural major collector. It functions as the primary route serving the Yurok Reservation. The Yurok Tribal community and others use route 169 for access to schools, emergency services, employment, mail and fuel delivery, access to traditional cultural sites, and commercial purposes. It also provides access to property adjacent to the route, and is used for recreational (generally sport fishing access) and timber production purposes. The Route also provides integral access to current and potential economic development ventures for the Yurok Tribal government, small businesses, and prospective housing developments.

Major Route Features:

Within District 1 SR 169 is a 1 to 2-Lane conventional highway that serves the following unincorporated communities: Klamath, Klamath Glen, Johnsons, Pecwan, Martins Ferry, and Weitchpec. SR 169 proceeds along the Klamath River, a federally designated Wild & Scenic River. SR 169 is functionally classified as a rural major collector along its entire length in District 1.

Segment #	1 (DN PM R0.0/3.5)	2 (DN PM 3.5/8.5)	3 (HUM PM 0.00/13.2)	4 (HUM PM 13.2/33.84)
California Freeway & Expressway System	No	No	No	No
National Highway System	No	No	No	No
Strategic Highway Network	No	No	No	No
Scenic Highway	No	No	No	No
Priority Interregional Route	No	No	No	No
Focus Route	No	No	No	No
Federal Functional Classification	Major Collector	N/A	N/A	Major Collector
Goods Movement Route	No	No	No	No
Truck Designation	CL KPRA<30	N/A	N/A	CL KPRA<30
Rural/Urban/Urbanized	Rural	Rural	Rural	Rural
Regional Transportation Planning Agency	DN LTC	DN LTC	HCAOG	HCAOG
Local Agency	Del Norte County	Del Norte County	Humboldt County	Humboldt County
Tribes	Yurok Tribe	Yurok Tribe	Yurok Tribe	Yurok Tribe
Air District	North Coast Unified	North Coast Unified	North Coast Unified	North Coast Unified
Terrain	Flat	N/A	N/A	Rolling

Route Designations and Characteristics:

CL – California Legal,

DN LTC – Del Norte Local Transportation Commission,

HCAOG - Humboldt County Association of Governments

KPRA – King Pin to Rear Axle





COMMUNITY CHARACTERISTICS

State Route 169 is entirely within the boundaries of the Yurok Indian Reservation and serves the communities of Klamath Glen, Pecwan, Wautec (Johnson's Villlage), and Weitchpec. The route acts as a local service route for these small communities and provides access to the Klamath River for Tribal needs, recreation, and sport fishing purposes. Route 169 consists of two "stub route" portions, with an 18 mile unconstructed portion in the middle, separating the communities from each other. The two constructed portions are known locally as "up river" for the eastern portion in Humboldt County and "down river" for the western portion in Del Norte County. This distinction highlights the separation of the communities along the route with Klamath Glen "down river" and Pecwan, Wautec, and Weitchpec "up river".

The eastern portion of Route 169 is used by the Yurok Tribe for property access, food and supply transport, access to the Jack Norton School, a Head Start center, and numerous tribal facilities. The Route is also provides access to employment, mail delivery, fuel delivery, several tribal cemeteries, a fire station and other emergency services. Access to traditional fishing sites, sacred religious, and ceremonial sites, basketry material gathering sites, and recreational sites is also provided by the Route.

The western portion of Route 169 serves the community of Klamath Glen and provides limited river access. This 3.5 mile portion of Route 169 produces an estimated 820 average daily trips, making it among the top five most traveled routes on the Yurok Reservation.

LAND USE

Land use adjacent to Route 169 is a mixture of timberland, open space, and low density rural residential. Higher density residential uses exist within a few very small communities along the route. In the 2004 "Route 169 Needs Assessment Study," Yurok Tribal Planning & Community Development Department staff indicated additional development is expected, and this is likely to increase future traffic more than the currently projected rate of less than 1% per year. As an example of periodic peak increases, the Route is heavily used during particular periods throughout the year for traditional cultural ceremonies, events and activities including a variety of ceremonial dances.

Segment	Land Use			
1 (DN PM R0.0/3.5)	Rural Residential			
2 (DN PM 3.5/8.5)	Open Space			
3 (HUM PM 0.00/13.2)	Open Space			
4 (HUM PM 13.2/33.84)	Scattered Rural Residential/ Open Space			





SYSTEM CHARACTERISTICS

State SR 169 is a 1 to 2-lane conventional highway along its entire length in District 1. Segment 1 has no median, with a striped barrier centerline splitting directions of travel. Segment 4 has sporadic centerline striping because the width of the travel way does not allow for the delineation of travel lanes. Approximately one-half of the route has a traveled way width of less than 16 feet, with widths as narrow as 10 feet.

Sogmont #	1	2	3	4			
Segment #	(DN PM R0.0/3.5)	(DN PM 3.5/8.5)	(HUM PM 0.00/13.2)	(HUM PM 13.2/33.84)			
	Т	Existing Fa	cility				
Facility Type	С			С			
General Purpose Lanes	2			1-2			
Lane Miles	7			21.5			
Centerline Miles	3.5	Unconstructed	Unconstructed	20.8			
Median Width	0			0			
Median Characteristics	Striped			Striped where present			
Passing Lanes	1			0			
Concept Facility							
Facility Type	С			С			
General Purpose Lanes	2			1-2			
Lane Miles	15.08	Unconstructed	Unconstructed	21.5			
Centerline Miles	7.54			20.8			
Passing Lanes	1			0			
		Post 25 Year	facility				
Facility Type	С	С	С	С			
General Purpose Lanes	2	2	2	2			
Lane Miles	15.08	10	26.4	41.6			
Centerline Miles	7.54	5	13.2	20.8			
Passing Lanes	1	0	0	0			
	Traf	fic Management Syst	em (TMS) Elements				
TMS Elements (BY)	Count Station (PM 1.86)						
TMS Elements (HY)	Continuous Count Station			Continuous Count Stations (PM 13.2 and 33.84)			

Caltrans' ability to forecast the future needs of state highway system users is dependent on the ability to measure accurately the use of the state highway system over time. SR 169 currently has only one functioning continuous count station, on the Del Norte section. The possibility of adding a count station to SR 169, particularly on the Humboldt section, should be considered with future projects.





BICYCLE FACILITY

Bicycle facilities on SR 169 are limited to a shared lane or a shared shoulder, which can vary between paved and unpaved surfaces, or no shoulder.

Segment	Location Description	Bicycle Access Prohibited	Facility Type	Outside Paved Shoulder Width	Facility Description	Posted Speed Limit
1 (DN PM R0.0/3.5)	Route 101 to Klamath Glen	No	Unsigned Class III	0-9ft.	Shoulder paved and unpaved, sections with no shoulder.	-
2 (DN PM 3.5/8.5 Unconstructed)	Klamath Glen to Humboldt County Line	N/A				
3 (HUM PM 0.00/13.2) Unconstructed	Humboldt County Line to Wautec				N/A	
4 (HUM PM 13.2/33.8)	Wautec to Weitchpec	No	Unsigned Class III	0-5ft.	Varying shoulder width, sections of paved and unpaved shoulder,	_

PEDESTRIAN FACILITY

Pedestrian facilities on SR 169 are limited to shared shoulders along the entire route.

Segment	Location Description	Pedestrian Access Prohibited	Sidewalk Present	Crossing Distance	Facility Description	Alternative Facility
1	Route 101 to Klamath	No	No	30-40 ft.	Shoulder, varying	No
(DN PM R0.0/3.5)	Glen				width, mostly unpaved	
2	Klamath Glen to	.0				
(DN PM 3.5/8.5	Humboldt County	y N/A				
Unconstructed)	Line					
3 (HUM PM 0.00/13.2) Unconstructed	Humboldt County Line to Wautec	N/A				
4 (HUM PM 13.2/33.84)	Wautec to Weitchpec	No	No	10-34 ft.	Varying shoulder width and narrow lane width	No

TRANSIT FACILITY

While there are no established transit stops on SR 169, it is used by the Redwood Coast Transit on the *Del Norte Coast/Klamath* bus line. This route runs three roundtrips per day from Crescent City to Klamath Glen. In addition, the Yurok Tribe began a ferry along the Klamath River between the Tribe's population centers that are currently separated by the unconstructed portion of SR 169. This cuts the travel time between Wautec village and Klamath Glen from 3 hours, to approximately 45 minutes.





FREIGHT

Truck volumes on SR 169 are between 7.8 and 20 percent of the daily traffic for all truck types, and trucks with five or more axles are between 1 and 2 percent of the daily traffic.

SR 169 may only accommodate California Legal Trucks with a King Pin to Rear Axle length of less than 30 feet because of the curvilinear nature and width of the road. This limits the types of freight that may travel on SR 169 within District 1. The majority of freight that travels SR 169 serves local communities.

Freight Generator	Location	Mode	Major Commodity/ Industry	Comments/Issues
SR 96	Rural Land along SR 96	Truck	Timber/General Freight	General goods for communities along SR 169
US 101	Klamath	Truck	Timber/ General Freight	General goods for communities along SR 169

ENVIRONMENTAL CONSIDERATIONS

Most of SR 169 within District 1 is in a mountainous region, in dense forest. Primary environmental considerations for route 169 include:

- Historic Archeological and Cultural resources
- Wild and Scenic Rivers
- Soil Stability and Landslides
- Endangered, Threatened and Rare Species

Because SR 169 lies solely in the boundaries of the Yurok reservation, archeological and cultural resources are very likely present at many locations in both Del Norte and Humboldt Counties. When culturally or archeologically significant resources are identified within project limits, review by the Yurok Tribal Heritage Preservation Officer (THPO) and cultural committee will be required.

Naturally occurring Asbestos (NOA) may be present between post miles 32.4 and 32.8 in Humboldt County, according to the *Caltrans District 1 Areas Likely to Contain Naturally Occurring Asbestos*. Aerially Deposited Lead is not expected to be a concern on this route because of the historically low traffic volumes.

The Klamath River, a federally designated recreational Wild and Scenic River, provides important stream and riparian habitat. Several sensitive species are associated with the Klamath River and its tributaries, including a variety of federally listed plant and animal species. Soil stability is a factor of concern along many areas of Route 169 as slides or slip outs could potentially impact water quality, as well as result in delays and/or road closures.

Senate Bill 857 was enacted into law effective January 1, 2006 concerning fish passages. This bill requires Caltrans projects be constructed so that they do not present a barrier to anadromous fish¹ passage at any life stage.

¹ An anadromous fish is a fish which spawns in freshwater, migrates to the ocean to grow up then returns to freshwater to spawn and complete its lifecycle. In California, anadromous fish include: Salmon (Chinook and Coho salmon), Steelhead (sea going rainbow trout), Sturgeon (white and green), Striped Bass (non-native), American Shad (non-native), Stickleback (three-spined), and Pacific Lamprey





Additionally, all projects on streams that currently or historically supported fish and affect culverts, bridges, or associated structures shall include a fish passage assessment according to National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) guidelines prior to commencing project design. Caltrans is also required to develop necessary passage corrections during project development in consultation with the CDFW.

According to the 2005 District 1 Pilot Fish Passage Assessment Study, SR 169 has two passage barriers within the 100 priority sites in District 1, and four overall. An additional barrier is identified on the Passage Assessment Database. All five sites are listed in the table below.

PM (HUM)	PAD ² ID	Stream Name	Priority Rank	Tributary to	Barrier Status	Project Name	Project Status
14.92	713030	Knulthkarn Creek	94	Klamath River	Total	N/A	N/A
24.66	713031	Mareep Creek	N/A	Klamath River	Total	N/A	N/A
27.57	718434	Rube Creek	N/A	Klamath River	Total	N/A	N/A
29.46	713032	Burrill Creek	N/A	Klamath River	Total	N/A	N/A
32.71	713033	Bens Creek	71	Klamath River	Total	N/A	N/A

The California Natural Diversity Database lists several species in the vicinity of SR 169 that have various endangered, threatened, or rare status. Additionally the Database lists species that are of special interest to Department of Fish and Wildlife. These are included in Appendix A.

² Passage Assessment Database





CORRIDOR PERFORMANCE

Traffic volumes (including truck traffic) are low on SR 169, with higher volumes on the segment that intersects with Route 101. Corridor performance for SR 169 is summarized in the following table:

|--|

Segment #	1	2	3	4			
	(DN PIM R0.0/3.5) Basic Sve	(DN PM 3.5/8.5)	(HUM PM 0.00/13.2)	(HUIVI PIVI 13.2/33.84)			
AADT (BY)	1360			275			
AADT* (HY)	1360	-		300			
LOS Method	HCM 2010	-					
LOS (BY)	С	NI/A	NI / A	N/A**			
LOS (HY)	D	N/A	N/A				
LOS Concept	None			None			
DVMT (BY)	4760			5675			
DVMT (HY)	4760			6200			
Truck Traffic							
AADTT (BY)	163	N/A		35			
Total Trucks (% of AADT) (BY)	8.5%		NI / A	12.7%			
5+ Axle AADTT(BY)	55	N/A	N/A	3			
5+ Axle Trucks (as % of AADT)(BY)	2.9%			1%			
	Pea	k Hour Data					
Peak Hour Length	1			1			
Peak Hour Direction	W			W			
Peak Hour Time of Day	NA			NA			
Peak Hour Directional Split (BY)	60%	N/A	N/A	60%			
Peak Hour Volume (BY)	290	N/A	N/A	50			
Peak Hour Volume (HY)	290			55			
Peak Hour VMT (BY)	1015			1030			
Peak Hour VMT (HY)	1015			1130			

AADT – Annual Average Daily Traffic, AADTT – Annual Average Daily Truck Traffic, DVMT – Daily Vehicle Miles Traveled,

HCM 2010 – Highway Capacity Manual 2010, LOS – Level of Service, N/A – Not Applicable, VMT – Vehicle Miles Traveled

*Caltrans District 1 2014 growth factors were used for traffic volume projections

**LOS not calculated for Humboldt County because SR 169 operates as a one-lane, bidirectional highway, and the HCM does not have a methodology for such conditions

BY – Base Year (2015)

HY – Horizon Year (2035)





KEY CORRIDOR ISSUES

Key issues for SR 169 include:

- Cultural resources are very likely to be present within the SR 169 corridor. As such, consultation with the Yurok Tribe will be necessary at project initiation, project development, and delivery.
- SR 169 is a critical transportation link for the Yurok tribe. The route connects many communities and villages along the Klamath River, and should be maintained to continue connectivity.
- Most of Segments 4-6 have no centerline striping. The narrow width of the travel way prevent travel lane delineation.
- Limited turnout and passing opportunities exist along the entire route.

CORRIDOR CONCEPT

CONCEPT RATIONALE

SR 169 is not anticipated to grow significantly over the next 20 years due to its rural nature and low traffic volumes. Thus, SR 169 is expected to continue on its current alignment. No capacity improvements are planned or programmed for SR 169. Shoulder widening and possible realignment where feasible to meet minimum facility standards should be considered for SR 169.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Segment	Description	Planned or Programmed	Location	Source	Purpose	Implementation Phase
5	Slipout Repair	Programmed	West of Miners creek PM 26.4/29.8	D1 Project Status	Permanent Restoration	Short Term
5	Bridge Rail Replacement	Planned (PID)	Rube Creek PM 27.57	D1 Project Status	Bridge Rail Upgrade	Short Term

SHOPP – State Highways Operation and Protection Program

FHWA – Federal Highways Administration

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

The improvements listed on the following table will complete the Route Concept for SR 169.

Segment	Description	Location	Source	Purpose	Implementation Phase
4	Widen to provide two lanes	SR 169 in Humboldt County	2004 SR 169 Needs Assessment	Safety, Bicycle and Pedestrian Circulation.	Long Term
2,3	Construct Unconstructed Segments	Humboldt and Del Norte Counties	2004 SR 169 Needs Assessment	Connectivity	Long Term

The Yurok Tribe is interested in completing the 18.2 mile long unconstructed portion of Route 169, and widening Segment 4 to 2-lanes. While Caltrans supports this concept, funding constraints and environmental issues may be too great to overcome. The 20 year and post 20 year system operations and management concept for all segments includes safety improvements as necessary, and maintenance and rehabilitation.





APPENDICES

APPENDIX A: RARE AND THREATENED SPECIES

Species	Federal Status	California Status	Department Of Fish And Wildlife Status
Plethodon elongatus	None	None	Species of Special Concern
Rhyacotriton variegatus	None	None	Species of Special Concern
Ascaphus truei	None	None	Species of Special Concern
Rana aurora	None	None	Species of Special Concern
Rana boylii	None	None	Species of Special Concern
Pelecanus occidentalis californicus	Delisted	Delisted	Fully Protected
Phalacrocorax auritus	None	None	Watch List
Pandion haliaetus	None	None	Watch List
Haliaeetus leucocephalus	Delisted	Endangered	Fully Protected
Falco peregrinus anatum	Delisted	Delisted	Fully Protected
Bonasa umbellus	None	None	Watch List
Brachyramphus marmoratus	Threatened	Endangered	-
Strix occidentalis caurina	Threatened	Candidate Threatened	Species of Special Concern
Lampetra ayresii	None	None	Species of Special Concern
Acipenser medirostris	Threatened	None	Species of Special Concern
Oncorhynchus gorbuscha	None	None	Species of Special Concern
Oncorhynchus keta	None	None	Species of Special Concern
Oncorhynchus kisutch	Threatened	Threatened	Species of Special Concern
Oncorhynchus tshawytscha	None	None	Species of Special Concern
Oncorhynchus clarkii clarkii	None	None	Species of Special Concern
Oncorhynchus mykiss irideus	None	None	Species of Special Concern
Spirinchus thaleichthys	Candidate	Threatened	Species of Special Concern
Thaleichthys pacificus	Threatened	None	Species of Special Concern
Corynorhinus townsendii	None	Candidate Threatened	Species of Special Concern
Arborimus pomo	None	None	Species of Special Concern
Martes caurina humboldtensis	None	None	Species of Special Concern
Pekania pennanti	Proposed Threatened	Candidate Threatened	Species of Special Concern
Calamagrostis foliosa	None	Rare	-





APPENDIX B: GLOSSARY OF TERMS AND ACRONYMS

<u>Acronyms</u>

AADT	Annual Average Daily Traffic
AADTT	Annual Average Daily Truck Traffic
DVMT	Daily Vehicle Miles Traveled
DSMP	District System Management Plan
FAA	Federal Aviation Administration
FHWA	Federal highways Administration
HCAOG	Humboldt County Association of Governments
HCM 2010	2010 Highway Capacity Manual
KPRA	King Pin to Rear Axle
LOS	Level of Service
NOA	Naturally Occurring Asbestos
PM	Post Mile
SHOPP	State Highway Operation and Protection Program
SHS	State Highway System
SR	State Route
TMS	Traffic Management System
TCR	Transportation Concept Report



APPENDIX C: DEFINITIONS

AADT – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved from location to location throughout the State in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

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

Bikeway Class I (Bike Path) – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bikeway Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.

Bikeway Class III (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic.

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

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

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

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

Corridor – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

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

Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

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

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





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

LOS – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:



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



LOS B is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.



LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.



LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.



LOS E reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.



LOS F a stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Multi-modal – The availability of transportation options using different modes within a system or corridor, such as automobile, subway, bus, rail, or air.

System Operations and Management Concept – Describe the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Auxiliary lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane





type or characteristic (e.g. HOV lane to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between 6 percent and 10 percent of the ADT. The lower values are generally found on roadways with low volumes.

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

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

Post Mile – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a county to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The milepost at a given location will remain the same year after year. When a section of road is realigned, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the reminder of the route within the county will remain unchanged.

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

Route Designation –A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards should apply during project development and design. Typical designations include but not limited to National Highway System (NHS), Interregional Route System (IRRS), Scenic Highway System,

Rural – Fewer than 5,000 in population designates a rural area. Limits are based upon population density.





APPENDIX D: RESOURCES

WORKS REFERENCED

- 1. 2012 Transportation Concept Report Guidelines
- 2. November 1999 SR 36 Route Concept Report, Caltrans District 1
- 3. 2002 California State Highway Log, District 1
- 4. CRS Maps (functional classification) (<u>http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/</u>)
- 2013 Traffic Volumes on California State Highways (<u>http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm</u>)
- 6. Interregional Road System ((<u>http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=250-257</u>
- Freeway and Expressway System (<u>http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=250-257</u>)
- 8. State Scenic Highways (http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm)
- 9. Truck Network Map (http://www.dot.ca.gov/hq/traffops/trucks/truckmap/truck-route-list.xlsx)
- 10. 2013 Amended Humboldt County Regional Transportation Plan (http://hcaog.net/sites/default/files/complete_2008_rtp_w_amendments.pdf)
- 11. Humboldt Regional Bicycle Plan Update 2012 (http://hcaog.net/sites/default/files/bike_plan_2012_full_final.pdf)
- 12. 2010 U.S. Census Bureau (quickfacts.census.gov/qfd/states/06/06045.html)
- 13. 2012 Draft Humboldt County General Plan (http://humboldtgov.org/576/Planning-Commission-Draft)
- 14. 2012 Truck Traffic on the California State Highway System (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm)
- 15. Climate Change (<u>http://www.climatechange.ca.gov/</u>)
- 16. CA Natural Diversity Database (<u>http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp</u>)
- 17. Level of Service Methodology, Highway Capacity Manual, Transportation Research Board, 2010
- 18. State Highway Growth Factors, Caltrans District 1, Feb. 2014.
- 19. National Highway System (http://www.dot.ca.gov/hq/tsip/hseb/highway_systems/NHS_statehighways.pdf)
- 20. 2012 State Transportation Improvement Program
- 21. 2014 State Highway Operation and Protection Program
- 22. Caltrans Economic Forecast (http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html)
- 23. State Route 36 Transportation Concept Report Greater Highway 36 Association Annual Meeting, October 22, 2010 Content Summary
- 24. Public Comments Summary, State Route 36 TCR Workshop, July 28 2010
- 25. California Highway Design Manual, Section 300, "Traveled Way Standards"
- 26. Yurok Tribe Long Range Transportation Plan Update November 2016
- 27. Yurok Tribe River Transportation Plan Transit in the Parks