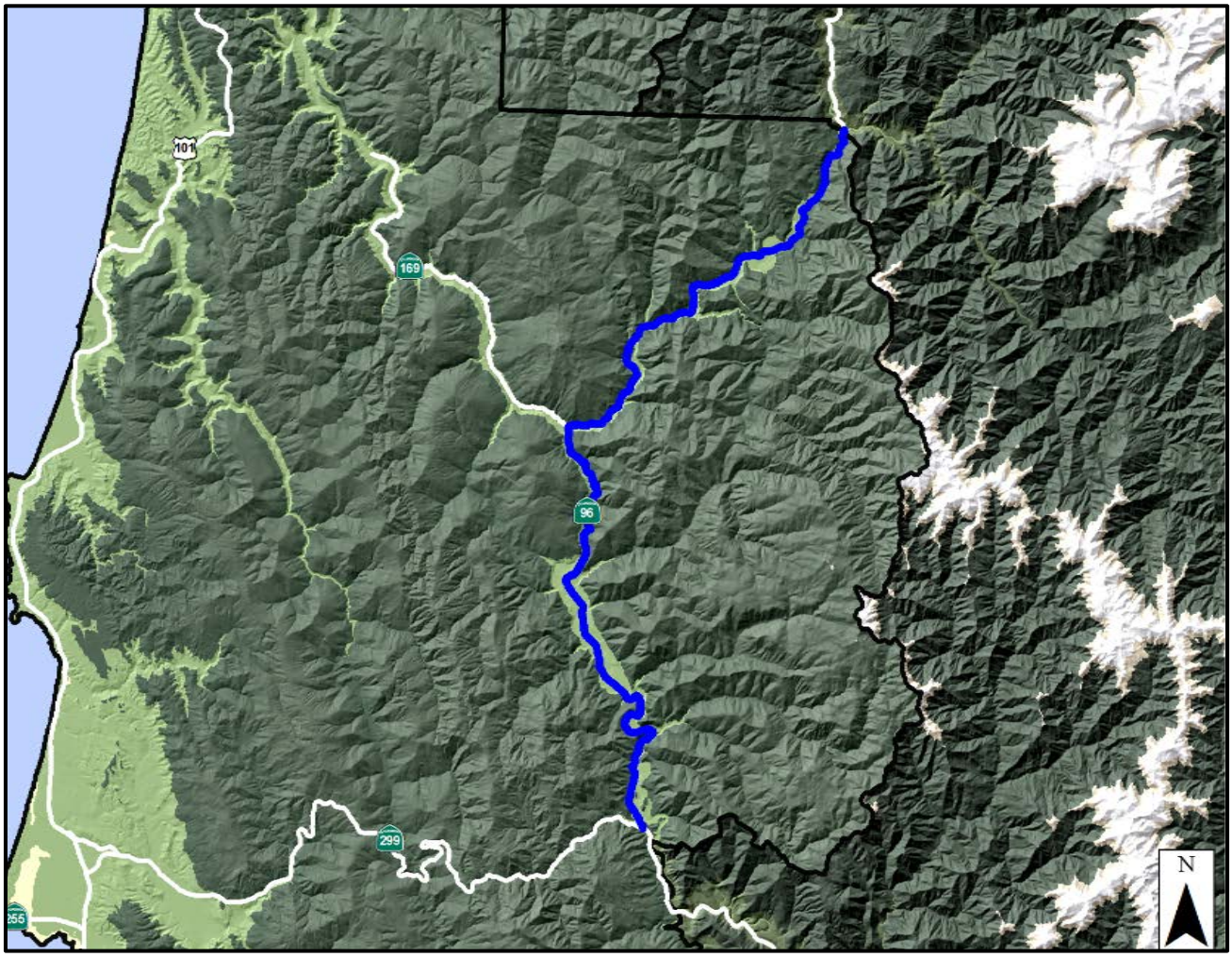
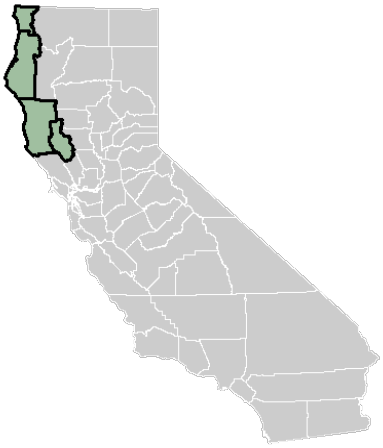
Transportation Concept Report
State Route 96
District 1
May 2017



Caltrans District 1



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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 and health, stewardship and efficiency, sustainability, livability and economy, system performance, and organizational excellence.

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.

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) 96 is a rural highway in Humboldt and Siskiyou counties. SR 96 originates at the junction with SR 299 in the community of Willow Creek, and proceeds along the Trinity and Klamath River canyons to the Humboldt/Siskiyou County line (District 1/District 2 boundary) approximately 22 miles north of Weitchpec. SR 96 continues in Siskiyou County to Interstate 5 north of the city of Yreka. SR 96 is functionally classified as a rural minor arterial.

CONCEPT SUMMARY

SR 96 has two segments in District 1. Each of these segments has an existing, 20-year concept, and post 20-year concept facility type of a 2-lane conventional highway. The 20 year and post 20-year system operations and management concept includes safety improvements as necessary, and maintenance and rehabilitation.

Segment	Segment Description	Existing Facility	20-25 Year Ultimate Facility Concept	20-25 Year System Operations and Management Concept	Post 25 Year Concept
1	SR 299 to SR 169 (HUM-96-0.00/23.086)	2 Lane C	2 Lane C	Safety Improvements as Identified, Maintenance and Rehabilitation	2 Lane C
2	SR 169 to Humboldt/ Siskiyou county line (HUM-96-23.086/R44.979)	2 Lane C	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 96, while recognizing financial and environmental constraints, which will not allow the programming of extensive improvements for all State highways.

The concepts for SR 96 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.

Proposed Projects and Strategies

There are five bridge preservation projects retrofitting or upgrading bridge rail on nine bridges on SR 96, and one safety project to install a fence. These projects are summarized on page ten. In addition to these projects, seasonal maintenance and emergency projects are also programed along the route.

Strategies Developed to Achieve and Maintain the Corridor Concept

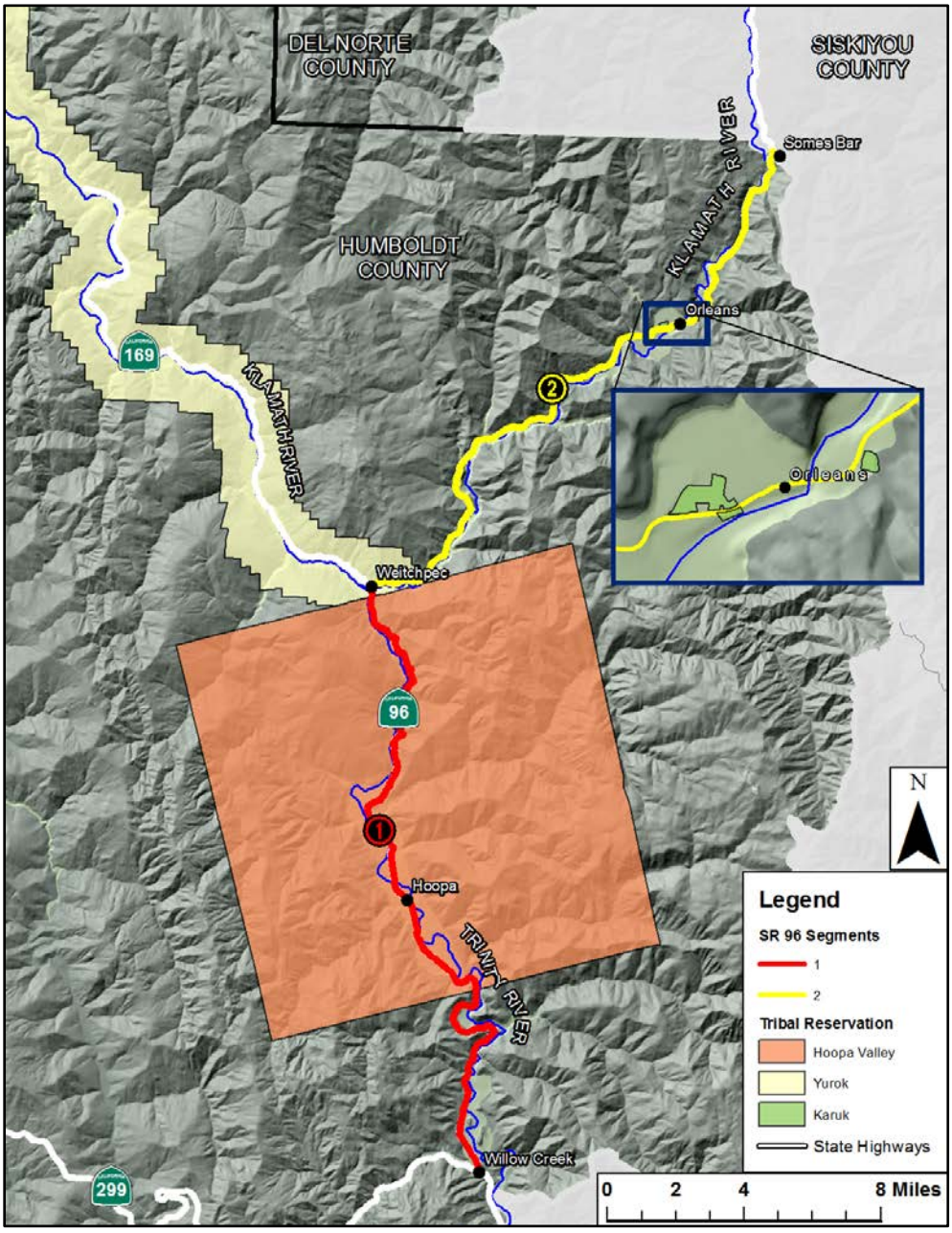
- Safety: Safety is the highest priority of Caltrans and our regional partners. Safety improvements will be made as needs are identified.
- Maintenance and Rehabilitation: Maintain and rehabilitate as necessary. Consideration should be given to widening in conjunction with pavement rehabilitation projects where necessary to provide adequate paved shoulder width for both motorized and non-motorized traffic. Bridge replacement and rehabilitation, storm damage and operational improvement projects will also be considered as necessary.
- Community Planning Strategy: The District will continue to cooperate with the Hoopa, Yurok, and Karuk Tribes, Humboldt County, the Willow Creek Community Services District, Humboldt County Association of Governments, and other local transportation and land use planning agencies on SR 96 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 96 in District 1 had been divided into two segments for system planning purposes. The first segment is 23 miles long, starting at the SR 299/SR 96 junction in Willow Creek to the SR 169 intersection. Segment 2 is approximately 29 miles long, from SR 169 to the Humboldt/Siskiyou County line.



Segment #	Location Description	County_Route_Beg. PM	County_Route_End PM
1	SR 299 to SR 169	HUM-96-0.00	HUM-96-23.086
2	SR 169 to the Humboldt/Siskiyou County Line	HUM-96-23.086	HUM-96-R44.979

PM - Post mile

ROUTE DESCRIPTION

Route Location:

State Route (SR) 96 is a rural highway in Humboldt and Siskiyou counties. SR 96 originates at the junction with SR 299 in the community of Willow Creek, and proceeds along the Trinity and Klamath River canyons to the Humboldt/Siskiyou county line (District 1/District 2 boundary) approximately 22 miles north of Weitchpec. SR 96 is approximately 45 miles long in District 1 (HUM-96-0.00/R44.979). Ultimately, SR 96 leads to Interstate 5 approximately 6 miles north of the city of Yreka in Siskiyou County.

Route Purpose:

SR 96 bisects the Hoopa Valley Indian Reservation, providing the only all-weather transportation route to and from the reservation. Route 96 also serves a number of small-unincorporated communities for local trips.

SR 96 is functionally classified as a Rural Minor Arterial. It is eligible for designation as a Scenic Highway, but has not been officially designated.

Major Route Features:

Within District 1 SR 96 is a Minor Arterial 2-Lane Conventional Highway that serves the unincorporated communities of Willow Creek, Hoopa, Weitchpec, and Orleans. SR 96 proceeds along the Trinity and Klamath rivers, both federally designated Wild & Scenic Rivers.

Route Designations and Characteristics:

Segment #	1 (HUM-96-0.00/23.086)	2 (HUM-96-23.086/R44.979
Freeway & Expressway	No	No
National Highway System	No	No
Strategic Highway Network	No	No
Scenic Highway	No	No
Priority Interregional Route	No	No
Federal Functional Classification	Minor Arterial	Minor Arterial
Goods Movement Route	No	No
Truck Designation	California Legal (PM 0-3.6, 22.7-R44.979) KPRA<36 (PM 3.6-22.7)	California Legal
Rural/Urban/Urbanized	Rural	Rural
Regional Transportation Planning Agency	HCAOG	HCAOG
Local Agency	Humboldt County	Humboldt County
Tribes	Hoopa and Yurok Tribes	Karuk, and Yurok Tribes
Air District	North Coast Unified	North Coast Unified
Terrain	Mountainous	Mountainous

CL – California Legal, HCAOG – Humboldt County Association of Governments KPRA – King Pin to Rear Axle

COMMUNITY CHARACTERISTICS

According to the 2014 American Community Survey, Humboldt County has a population of 134,809, with approximately 75.2% white, 10.8% Hispanic or Latino, 4.2% Native American, 2.5% Asian, and 1.2% African American and 5.7% two or more races. Of those residents, 19.4% are under the age of 18, 65.5% are between the ages of 18 and 65, and 15.1% are over the age of 65. The Willow Creek Hoopa Valley census county division has a population of 5,574, with 34.8% white, .5% African American, 49.1% Native American, 2.92% Asian, 5.7% Hispanic, 5.76% two or more races. Of those residents, 25.6% are under the age of 18, 62.1% are between 18 and 65, and 12.3% are over the age of 65. According to the 2015 *California County-Level Economic Forecast*, both per capita and median household income average is approximately 75% of the state average. Additionally, the unemployment rate in Humboldt County is 5.9%.

Government and health care account for about 45% of Humboldt County's employment, with trade/transportation/utilities making up another 29%. Furthermore, about 11% of Humboldt County's jobs come from leisure related sources.

LAND USE

Land use adjacent to Route 96 is a mixture of open space and low density rural residential. Relatively higher density residential uses exist within the communities of Willow Creek and Hoopa. As this route passes through the Hoopa, Yurok, and Karuk Tribal reservations, the route is used during particular periods throughout the year for access to traditional cultural ceremonies, events and activities including a variety of ceremonial dances.

Segment	Land Use
1 (HUM PM 0.00/23.086)	*Scattered Rural Residential/ Open Space*
2 (HUM PM 23.086-R44.979)	*Scattered Rural Residential/Open Space*

SYSTEM CHARACTERISTICS

SR 96 is a 2-lane conventional highway along its entire length in District 1. All segments have no median, with a striped centerline splitting directions of travel along the route, and a two way left turn lane through Hoopa (PM 12.458-12.970). There are intermittent striped passing opportunities along the route

The 20-year and post 20-year concept facility do not have any planned capacity improvements and will have the same characteristics as the current base year.

Segment #	1 (PM 0.00-23.086)	2 (PM 23.086-R44.979)
Existing Facility		
Facility Type	C	C
General Purpose Lanes	2	2
Lane Miles	46.172	43.786
Centerline Miles	23.086	21.893
Median Width	0-13ft.	0 ft.
Median Characteristics	Striped/Two-Way Left Turn Lane	Striped
Passing Lanes	0	0
Concept Facility		
Facility Type	C	C
General Purpose Lanes	2	2
Lane Miles	46.172	57.958
Centerline Miles	23.086	26.979
Passing Lanes	0	0
Post 25 Year facility		
Facility Type	C	C
General Purpose Lanes	2	2
Lane Miles	46.172	57.958
Centerline Miles	23.086	26.979
Passing Lanes	0	0
Traffic Management System (TMS) Elements		
TMS Elements (BY)	Count Station (PM 3.59 and 12.83)	
TMS Elements (HY)	Changeable Message Sign Continuous Count Station (PM 0.0)	Continuous Count Station (PM R 38.73)

BY – Base Year (2015)
HY – Horizon Year (2035)

BICYCLE FACILITY

Bicycle facilities on SR 96 are limited to a shared lane or a shared shoulder, which can vary between paved and unpaved surfaces.

Segment	Location Description	Bicycle Access Prohibited	Facility Type	Outside Paved Shoulder Width	Facility Description	Posted Speed Limit
1 (HUM PM 0.00/23.086)	SR 299 to SR 169	*No*	*Unsigned Class III*	*0-8ft.**	*Shared paved shoulder with varying widths between 0-8 ft.*	*55/45/40/35*
2 (HUM PM 23.086/R44.979)	SR 169 junction to Humboldt/Siskiyou County Line	*No*	*Unsigned Class III*	*0-4ft.**	*Shared paved shoulder with varying widths between 0-4ft.*	*55/45/35/30*

** Shoulder widths detailed in Appendix B*

PEDESTRIAN FACILITY

Pedestrian facilities on SR 96 are limited to a shared shoulder, which can vary between paved and unpaved surfaces. Caltrans has worked closely with the Hoopa, Karuk and Yurok Tribes to identify improvements within the communities along the route. In 2006, the Hoopa Valley Indian Reservation completed a Context Sensitive Solutions Plan for traffic calming and safety enhancements. In 2016, the Hoopa Tribe was awarded an Active Transportation grant for a multi-use path, crosswalks and traffic calming elements in Hoopa from Loop Road (PM 11) to the Trinity River Bridge (PM 12.259). The Hoopa Tribe have also identified a 6-mile trail along SR 96 from the south end of Shoemaker Road northward.

In 2016, the Karuk Tribe was awarded a Sustainable Communities grant to develop plans for complete street improvements in Orleans.

Segment	Location Description	Pedestrian Access Prohibited	Sidewalk Present	Crossing Distance	Facility Description	Alternative Facility
1 (HUM PM 0.00/23.086)	SR 299 to SR 169	*No*	*No*	*22-40 ft.*	*Shoulder, varying width, mostly paved*	*No*
2 (HUM PM 23.086/R44.979)	SR 169 junction to Humboldt/Siskiyou County Line	*No*	*No*	*18-32ft.*	*Shoulder, varying width, mostly paved*	*No*

TRANSIT FACILITY

There are four established transit stops on SR 96, in the community of Hoopa, by Klamath Trinity Non Emergency Transportation (KT NET). This fixed service route connects Redwood Transit's Willow Creek line to the communities of Hoopa, Weitchpec, and Orleans. While there are established stops in these communities, riders can arrange for a pick up ahead of time, or flag the bus at any point along the route to board. The transit line operates approximately 50-minute headways, with trips varying by day.

Segment	Mode	Name	Route End Points	Headway	Operating Period	Stations		Bikes Allowed on Transit
						Communities	Postmiles	
1	*Bus*	*KTNET*	*Willow Creek to Weitchpec*	*50 Min.*	*Monday/Thursday/Friday*	*Willow Creek, Hoopa, and Weitchpec*	*0.0/22.9*	*No*

1/2	*Bus*	*KT Net*	*Willow Creek to Orleans*	*50 Min.*	*Tue/Wed*	*Willow Creek, Hoopa, Weitchpec, and Orleans*	*0.0/37.4*	*No*
1	*Bus*	*KT Net*	*Willow Creek to Hoopa*	*2 Hours*	*Sat.*	*Willow Creek to Hoopa*	*0.0/12.8*	*No*

FREIGHT

Truck volumes on SR 96 are between 3 and 10 percent of the daily traffic for all truck types, and trucks with five or more axles are between 1 and 3.8 percent of the daily traffic.

SR 96 accommodates California Legal trucks between PM 0.0-3.6, and PM 22.7-R44.979. Between PM 3.6-22.7, only California Legal trucks with a King Pin to Rear Axle (KPRA) length of 36 feet or less are advised.

Freight Generator	Location	Mode	Major Commodity/ Industry	Comments/Issues
SR 299	*Willow Creek*	*Truck*	*Timber/General Freight*	*General goods and timber for communities along SR 96*
SR 96	*Hoopa*	*Truck*	*Construction Materials*	*Xontan Builders* *Hoopa Valley Aggregates*

ENVIRONMENTAL CONSIDERATIONS

Most of SR 96 within District 1 is in forested region. Primary environmental considerations for route 96 include:

- Historical Archeological and Cultural resources
- Slope Stability and Landslides
- Wild and Scenic Rivers
- Endangered, Threatened and Rare Species

Because a large portion of SR 96 passes through the boundaries and ancestral lands of the Hoopa, Yurok, and Karuk reservations, archeological and cultural resources have a potential to be encountered. When culturally or archeologically significant resources are identified within project limits, review by a Tribal Heritage Preservation Officer (THPO) and cultural committee will be required.

Naturally occurring Asbestos (NOA) may be present between post miles 20.915/21.715 and 27.915/28.215 in Humboldt County, according to the *Caltrans District 1 Areas Likely to Contain Naturally Occurring Asbestos.* Aerially Deposited Lead may be a concern on this route due to historic use.

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 fish[1] passage at any life stage. Additionally, all projects on streams that currently or historically supported fish and affect culverts, bridges, or

[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

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 96 has three passage barriers ranked within the 100 priority sites in District 1, and two unranked barriers. Two additional barriers are identified in the CDFW Passage Assessment Database. All seven sites are listed in the table below.

Post Mile	PAD[2] ID	Stream Name	Priority Rank	Tributary to	Barrier Status	Project Name	Project Status
8.82	707141	Campbell Creek	N/A	Trinity River	Partial	Campbell Creek	Estimated Completion 2017
10.9	707145	Hospital Creek	N/A	Trinity River	Total	N/A	N/A
36.35	712986	Ultathorne Creek	43	Klamath River	Total	N/A	N/A
36.88	712987	Crawford Creek	34	Klamath River	Total	N/A	N/A
38.34	712988	Wilder Gulch	61	Klamath River	Total	N/A	N/A
38.89	722598	Cheenitch Creek	N/A	Klamath River	Total	N/A	N/A
41.46	712989	Whitmore Creek	N/A	Klamath River	Total	N/A	N/A

The Klamath and Trinity Rivers, federally designated recreational Wild and Scenic Rivers, provide important stream and riparian habitat. The Trinity River has a total maximum daily load (TMDL) for sediment, and the Klamath River has TMDLs for dissolved oxygen, temperature, nutrient and microcystin impairments. Several sensitive species are associated with the Klamath and Trinity Rivers and tributaries, including a variety of federally listed plant and animal species. Soil stability is a factor of concern along many areas of Route 96 as slides or slipouts may have the potential to impact water quality, as well as result in delays and/or road closures.

The California Natural Diversity Database (CNDDB) lists several species within 1 mile of SR 96 that have various endangered, threatened, rare status or special interest to the California Department of Fish and Wildlife. Segment 1 has 17 species, and segment 2 has 31 species with a total of 37 unique species. The complete list of CNDDB species within 1 mile of SR 96 in District 1 is located in Appendix A.

[2] Passage Assessment Database

CORRIDOR PERFORMANCE

Traffic volumes (including truck traffic) are relatively low on SR 96, with higher volumes on parts of the segments near Willow Creek and Hoopa. Corridor performance for SR 96 is summarized in the following table:

CORRIDOR PERFORMANCE TABLE – STATE ROUTE 96

Segment #	1 (PM 0.00-23.086)	2 (PM 23.086-R44.979)
Basic System Operations		
Annual Average Daily Traffic (Base Year)	2050	650
AADT* (Horizon Year)	2200	675
Level Of Service Method	HCM 2010	HCM 2010
LOS (BY)**	B	A
LOS (HY)**	B	A
LOS Concept	None	None
Daily Vehicle Miles Traveled (BY)	47350	14300
DVMT (HY)	51150	15050
Truck Traffic		
Annual Average Daily Truck Traffic (BY)	65	65
Total Trucks (% of AADT) (BY)	3.1%	10%
5+ Axle AADTT(BY)	25	25
5+ Axle Trucks (as % of AADT)(BY)	1.2%	3.8%
Peak Hour Data		
Peak Hour Direction	W	W
Peak Hour Time of Day	N/A	N/A
Peak Hour Directional Split (BY)	60%	60%
Peak Hour Volume (BY)	210	80
Peak Hour Volume (HY)	225	85
Peak Hour Vehicle Miles Traveled (BY)	4800	1900
Peak Hour VMT (HY)	5200	2000

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.*
BY – Base Year (2015)
HY – Horizon Year (2035)

KEY CORRIDOR ISSUES

Key issues for SR 96 include:

- Cultural resources have a potential to be present within the SR 96 corridor. As such, consultation with the Yurok, Hoopa, and Karuk Tribes will be necessary during project development and delivery.
- SR 96 is a critical transportation link and connects many communities and villages along the Trinity and Klamath Rivers, and should be maintained to continue connectivity.
- Soil stability along the route is of concern. Historically slides have closed SR 96, preventing connection between Willow Creek and Hoopa or Weitchpec to Willow Creek.

CORRIDOR CONCEPT

CONCEPT RATIONALE

SR 96 is not anticipated to grow significantly over the next 20 years due to its rural nature and low traffic volumes. Thus SR 96 is expected to continue as a 2 lane conventional highway on its existing alignment for the horizon year and beyond. No capacity improvements are planned or programmed for SR 96. Safety improvements will be made as needs are identified. Maintenance and rehabilitation will be performed 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.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Segment	Description	Location	Source	Purpose	Implementation Phase
1,2	Bridge Retrofit	Willow Creek Bridge (PM 0.24) and Camp Creek Bridge (PM R37.25)	D1 Status of Projects	Seismic Retrofit	Short Term
1	Bridge Painting	Trinity River Bridge (PM 12.26)	D1 Status of Projects	Bridge Preservation	Short Term
1	Install Fence	Pearson Lane (PM 22.9)	D1 Status of Projects	Safety	Short Term
1	Bridge Rail Upgrade	Trinity River Bridge (PM 12.26)	D1 Status of Projects	Bridge upgrade	Short Term
1	Bridge Retrofit	Klamath River Bridge (PM22.95)	D1 Status of Projects	Seismic Retrofit	Short Term
2	Bridge Rail Upgrade	Four bridges (PMs 28.07, R28.27, R28.91, and R29.92)	D1 Status of Projects	Bridge Upgrade	Short Term

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

The improvements listed on the following table will complete the Route Concept for SR 96.

Segment	Description	Location	Source	Purpose	Implementation Phase
1,2	Widen and pave shoulders where feasible	Throughout SR 96		Safety, Bicycle and Pedestrian Circulation.	Long Term

Widening of shoulder and pavement should be considered when rehabilitating the roadway

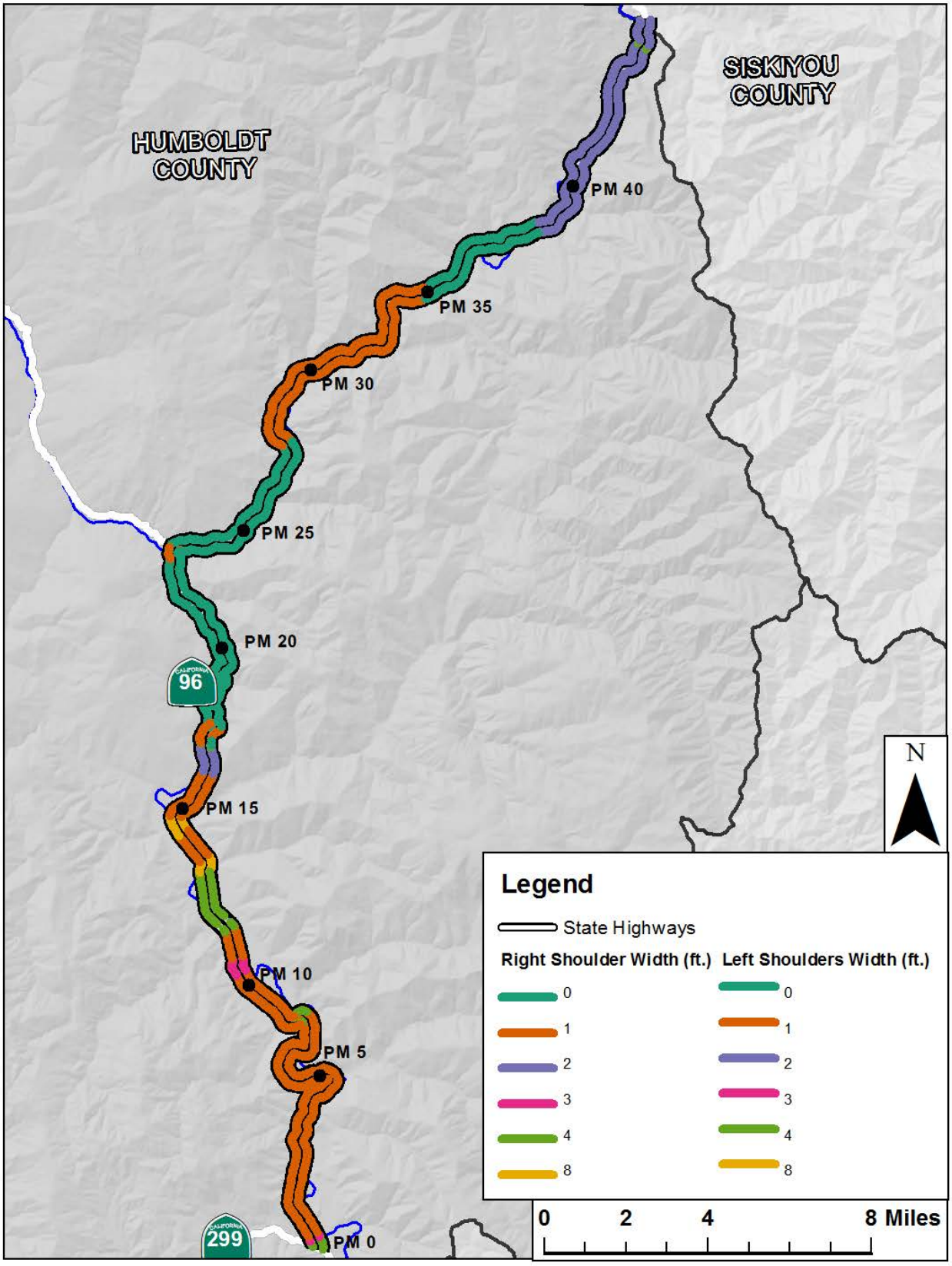
APPENDICES

APPENDIX A: CALIFORNIA NATURAL DIVERSITY DATABASE SPECIES

Species	Federal Status	California Status	Global Rank	S Rank	Rare Plant Rank	Segment
Accipiter gentilis	None	None	G5	S3		2
Ancotrema voyanum	None	None	G1G2	S1S2		2
Ardea herodias	None	None	G5	S4		1,2
Ascaphus truei	None	None	G4	S3S4		1
Bombus occidentalis	None	None	G2G3	S1		1,2
Bombus suckleyi	None	None	GU	S1		2
Bonasa umbellus	None	None	G5	S3S4		1
Corynorhinus townsendii	None	Candidate Threatened	G3G4	S2		2
Cypseloides niger	None	None	G4	S2		2
Falco peregrinus anatum	Delisted	Delisted	G4T4	S3S4		2
Haliaeetus leucocephalus	Delisted	Endangered	G5	S2		2
Helminthoglypta hertleini	None	None	G1	S1		2
Helminthoglypta talmadgei	None	None	G2	S2		1,2
Klamath/North Coast Fall/Winter Run Chinook Salmon	None	None	GNR	SNR		1,2
Lasionycteris noctivagans	None	None	G5	S3S4		1
Margaritifera falcata	None	None	G4G5	S1S2		2
Oncorhynchus tshawytscha	None	None	G5	S1S2		1,2
Pandion haliaetus	None	None	G5	S4		1,2
Pekania pennanti	Proposed Threatened	Candidate Threatened	G5T2T3Q	S2S3		1,2
Plethodon elongatus	None	None	G4	S3		1,2
Rana boylii	None	None	G3	S3		1,2
Rhyacotriton variegatus	None	None	G3G4	S2S3		1
Vespericola karokorum	None	None	G2	S2		2
Anomobryum julaceum	None	None	G4G5	S2	4.2	2
Coptis laciniata	None	None	G4	S3	4.2	1
Erythronium oregonum	None	None	G5	S2	2B.2	1,2
Erythronium revolutum	None	None	G4	S3	2B.2	2
Eucephalus vialis	None	None	G3	S1	1B.2	1
Juncus dudleyi	None	None	G5	S1	2B.3	2
Kopsiopsis hookeri	None	None	G4G5	S1S2	2B.3	2
Lewisia cotyledon var. heckneri	None	None	G4T3	S3	1B.2	2
Mielichhoferia elongata	None	None	G5	S4	4.3	2
Oenothera wolfii	None	None	G2	S1	1B.1	1,2
Piperia candida	None	None	G3	S3	1B.2	2
Ptilidium californicum	None	None	G3G4	S3?	4.3	2
Rorippa columbiae	None	None	G3	S1	1B.2	2
Thermopsis robusta	None	None	G2	S2	1B.2	2

**1B.1 – rare, threatened, or endangered in California and elsewhere; seriously threatened in California*
1B.2 – rare, threatened, or endangered in California and elsewhere; fairly threatened in California
2B.2 – rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California

APPENDIX B: SHOULDER WIDTHS



Begin Postmile	End Postmile	Left Shoulder* (ft.)	Right Shoulder* (ft)		Begin Postmile	End Postmile	Left Shoulder* (ft.)	Right Shoulder* (ft.)
0	0.1	4	4		16.793	16.815	0	0
0.1	0.236	4	4		16.815	16.827	0	0
0.236	0.301	3	3		16.827	16.836	1	0
0.301	0.366	4	4		16.836	16.871	0	0
0.366	0.8	1	1		16.871	R17.392	1	1
0.8	2.023	1	1		R17.392	17.605E	0	0
2.023	3.2	1	1		17.605E	18.139	0	0
3.2	3.3	1	1		18.139	18.549	0	0
3.3	3.59	1	1		18.549	18.596	0	0
3.59	4.5	1	1		18.596	18.614	0	0
4.5	4.9	1	1		18.614	R18.761	0	0
4.9	5.114	1	1		R18.761	19.103E	0	0
5.114	5.378	1	1		19.103E	22.254	0	0
5.378	5.501	1	1		22.254	22.434	0	0
5.501	R6.003	1	1		22.434	22.838	0	0
R6.003	6.531E	1	1		22.838	22.95	1	1
6.531E	R6.622	1	1		22.95	23.052	0	0
R6.622	6.881	1	1		23.052	23.086	1	1
6.881	8.124	1	1		23.086	23.285	0	0
8.124	8.26	4	4		23.285	24.979	0	0
8.26	8.291	4	4		24.979	25.14	0	0
8.291	8.305	4	4		25.14	26	0	0
8.305	8.348	4	4		26	27.579	0	0
8.348	8.354	4	4		27.579	27.756	1	1
8.354	8.477	1	1		27.756	28.07	1	1
8.477	8.61	1	1		28.07	28.097	1	1
8.61	8.808	1	1		28.097	28.266	1	1
8.808	9.3	1	1		28.266	R28.318	1	1
9.3	10.2	1	1		R28.318	R28.621	1	1
10.2	R10.358	1	1		R28.621	R28.911	1	1
R10.358	10.754E	3	3		R28.911	R28.986	1	1
10.754E	10.95	1	1		R28.986	29.208E	1	1
10.95	11.467	1	1		29.208E	29.923	1	1
11.467	11.615	4	4		29.923	29.957	1	1
11.615	11.618	8	8		29.957	R30.805	1	1
11.618	11.629	8	8		R30.805	34.908E	1	1
11.629	11.634	8	8		34.908E	36.8	0	0
11.634	11.73	4	4		36.8	36.805	0	0
11.73	12.021	4	4		36.805	R37.092	0	0

12.021	12.259	4	4		R37.092	37.253E	0	0
12.259	12.377	4	4		37.253E	37.282	0	0
12.377	12.458	4	4		37.282	37.329	0	0
12.458	12.513	4	4		37.329	37.7	0	0
12.513	12.63	4	4		37.7	37.87	0	0
12.63	12.68	4	4		37.87	38.08	0	0
12.68	12.83	4	4		38.08	38.472	0	0
12.83	12.97	4	4		38.472	38.5	2	2
12.97	R13.081	4	4		38.5	R38.572	2	2
R13.081	R13.255	8	8		R38.572	R38.718	2	2
R13.255	R13.277	8	8		R38.718	R38.773	2	2
R13.277	13.428E	8	8		R38.773	R38.869	2	2
13.428E	R14.234	1	1		R38.869	R39.479	2	2
R14.234	R14.551	8	8		R39.479	R39.550	2	2
R14.551	R14.580	8	8		R39.550	R44.228	2	2
R14.580	14.697E	8	8		R44.228	R44.236	4	4
14.697E	16.1	1	1		R44.236	R44.249	2	4
16.1	16.696	2	2		R44.249	R44.299	2	4
16.696	16.708	2	2		R44.299	R44.355	2	4
16.708	16.763	2	2		R44.355	R44.979	2	2
16.763	16.793	4	4		R44.979	R44.980	2	2
* Left shoulder is the Southbound Shoulder. Right shoulder is the Northbound Shoulder.								

APPENDIX C: GLOSSARY OF TERMS AND ACRONYMS

Acronyms

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.

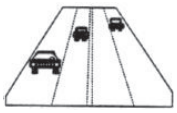
Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

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

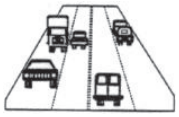
Horizon Year – The year that the future (20 years) data is based on.

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 96 Route Concept Report, Caltrans District 1
3. 2002 California State Highway Log, District 1
4. CRS Maps (functional classification) (http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/)
5. 2013 Traffic Volumes on California State Highways (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm)
6. Interregional Road System (http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=250-257
7. Freeway and Expressway System (http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=00001-01000&file=250-257)
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 (http://www.climatechange.ca.gov/)
16. CA Natural Diversity Database (http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp)
17. Level of Service Methodology, Highway Capacity Manual, Transportation Research Board, 2010
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