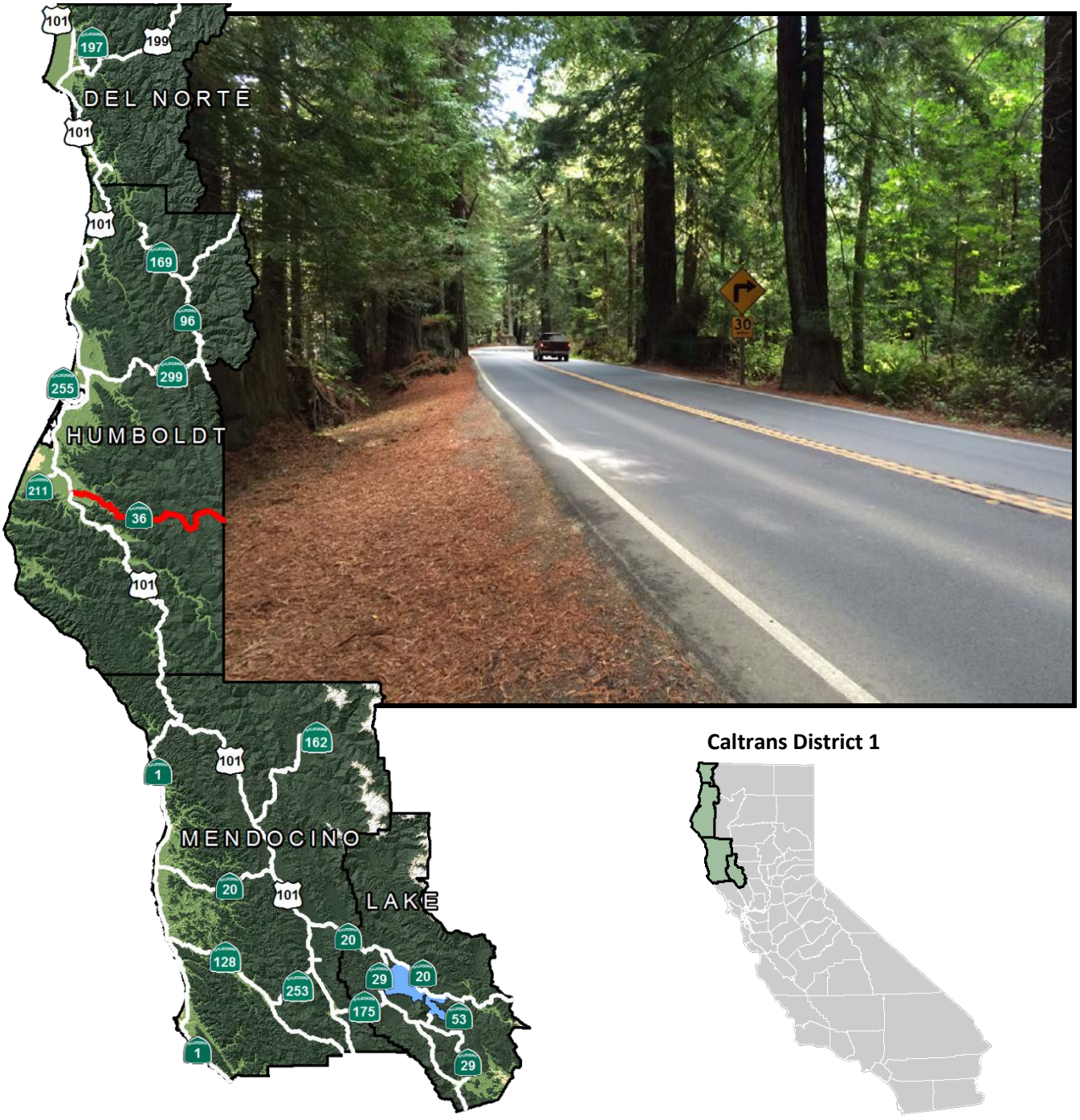
Transportation Concept Report
State Route 36
District 1
June 2017



Caltrans District 1

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

Approval Recommended:

4/7/2017

Name: Date

FOR Mark Suchanek
Deputy District Director, Maintenance/Operations
Caltrans District 1

Approval Recommended:

6/23/17

Name: Date

FOR Gary Johnson
Deputy District Director, Program and Project Management
Caltrans District 1

Approval Recommended:

6/7/17

Name: Date

Brad Mettam
Deputy District Director, Planning/Local Assistance
Caltrans District 1

Approval:

6/26/17

Name: Date

for Matthew K. Brady
District Director
Caltrans District 1

TABLE OF CONTENTS

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 TCR is being prepared by District 1 to act as a supplement to the District 2 TCR, prepared in 2012, which included the segment of State Route 36 (SR 36) in District 1. This TCR uses the new standardized format, includes more recent traffic data, and includes updated information of the Buck Mountain project on SR 36.

District 1 will continue to work with the Route 36 Association to bring any issues on SR 36 to the attention of the district.

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, Wiyot Tribe, and the Bear River Band of the Rohnerville Rancheria. The draft TCR was circulated to other functional units within District 1 for compliance and compatibility with district and statewide directives and policies. A copy of the draft TCR was posted on the District 1 website. Input was received and revisions made as appropriate. District 1 will continue coordination with the annual Route 36 Association meetings.

EXECUTIVE SUMMARY

State Route (SR) 36 traverses most of Northern California, connecting the North Coast and US 101 to the upper end of the Central Valley at Interstate 5 and the eastern state line of California at US 395. SR 36 travels across six counties: Humboldt, Trinity, Shasta, Tehama, Plumas, and Lassen. Caltrans District 1 is responsible for SR 36 from the beginning of the route at the Junction of US 101 and SR 36 to the Humboldt-Trinity County line. The remainder of SR 36 from Trinity County to the terminus of SR 36 in Susanville lies in District 2.

Within District 1 SR 36 is functionally classified as a minor arterial and 2-lane conventional highway. SR 36 connects various unincorporated rural communities and forested lands across the middle of Humboldt County.

CONCEPT SUMMARY

SR 36 has three 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 Facility Concept	20-25 Year System Operations and Management Concept	Post 25 Year Concept
1	US 101 to East Limit of Carlotta (HUM-36-0.0/7.54)	2 Lane C, Frontage road at US 101	2 Lane C, Frontage road at US 101	Safety Improvements as Identified, Maintenance and Rehabilitation including frontage road (Sandy Prairie Road)	2 Lane C, Frontage road at US 101
2	East Limit of Carlotta to Bridgeville, Alderpoint Road (HUM-36-7.54/R23.916)	2 Lane C	2 Lane C	Safety Improvements as Identified, Maintenance and Rehabilitation	2 Lane C
3	Bridgeville, Alderpoint Road to Humboldt County line (HUM-36-R23.916/45.681)	2 Lane C*	2 Lane C	Safety Improvements as Identified, Maintenance and Rehabilitation	2 Lane C

C – Conventional Highway
**Three sections of SR 36 in this segment do not have centerline stripping.*

CONCEPT RATIONALE

The corridor concept serves as a guide for long range planning of route improvements. It protects the State's investment in SR 36, while recognizing financial and environmental constraints, which will not allow the programming of extensive improvements for all state highways.

The concepts for SR 36 segments were selected based on the route's role as a minor arterial roadway expected to show low growth and development with the route continuing to serve generally low traffic volumes.

Proposed Projects and Strategies

Currently within segment 3 on SR 36, there is a programmed curve improvement and widening project known as the Buck Mountain project. This project is designed to increase sightlines and widen shoulders. Additionally this project also addresses non-striped segments of the route (PMs: 37.09-37.32, 37.36-37.49, and 37.6-40.5). This project has received funding from the Federal Lands Access Program.

Another project is planned to widen shoulders in segment one, from PM 0.1-1.6. In addition, discussions between District 1 and California Department of Parks and Recreation indicate a need to improve access to the Grizzly Creek Redwoods State Park. Proposed work includes additional signage, radar-feedback signs, and flashing beacons.

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: District 1 will coordinate with local transportation and land use planning agencies on SR 36 to assure that the highway will be a community asset.
- Cooperation with Transportation Partners: District 1 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.

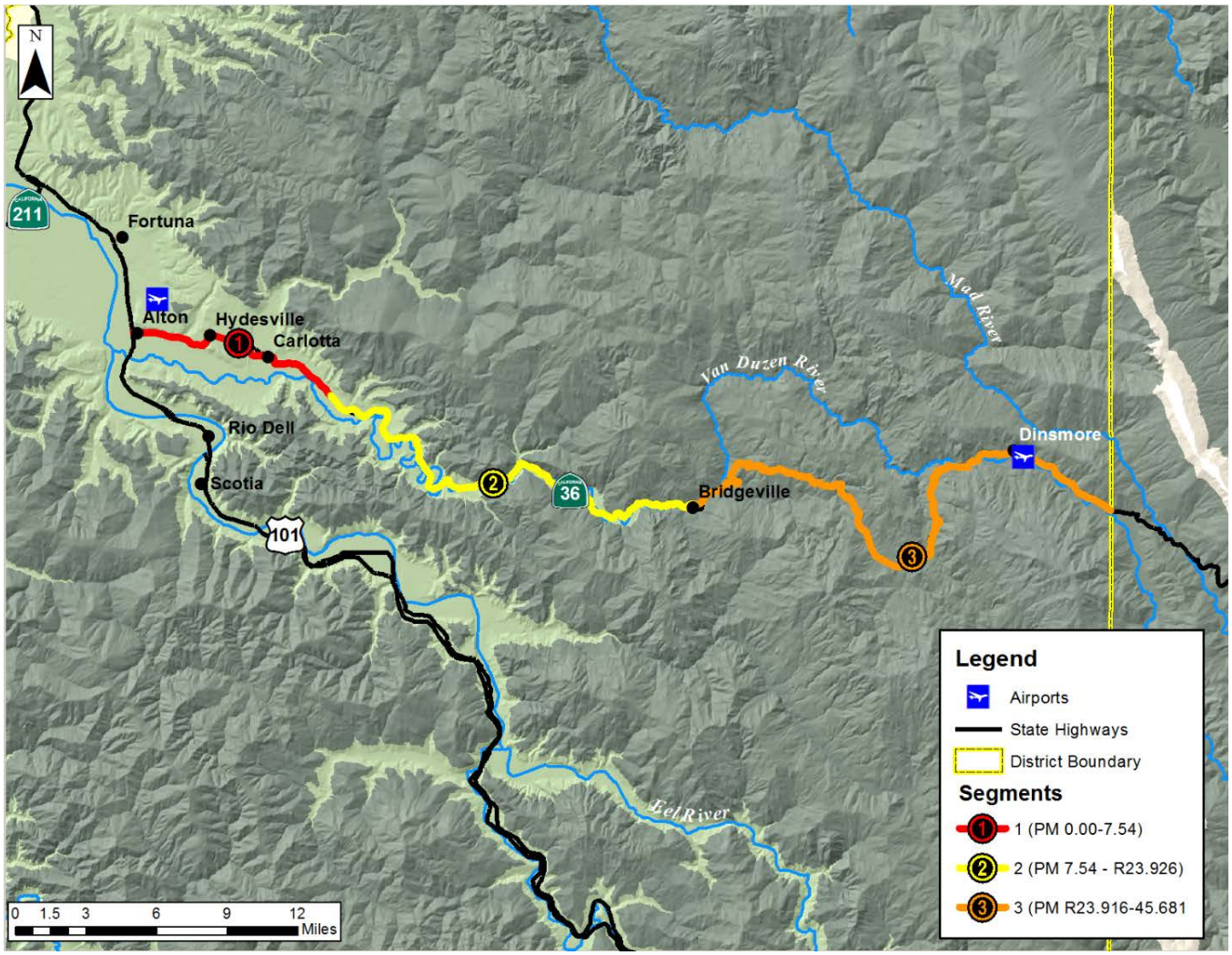
CORRIDOR OVERVIEW

ROUTE SEGMENTATION

SR 36 in District 1 has been divided into three segments for system planning purposes. The first segment is approximately 7.54 miles in length, starting at the US 101/SR 36 junction to the eastern limit of Carlotta. The second segment is approximately 16.4 miles long, beginning at the eastern limit of Carlotta and ending at Bridgeville. The final segment is approximately 21.8 miles long, beginning at Bridgeville and ending at the Humboldt/Trinity County line.

Segment #	Location Description	County_Route_Beg. PM	County_Route_End PM
1	US 101 To East Limit of Carlotta	HUM-36-0.00	HUM-36-7.54
2	East limit of Carlotta to Bridgeville, at Alderpoint Road	HUM-36-7.54	HUM-36-R23.916
3	Bridgeville, Alderpoint Road to Humboldt-Trinity County Line	HUM-36-R23.916	HUM-36-45.681

PM - Post mile



ROUTE DESCRIPTION

Route Location:

In District 1 SR 36 crosses central Humboldt County, extending east from its junction with US 101, south of the City of Fortuna. The route proceeds through rural areas of Humboldt County to the Humboldt-Trinity County Line where it enters District 2. The portion of SR 36 in District 1 is approximately 46 miles in length (HUM-36-0.00/45.681).

Route Purpose:

SR 36 connects coastal Northern California to the Sacramento Valley and Susanville in the Northeast. In District 1, the route functions as a local service route for a handful of rural communities as well as a recreation and commercial route. Where SR 36 traverses unincorporated rural communities, it serves as a "Main Street." Historically SR 36 has served logging, agricultural, and ranching traffic. In case of a weather related closure, SR 36 can function as an alternative route to SR 299. Additionally SR 36 has become an increasingly popular destination for motorcycle tourists.

Major Route Features:

Within District 1 SR 36 is a Minor Arterial 2-Lane Conventional Highway that connects the unincorporated communities of Alton, Hydesville, Carlotta, Bridgeville, and Dinsmore. SR 36 proceeds along the Van Duzen River, a federally designated Wild & Scenic River. SR 36 provides access to recreational areas including Grizzly Creek Redwoods State Park and Van Duzen County Park in Humboldt County, and Ruth Lake in Trinity County.

Route Designations and Characteristics:

Segment #	1 (PM 0.0/7.54)	2 (PM 7.54/R23.916)	3 (PM R23.916/45.681)
Freeway & Expressway	No	No	No
National Highway System	No	No	No
Strategic Highway Network	No	No	No
Scenic Highway	Eligible	Eligible	Eligible
Priority Interregional Route	No	No	No
Federal Functional Classification	Minor Arterial	Minor Arterial	Minor Arterial
Goods Movement Route	No	No	No
Truck Designation	California Legal Only, KPRA<30	California Legal Only, KPRA<30	California Legal Only, KPRA<30
Rural/Urban/Urbanized	Rural	Rural	Rural
Regional Transportation Planning Agency	HCAOG	HCAOG	HCAOG
Local Agency	Humboldt County	Humboldt County	Humboldt County
Tribes	Wiyot Tribe, Bear River Band of the Rohnerville Rancheria	Wiyot Tribe Bear River Band of the Rohnerville Rancheria	Bear River Band of the Rohnerville Rancheria
Air District	North Coast Unified	North Coast Unified	North Coast Unified
Terrain	Rolling	Rolling	Mountainous

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, 15.1% are over the age of 65, 65.5% are between the ages of 18 and 65, and 19.4% are under the age of 18. 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

SR 36 runs entirely through rural lands consisting of sparsely populated unincorporated communities, agricultural lands, dairy lands, timberland, and forest. Grizzly Creek Redwoods State Park and Van Duzen County Park in segment 2 provide recreation areas and camping. Additionally two general aviation airports exist in close proximity to SR 36: Rohnerville Airport outside of Fortuna and the Dinsmore airfield (HUM-36-41.9).

Segment	Land Use
1 (PM 0.0-7.54)	*Rural Residential*
2 (PM 7.54-R23.916)	*Rural Residential/Timberland/Public Recreation*
3 (PM R23.916-45.681)	*Rural Residential/Timberland*

Figure 1 Typical Land Use Outside of Communities on SR 36

SYSTEM CHARACTERISTICS

State SR 36 is a two lane conventional highway along its entire length in District 1. It has no median, with a striped centerline splitting directions of travel. Three portions within Segment 3 have no centerline striping because the width of the road, approximately 20 feet, does not allow for two 12-foot lanes. One passing lane exists in both segments 1 and 2. The 20-year and post 20-year concept facility do not have any planned capacity improvements and Segments 1 and 2 will have the same characteristics as the current base year. Segment 3 will be widened to include two 12-foot lanes and minimum 2 ft. shoulders. Various Transportation Management System elements are identified for the horizon year including changeable message signs, snow warning and chain requirement signs, and roadside weather information systems.

Segment #	1 (PM 0.00-7.54)	2 (PM 7.54-R23.916)	3 (PM R23.916-45.681)
Existing Facility			
Facility Type	Conventional Highway	Conventional Highway	Conventional Highway
General Purpose Lanes	2	2	2
Lane Miles	15.08	32.752	43.53
Centerline Miles	7.54	16.376	21.765
Median Width	0	0	0
Median Characteristics	Striped	Striped	Striped*
Passing Lanes	1	0	1
Concept Facility			
Facility Type	Conventional Highway	Conventional Highway	Conventional Highway
General Purpose Lanes	2	2	2
Lane Miles	15.08	32.752	43.53
Centerline Miles	7.54	16.376	21.765
Passing Lanes	1	0	1
Post 20 Year facility			
Facility Type	Conventional Highway	Conventional Highway	Conventional Highway
General Purpose Lanes	2	2	2
Lane Miles	15.08	32.752	43.53
Centerline Miles	7.54	16.376	21.765
Passing Lanes	1	0	1
Traffic Management System (TMS) Elements			
TMS Elements (Base Year)	Vehicle Speed Feedback Signs	None	None
TMS Elements (Horizon Year)	Changeable Message Sign (CMS)	CMS, Continuous count station	CMS, snow warning and chain requirement signs, roadside weather information system.

**Sections of segment 3 do not have centerline striping.*

Figure 2 No Centerline Striping

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 36 currently has no functioning continuous count stations. The possibility of adding a count station to SR 36 should be considered with future projects when feasible.

BICYCLE FACILITY

Bicycle facilities on SR 36 are limited to 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 (PM 0.0/7.54)	*Junction with 101 to East of Carlotta*	*No*	*Unsigned Class III*	*0-8ft.*	*Shoulder paved and unpaved, sections with no shoulder.*	*35/45/55mph.*
2 (PM 7.54/R23.916)	*East of Carlotta to Alderpoint Road*	*No*	*Unsigned Class III*	*0-8ft.*	*Shoulder paved and unpaved, sections with no shoulder.*	*55mph*
3 (PM R23.916/45.681)	*Alderpoint Road to Humboldt County Line*	*No*	*Unsigned Class III*	*0-6ft.*	*Shoulder paved and unpaved, sections with no shoulder.*	*40/55 mph*

The HCAOG Regional Bicycle Plan proposes the addition of a Class III Bicycle Route to run along the entire length of SR 36 to the Humboldt Trinity County line. With this Class III Bicycle Route, the Regional Bicycle Plan calls for the addition of "Share the Road" signs. Furthermore the HCAOG Regional Bicycle plan recommends adding an "enhanced" (addition of shared use arrow or "Share the Road" sign) Class III Bicycle Lane from Fortuna City Limits along Rohnerville Road to the Junction with SR 36 with the intent of connecting the outlying Rural communities along SR 36 to Fortuna.

PEDESTRIAN FACILITY

The HCAOG Pedestrian plan suggests a separate pedestrian facility on unused railroad spurs between Hydesville and Carlotta, as SR 36 generally serves as pedestrian path between these rural communities and as a path to school for students.

Segment	Location Description	Pedestrian Access Prohibited	Sidewalk Present	Crossing Distance	Facility Description	Alternative Facility
1 (PM 0.0/7.54)	*Junction with 101 to East of Carlotta*	*No*	*No**	*30 ft.*	*Shoulder, varying width, mostly unpaved*	*No*
2 (PM 7.54/R23.916)	*East of Carlotta to Alderpoint Road Bridgeville*	*No*	*No*	*30 ft.*	*Shoulder, varying width, mostly unpaved*	*No*
3 (PM R23.916/45.681)	*Alderpoint Road to Humboldt/Trinity County Line*	*No*	*No*	*30 ft.*	*Shoulder, varying width, mostly unpaved*	*No*

**The only sidewalk present along SR 36 in District 1 is at Hydesville Elementary School.*

TRANSIT FACILITY

SR 36 has no established transit stops. HCAOG is currently considering adding dial-a-ride service to Hydesville and Carlotta. Dial-a-ride service requires no established stops, and operates on an "on-call" basis. If the dial-a-ride service is added in Hydesville, HCAOG will consider expanding operation to include Bridgeville if demand exists.

FREIGHT

Truck volumes on SR 36 are between 12 and 13 percent of the daily traffic, and trucks with five or more axles are between 2 and 5 percent of the daily traffic.

SR 36 may only accommodate California Legal Trucks with a king pin to rear axle (KPRA) length of less than 30 feet because of the curvilinear nature of the road. This limits the types of freight that may travel on SR 36 within District 1. The majority of freight that travels SR 36 serves local communities as well as industries (ranching and timber) located along the route.

Freight Generator	Location	Mode	Major Commodity/ Industry	Comments/Issues
SR 36	*Rural Land along SR 36*	*Truck*	*Ranching*	
SR 36	*Rural Land around Carlotta*	*Truck*	*Timber*	
US 101	*Rural Communities along SR 36*	*Truck*	*General freight*	*General Goods for communities along SR 36*

ENVIRONMENTAL CONSIDERATIONS

Most of SR 36 within District 1 is in a mountainous, forested region. Primary environmental considerations for route 36 include:

- Soil stability and landslides
- Wild and scenic rivers
- Cultural and archeological resources
- Endangered, threatened and rare Species
- Sensitive plants and communities
- Climate change effects and wildfires

The California Natural Diversity Database lists several species in the vicinity of SR 36 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 the table below. Moreover, the area around SR 36 is home to many sensitive plants and communities.

Species	Federal Status	California Status	Department Of Fish And Wildlife Status
Northern Red-Legged Frog	None	None	Species Of Special Concern
Foothill Yellow-Legged Frog	None	None	Species Of Special Concern
Osprey	None	None	Watch List
Western Snowy Plover	Threatened	None	Species Of Special Concern
Willow Flycatcher	None	Endangered	
Black-Capped Chickadee	None	None	Watch List
Yellow Warbler	None	None	Species Of Special Concern
Bald Eagle	Delisted	Endangered	Fully Protected
Cooper's Hawk	None	None	Watch List
Steelhead - Northern California DPS	Threatened	None	Species Of Special Concern
Southern Torrent Salamander	None	None	Species Of Special Concern
Western Pond Turtle	None	None	Species Of Special Concern
California Red-Legged Frog	Threatened	None	Species Of Special Concern
Golden Eagle	None	None	Fully Protected/Watch List
Northern Spotted Owl	Threatened	None	Species Of Special Concern
Foothill Yellow-Legged Frog	None	None	Species Of Special Concern
Northern Goshawk	None	None	Species Of Special Concern
Long-Eared Owl	None	None	Species Of Special Concern
Western Pond Turtle	None	None	Species Of Special Concern
Marbled Murrelet	Threatened	Endangered	
Pacific Fisher	Proposed Threatened	Candidate Threatened	Species of Special Concern
Coho salmon	Threatened	Threatened	
Chinook salmon	None	None	Species of Special Concern

SR 36 follows the Van Duzen River for most of the route in Humboldt County. The Van Duzen River is a wild and scenic river, and is also a Clean Water Act Section 303(d) impaired water, and has a total maximum daily load (TMDL) for sediment. Yager creek is also an impaired water with a TMDL for sediment.

No naturally occurring Asbestos (NOA) sites are identified in "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.

Figure 3 Redwood Tree Near Roadway

Climate change impacts such as drought may increase the chances of wildfires near SR 36 in the future. SR 36 is a crucial corridor for people living in the rural communities along the highway, and closure will have adverse effects on those communities. It is also crucial that SR 36 be maintained for use by wildland firefighters when necessary.

Along SR 36, there are many areas with large old–growth redwood trees in close proximity to the roadway. In some cases, these trees can be less than a foot from travel lanes. The presence of these trees precludes increasing shoulder width.

CORRIDOR PERFORMANCE

Traffic volumes (including truck traffic) are generally low on SR 36, with higher volumes on the segment that intersects with Route 101. Corridor performance for SR 36 is summarized in the following table:

CORRIDOR PERFORMANCE TABLE – STATE ROUTE 36

Segment	1 (PM 0.00-7.54)	2 (PM 7.54-R23.916)	3 (PM R23.916-45.681)
Basic System Operations			
AADT (BY- 2014)	3530	1770	1120
AADT (HY - 2034)	4240	2120	1340
LOS Method	HCM 2010	HCM 2010	HCM 2010
LOS* (BY)	C	C	B
LOS* (HY)	C	C	C
LOS Concept	None	None	None
DVMT (BY)	26600	28990	24380
DVMT (HY)	31970	34720	29170
Truck Traffic			
AADTT (BY)	450	140	140
Total Trucks (% of AADT) (BY)	12%	12%	13%
5+ Axle AADTT(BY)	50	30	30
5+ Axle Trucks (as % of AADT)(BY)	2%	3%	5%
Peak Hour Data			
Peak Hour Direction	West	West	West
Peak Hour Directional Split (BY)	60%	60%	60%
Peak Hour Volume (BY)	490	320	210
Peak Hour Volume (HY)	590	380	250
Peak Hour VMT (BY)	3700	5240	4570
Peak Hour VMT (HY)	4450	6220	5440

AADT – Annual Average Daily Traffic, AADTT – Annual Average Daily Truck Traffic, BY – Base Year, DVMT – Daily Vehicle Miles Traveled, HCM 2010 – Highway Capacity Manual 2010, HY – Horizon Year, LOS – Level of Service, VMT – Vehicle Miles Traveled

** LOS Differs from the District 2 SR 36 TCR because of updated peak hour volumes, truck percentages, and length of analysis segment.*

Horizon Year AADT projected from Caltrans District 1 2014 growth factors.

All of SR 36 in District 1 was analyzed for LOS as a class II highway. Some small portions of segment 2 and 3 may be considered a class III highway. It is expected that there may be a degradation of LOS in these areas.

ADDITIONAL TOPICS

Currently SR 36 encroaches on the runway safety area of Dinsmore Airport. As of 2008 HCAOG had received permission from the Federal Aviation Administration (FAA) for SR 36 to exist within the runway safety area. Realigning SR 36 away from the airport is cost prohibitive and would serve little public interest.

Due to the mountainous nature and Humboldt County's inclement winter weather, SR 36 is subject to slides and other storm damage. Currently SR 36 has six projects programmed in the 2014 State Highway Operations and Protection Program (SHOPP) to repair slides, slips, and sink holes.

Humboldt County has a project to move utilities underground through the Hydseville area. This will require coordination between the County and Caltrans for right-of-way and construction.

Buck Mountain Project (PM 36.1-42.5)

The Buck Mountain project is an operational improvement project to improve curves, and widen the roadway to accommodate two 12-foot lanes and 4-foot shoulders. The roadway will increase the curve radii from a minimum of 50ft. to 230ft or more, and reduce the grade from 12% to 8.9% through realignment. The project will have a design speed of 25 mph, an improvement over the existing conditions with locations that operate at 12 mph. The project is jointly funded through the SHOPP and Federal Highways Administration (FHWA) Federal Lands Access Program (FLAP – formerly Federal Highways Program).

KEY CORRIDOR ISSUES

Key issues for SR 36 include:

- Sections of SR 36 without striping in Segment 3: these sections include PM37.09/37.32, PM37.36/37.49, and PM37.6/40.5. The route is currently too narrow in these sections for a centerline stripe.
- SR 36 has multiple curves with advisory signs of 25 miles per hour or less.
- Throughout SR 36, the shoulder surface varies from paved to unpaved. Additionally there are areas with no shoulder in every segment of SR 36.
- Limited turnout and passing opportunities exist along the entire route.
- The use of unpaved turnouts tracks gravel onto the roadway.
- A multi-agency effort will be needed to address flooding in the community of Carlotta.
- Discussions between District 1 and California Department of Parks and Recreation indicate a need to improve access to the Grizzly Creek Redwoods State Park (GCRSP).

With the completion of the Buck Mountain project, the first two corridor issues will be resolved.

CORRIDOR CONCEPT

CONCEPT RATIONALE

SR 36 is not anticipated to grow significantly over the next 20 years due to its rural nature and low traffic volumes. Thus, SR 36 is expected to continue as a 2 lane conventional highway. No capacity improvements are planned or programmed for SR 36. Shoulder widening where feasible to meet minimum facility standards should be considered for SR 36. Safety improvements will be made as needs are identified, and the route will be maintained and rehabilitated as needed.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

Segment	Description	Planned or Programmed	Location	Source	Purpose	Implementation Phase
1	Shoulder Widening	Planned	Near US 101 and Alton PM 0.1/1.6	2016 SHOPP Candidate	Shoulder Widening	Short Term
2	Access Improvements	Planned	GCRSP PM 16.6	California Department of Parks and Recreation	Improve access to GCRSP	Short Term
3	Curve Improvement and Shoulder Widening	Programmed	Near Dinsmore PM 36.1/40.5	SHOPP 2012, Operational, FHWA FLAP	Increase Sightlines, meet minimum facility standards.	Short Term

In addition to these projects, six storm damage restoration projects totaling 12.66 million dollars are programmed in the 2014 SHOPP.

A project is planned at Grizzly Creek Redwoods State Park to improve access from SR 36 to the park. Currently sight distances is limited due to large redwoods trees near the entrance. A work order has been created to advance one recommendation, which is to add additional signage around the park, including a radar speed feedback sign, loop-activated flashing beacons, and additional signs.

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

The improvements listed on the following table will complete the Route Concept for SR 36.

Segment	Description	Location	Purpose	Implementation Phase
1,2,3	Widen and pave shoulder where feasible, emphasis on areas near towns and communities.	Throughout SR 36	Bicycle and Pedestrian Circulation.	Long Term

Widening of shoulders and pavement should be considered when rehabilitating the roadway.

APPENDICES

APPENDIX A: GLOSSARY OF TERMS AND ACRONYMS

Acronyms

AADT	Annual Average Daily Traffic
AADTT	Annual Average Daily Truck Traffic
BY	Base Year
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
HY	Horizon Year
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 B: 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 for 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.

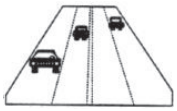
Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

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

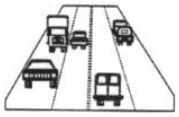
Horizon Year – The year that the future (20 years) data is based on.

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 C: 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) (http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/)
5. 2014 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
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”