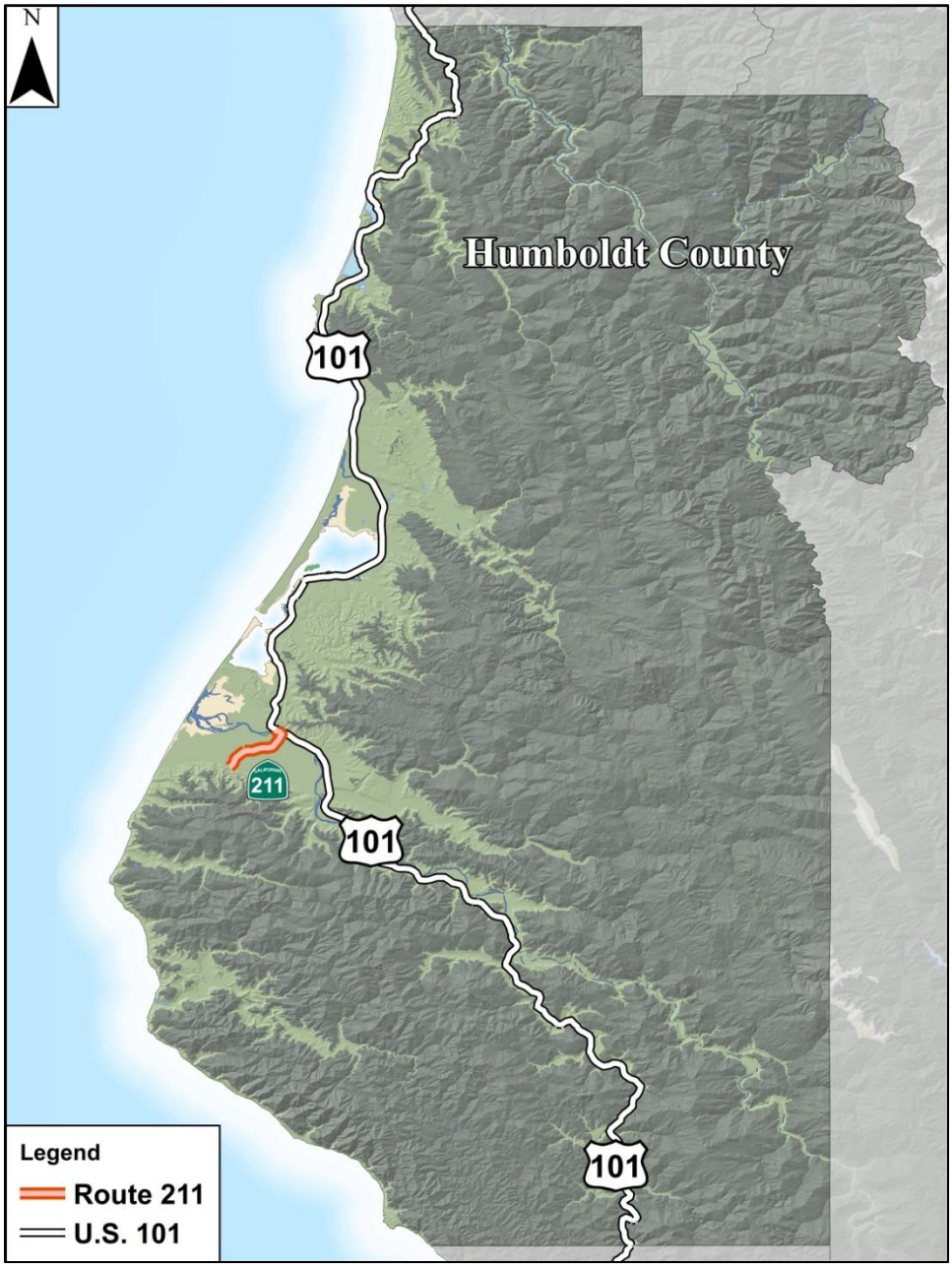
Transportation Concept Report

State Route 211

District 1

June 2014



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California Department of Transportation
Caltrans Improves Mobility Across California

Approval Recommended:

MJ Suchanek 6/25/14

Name Date
Mark Suchanek
Deputy District Director, Program Management
Caltrans District 1

Approval Recommended:

for MKB 6/24/14

Name Date
Matthew K. Brady
Deputy District Director, Maintenance/Operations
Caltrans District 1

Approval Recommended:

6/23/14

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

Approval:

6/28/2014

Name Date
Charles C. Fielder
District Director
Caltrans District 1

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ABOUT THE TRANSPORTATION CONCEPT REPORT

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

The System Planning process 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 Lower Eel River Valley including the Humboldt County Association of Governments and the City of Ferndale. Additionally, copies of this TCR were sent to local Native American tribes in the area including The Wiyot Tribal Council and Bear River Band of the Rohnerville Rancheria. The draft TCR was circulated to other functional units within the District and Headquarters System Planning for compliance and compatibility with District and Statewide directives and policies. Input was received and revisions made as appropriate.

EXECUTIVE SUMMARY

Route 211 is a legislatively designated route from State Route 1 near Rockport in Mendocino County to U.S. 101 south of Eureka in Humboldt County. Currently only the six mile long portion of Route 211 from the City of Ferndale to the route's junction with U.S. 101 is constructed to state standards. As a Result Route 211 serves as the primary access to U.S. 101 for the lower Eel River Valley and the City of Ferndale.

Concept Summary

Segment	Segment Description	Existing Facility	20-25 Year Capital Facility Concept	20-25 Year System Operations and Management Concept	20-25 Year Facility Concept	Post-25 Year Concept
Unconstructed (MEN-211-0.0/29.640)	Route 1 to MEN/HUM County Line, (Unconstructed)	Unconstructed	Unconstructed	Unconstructed	Unconstructed	Unconstructed
Unconstructed (HUM-211-0.0/73.200)	MEN/HUM County Line to Ocean Avenue Ferndale, (Unconstructed)	Unconstructed	Unconstructed	Unconstructed	Unconstructed	Unconstructed
1 (HUM-211-73.200/74.300)	Ocean Avenue to Market Street (Ferndale City Limits)	2-C	2-C	Safety improvements as identified, maintain and rehabilitate	2-C	2-C
2 (HUM-211-74.300/79.161)	Market Street to U.S. 101	2-C/E	2-C/E	Safety improvements as identified, maintain and rehabilitate	2-C/E	2-C/E

For the remainder of the document only the constructed portion of Route 211 will be considered
C = Conventional Highway, E = Expressway

Concept Rationale

The route concept serves as a guide for long range planning of route improvements, and protects the State's investment in Route 211. Furthermore, the route concept recognizes financial and environmental constraints, which will not allow the programming of extensive improvements for all state highways.

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

Segment #	Location Description	County_Route_Beg. PM	County_Route_End PM
1	Ocean Avenue (Ferndale) to Market Street (Ferndale City Limits)	HUM_211_73.2	HUM_211_74.3
2	Market Street to U.S. 101	HUM_211_74.3	HUM_211_79.161

ROUTE DESCRIPTION

Route 211 is located south of Eureka in Humboldt County, and runs from the City of Ferndale to U.S. 101. The first two segments of Route 211 are legislatively designated, but have not been adopted or constructed. Originally Route 1 was to extend from Rockport in Mendocino County to the current Junction of U.S. 101 and Route 211. Difficult terrain made the project unfeasible, so Route 1 was rerouted to meet U.S. 101 in the unincorporated community of Leggett. Consequently, the unconstructed portion and completed section of Route 1 from Ferndale to U.S. 101 was re-designated Route 211.

Route 211 Main Street Ferndale

Route 211 begins at Ocean Avenue in the City of Ferndale (pm 73.2) and continues to the city limits at Market Street (pm 74.3). From Market Street Route 211 continues northeast across agricultural lands in the lower Eel River Valley as a 2-lane expressway until crossing the Eel River over Fernbridge (PM 78.15-78.55). Route 211 continues northwest after Fernbridge to the route's junction with U.S 101 as a 2-lane conventional highway. The entire constructed portion of Route 211 is classified as a Rural Major Collector and has a length of approximately 6 miles. As a Major Collector Route 211 is responsible for connecting local traffic from the lower Eel River Valley to Humboldt County's Principal Arterial, U.S. 101.

A typical section of Route 211 in the Lower Eel River Valley (PM75.8)

Route 211 serves as the Main Street for the City of Ferndale, and is the primary roadway through the lower Eel River Valley. Additionally, Route 211 links county roads serving outlying coastal communities to U.S. 101. Due to the rural nature of the area local residents depend on Route 211 for commutes to work, school, and for most trips outside of the lower Eel River Valley. Furthermore, Route 211 is central to local dairy production.

Major features along Route 211 include Fernbridge, Ferndale's Historic District, Humboldt County Fairgrounds, and various natural attractions. The City of Ferndale is a popular tourist destination and is often described as the Victorian Village. As a result, Route 211 and the City of Ferndale are subject to seasonal recreational traffic.

Route Designations and Characteristics:

Segment #		1 (PM 73.2-74.3)	2 (PM 74.3-79.161)
Freeway & Expressway		No	Yes
National Highway System		No	No
Strategic Highway Network		No	No
Scenic Highway		No	No
Interregional Road System		No	No
High Emphasis		No	No
Focus Route		No	No
Federal Functional Classification		Rural Major Collector	Rural Major Collector
Goods Movement Route		No	No
Truck Designation		CA Legal	CA Legal
Rural/Urban/Urbanized		Rural	Rural
Regional Transportation Planning Agency		HCAOG	HCAOG
Local Agency		City of Ferndale	Humboldt County
Tribes		Wiyot, Bear River Band of the Rohnerville Rancheria	Wiyot, Bear River Band of the Rohnerville Rancheria
Air District		North Coast Unified	North Coast Unified
Terrain		Flat	Flat

COMMUNITY CHARACTERISTICS

Population	
Lower Eel River Valley	2,849
City of Ferndale	1,371
Age Distribution	
0-19	16.7%
20-39	20.5%
40-59	29.6%
60↑	27.1%
Race by Percentage	
White	84.7%
Hispanic	9.7%
Native American	1.6%
Asian	0.8%
Black	0.1%
Pacific Islander	0.1%
Two or More Races	2.9%
Transport	
Drive to Work	72.5%
Walk to Work	15.2%
Worked From Home	12.7%
Public Transport	0.9%
Other	0.7%
Commute Time (Minutes)*	17.6
Unemployment	
Humboldt County	8.4%
Lower Eel River Valley	5.2%
Median Household Income	
California	$61,400
Humboldt County	$40,830
Lower Eel River Valley	$50,745

2010 Census Data, for the lower Eel River Valley
**Average Commute Time Margin of Error +/-3.7 Minutes*

By serving as the City of Ferndale's Main Street, Route 211 is vital to the local economy, social setting, and culture. From Ocean Avenue (PM 73.2) to Shaw Avenue (PM 73.4) Route 211 travels through Ferndale's commercial center, a historical landmark with homes and businesses dating back to the late 1800's.

LAND USE

Segment	Place Type
1	*Rural Town*
2	*Agricultural Lands*

Place types and strategies as identified by the Smart Mobility Framework

Segment 1 runs through the City of Ferndale which is classified as a Rural Town by the Smart Mobility Framework. Due to Ferndale's historic nature and the implementation of building codes, very limited growth should be expected along Route 211 within the city limits. For the next five miles Route 211 runs through dairy and agricultural lands. Changes in land use along this section of Route 211 are unlikely; Humboldt County has provisions to deter conversion of agricultural land for residential use.

SYSTEM CHARACTERISTICS

Segment #		1 (PM 73.2-74.3)	2 (PM 74.3-79.161)
Existing Facility			
Facility Type		C (Main Street*)	C/E
General Purpose Lanes		2	2
Lane Miles		2.2	9.508
Centerline Miles		1.1	4.754
Median Width		0	0
Median Characteristics		Centerline Stripping	Centerline Stripping
Passing Lanes		0	0
Concept Facility			
Facility Type		C	C/E
General Purpose Lanes		2	2
Lane Miles		2.2	9.508
Centerline Miles		1.1	4.754
Passing Lanes		0	0
Post 25 Year Facility			
Facility Type		C	C/E
General Purpose Lanes		2	2
Lane Miles		2.2	9.508
Centerline Miles		1.1	4.754
Passing Lanes		0	0
TMS Elements			
TMS Elements (BY)		Traffic Count Stations	Traffic Count Stations
TMS Elements (HY)		Traffic Count Stations	Traffic Count Stations

C=Conventional Highway, E = Expressway

** Route 211 through the City of Ferndale is listed in the 2012 DSMP Update as a "Main Street"*

TRANSIT FACILITY

Currently there are no bus transit facilities serving the community of Ferndale. There is one bus stop located at Fernbridge that has seven northbound stops and, six southbound stops during weekdays. There are also northbound and southbound stops twice a day Saturdays and Sundays. Within the City of Ferndale dial a ride service is available to the elderly and disabled through Bridging the Gap and Humboldt Transit Authority.

BICYCLE FACILITY

State Bicycle Facility								Parallel Bicycle Facility		
Segment	Post Mile	Location Description	Bicycle Access Prohibited	Facility Type	Outside Paved Shoulder Width	Facility Description	Posted Speed Limit	Parallel Facility Present	Name	Facility Type
1	73.2-74.3	Ocean Avenue to Market Street	No	Shared Shoulder	8ft	Shared lane with on street parking.	25-35mph	Yes	Berding Street or 5th Street	Shared Lane
2	74.3-79.161	Market Street to U.S. 101	No	Shared Shoulder	0-8fth	Shared Shoulder	40-55mph	Yes	Grizzly Bluff to Waddington Road or Port Kenyon Road to Fulmor Road to Globe Lane	Shared Lane

The primary constraint to bicycle traffic on Route 211 is the width of Fernbridge and the bridge's steep approach ramps. Along the entire length of Fernbridge both lanes are 11 feet wide with no shoulder, as a result bicyclists must share the lane with motorized traffic. Additionally the steep approach ramps obscure motorists vision of the bridge deck. For most bicycle trips within the lower Eel River Valley there is no realistic alternative facility to Fernbridge.

Within the 2012 *Humboldt County Regional Bicycle Plan* 5.63 miles of proposed bikeway improvements are listed for the City of Ferndale. These improvements include Class II Bikeways* on city streets, and a Class III Bikeway* from Ocean Avenue to Market Street on Route 211.

Two popular bicycle touring routes also originate in the City of Ferndale. The first touring route travels along Grizzly Bluff Road to Blue Slide Road through the community of Rio Dell to U.S. 101, and is approximately 12.5 miles long. The second touring route travels 70 miles along Mattole Road to Bull Creek Flats Road where it connects to U.S. 101 near the unincorporated community of Weott. Additionally, Route 211 and local roads are utilized by two bicycle events. The first event, The Tour of the Unknown Coast, is a traditional bicycle tour with multiple routes to Cape Mendocino. The second event, The Kinetic Grand Championship, utilizes Route 211 as the final leg of a non-motorized race.

* *Full Definition of Bikeway Classes available in Appendix B*

PEDESTRIAN FACILITY

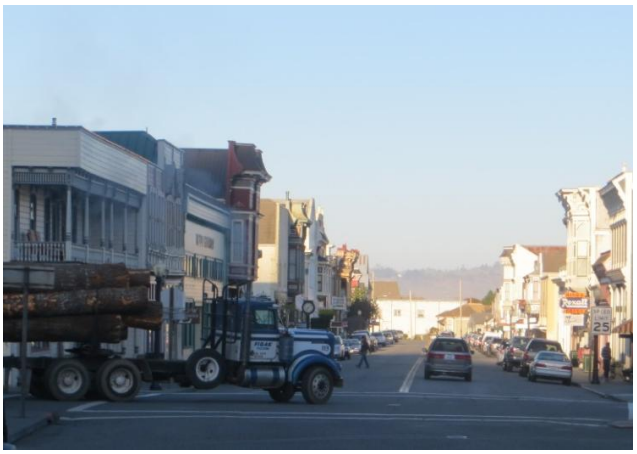
Segment	Post mile	Location Description	Ped. Access Prohibited	Sidewalk Present	Sidewalk Width	Crossing Distance	Facility Description	Alt. Facility
1	73.2-74.3	Ocean Avenue to Market Street	No	Yes	4ft	≈40ft	Sidewalk	Berding Street or 5th Street
2	74.3-79.161	Market Street to U.S. 101	No	No	n/a.	≈40ft	Shared Shoulder	None

Route 211 serves as the "Main Street" for the City of Ferndale, and as such is utilized by local residents for transport to work, school, and daily errands. Due to City of Ferndale's well connected sidewalks and small footprint these trips are often made on foot. Furthermore, the area's higher population of elderly residents and workers who commute by walking add to pedestrian traffic on Route 211. During summer months the downtown portion of the City of Ferndale is a popular destination for tourists who often choose to travel on foot. Finally, the Humboldt County Fairgrounds generates pedestrian travel for local events, especially during the county fair.

FREIGHT

Segment	Facility Type/ Freight Generator	Location	Mode	Major Commodity/ Industry	Comments/Issues
1/2	Timber	Mattole Road, Outskirts Eel River Valley	Truck	Logging	Timber from surrounding hills is transported along Route 211
2	Agriculture	Eel River Valley	Truck	Dairy, Feed, Livestock	Trucks collect milk from local farmers and deliver to the local creamery

A large portion of truck traffic on Route 211 is generated by the dairy industry, either in the transport of milk from dairies to the local creamery, transport of animal feed, or transport of livestock. The local creamery is located at the intersection of Route 211 and Fernbridge drive at the northern end of Fernbridge (PM 78.57). The creamery receives milk via truck from the lower Eel River Valley and other Humboldt County locations, and ships products out by truck for statewide distribution.



A loaded logging truck turns onto Route 211 (PM 73.2)

A loaded truck exiting the creamery (PM 78.56)

ENVIRONMENTAL CONSIDERATIONS

Biological Resources

The Eel River is a Recreational Wild and Scenic River that provides an aquatic and riparian habitat for many sensitive species. According to the EPA, the Eel River is both sediment and temperature impaired. Furthermore, the Eel River supports multiple special status species, including salmon and trout, which are sensitive to sediment and temperature changes, and must be considered during projects that could affect aquatic habitats.

SPECIES	DEPARTMENT OF FISH AND WILDLIFE STATUS
Northern Red-Legged Frog	Species of Special Concern
Foothill Yellow-Legged Frog	Species of Special Concern
Osprey	Watch List
Western Snowy Plover	Federally Threatened
Willow Flycatcher	CA Endangered
Black-Capped Chickadee	Watch List
Yellow Warbler	Species of Special Concern
California Brown Pelican	Federally Protected
Sea-watch	Watch List
Maple-leaved checkerbloom	Watch List
Humboldt Bay owl's-clover	Threatened
Lyngbye's sedge	Threatened
Nodding semaphore grass	Watch List
Heart-leaved twayblade	Watch List
Coho Salmon	Threatened (Oregon Border to Punta Gorda)
California Coastal Chinook Salmon	Federally Threatened
Steelhead Trout	Federally Threatened
Whitney's Farewell-to-spring	CA Endangered
Pacific gilia	CA Endangered
Glandular western flax	CA Endangered
Heart-leaved twayblade	CA Threatened
Siskiyou checkerbloom	CA Endangered

Table complied from Department of Fish and Wildlife California Natural Diversity Database

Cultural Resources

Route 211 travels through the traditional homeland of the Wiyot Tribe of Native Americans. The Wiyot Tribe and Bear River Band of the Rohnerville Rancheria should be consulted early in the planning process for projects along Route 211.

Route 211 provides access to historical locations throughout the lower Eel River Valley. At the Eel River Route 211 crosses over historic Fernbridge, which was built in 1911 and is considered one of the longest functional poured concrete bridges in the world. As a result of the historical and cultural significance of Fernbridge the bridge was federally designated in the National Register of Historic Places in 1987. In the City of Ferndale between Ocean Avenue and Shaw Avenue Route 211 travels through the Ferndale Historic District. The Historic District was added to the National Register of Historic Places in 1994. Furthermore, the entire City of Ferndale was included in the California Register of Historical Resources as a California Historical Landmark in 1975.

Historic Fernbridge (PM 78.15-78.55)

CORRIDOR PERFORMANCE

Segment #		1	2
		Basic System Operations*	
AADT (BY)		6060	5230
AADT (HY)		7270	6270
LOS Method		HCM	HCM
LOS (BY)		n/a†	E
LOS (HY)		n/a†	E
DVMT (BY)		6660	25400
DVMT (HY)		7990	30480
		Truck Traffic**	
Total Average Annual Daily Truck Traffic (BY)		720	690
Total Trucks (% of AADT) (BY)		12%	13%
5+ Axle Average Annual Daily Truck Traffic (BY)		62	60
5+ Axle Trucks (as % of AADT)(BY)		1%	1%
		Peak Hour Traffic Data	
Peak Period Length		1.0	1.0
Peak Hour Direction		South	South
Peak Hour Time of Day		PM	PM
Peak Hour Directional Split (BY)		55/45	55/45
Peak Hour VMT (BY)		670	2230
Peak Hour VMT (HY)		810	2670

**2012 Caltrans Traffic Volumes*

***2011 Caltrans Truck Traffic Volumes*

†Dut to Route 211's function as a "Main Street" LOS for Segment 1 is impractical

CORRIDOR ISSUES

- Route 211 is subject to closure during major flood events, as well as alternative routes out of the Eel River Valley. The Eel River reaches flood stage at 20 feet, between 23 and 24 feet the Eel River will flood the approach ramps of Fernbridge closing Route 211. Although channelization and widening of portions of Francis Creek adjacent to Route 211 has reduced some of the flooding issues within the City Limits of Ferndale, flooding of Route 211 still occurs in the city when the Eel River reaches flood stage.

- State highways or portions of state highways that have been legislatively designated but not adopted and maintained by Caltrans are called Traversable Highways[1]. The unadopted portions of Route 211 have not been constructed to state standards and are therefore considered a Traversable Highway. Due to high economic and environmental costs the Traversable Highway portion of Route 211 is not anticipated to be completed over the 20 year planning horizon and beyond. In the future the District may wish to pursue modification of the legislatively designated route description, which would require county support and legislative action.

Traffic platoon forming on Fernbridge (PM 78.2)

- As a two lane highway Route 211 has limited passing opportunities, passing is prohibited for approximately 75% of the route. As a result of limited passing opportunities traffic platoons can form along Route 211. Additionally traffic platoons can occur across Fernbridge when large vehicles cross the narrow bridge, or when non-motorized traffic must share a lane with motorized traffic.

Traffic crossing the intersection at the base of Fernbridge (PM 78.55)

- The intersection of Route 211 and Fernbridge Road has a unique layout. Within 200 feet of the northern approach ramp of Fernbridge there is a T-intersection, two commercial driveways, and an out of use railroad crossing. The narrow nature of Fernbridge and unique layout of the intersection can cause confusion about right-of-way, and make truck access difficult. In addition the steepness of Fernbridge's approach ramp obscures vision of the intersection for northbound traffic and of the bridge deck for southbound traffic.

[1] *From the 2013 Traversable H ighway Report Update*

CORRIDOR CONCEPT

CONCEPT RATIONALE

Over the planning period Route 211 is expected to see little growth. Furthermore, as a Rural Major Collector Route 211 offers a mix of accessibility and mobility while connecting traffic to U.S. 101. Consequently, limited growth, functional classification, and historically significant landmarks dictate a route concept of maintenance and rehabilitation as necessary. As a result efforts along Route 211 should focus on enhancing the function of Route 211 as a "Main Street" through the City of Ferndale.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES

No new facility projects are planned for Route 211.

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT

As a "Main Street," Route 211 is an ideal location for Complete Streets treatments. Possible Complete Streets treatments that could be beneficial to Route 211 are listed below. Any treatment considered for Route 211 should be consistent with the community character of the City of Ferndale, and conform to appropriate standards.

Segment	Description	Location
1	Curb extensions to increase pedestrian visibility	Near popular pedestrian destinations along segment 1. Including Intersections with Route 211 at: Ocean Avenue, Brown Street, Washington Street, and Shaw Avenue
1	Class III Bikeway to pull bicyclist from sidewalk and increase motorist awareness	From Ocean Ave. to Market St.
2	Pedestrian/Bicyclist activated bridge warning	North and south approach ramps of Fernbridge

Strategies Developed to 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 cooperate with local transportation and land use planning agencies on Route 211 to assure that the highway will be a community asset as well as provide for the safe movement of motorized and non-motorized traffic.

APPENDIX

APPENDIX A
GLOSSARY OF TERMS AND ACRONYMS

Acronyms

AADT- Annual Average Daily Traffic
ADA – Americans with Disabilities Act of 1990
ADT- Average Daily Traffic
CALTRANS – California Department of Transportation
CMA- Congestion Management Agencies
CEQA- California Environmental Quality Act
CSS – Context Sensitive Solutions
FHWA – Federal highway Administration
FSR – Feasibility Study Report
FSTIP- Federal Statewide Transportation Improvement Program
FTIP – Federal Transportation Improvement Program
GHG- Green House Gas
GIS – Geographic Information System
HCAOG- Humboldt County Associations of Governments
HCP- Habitat Conservation Plan
IGR-Intergovernmental Review
ITS – Intelligent Transportation System
LOS – Level of Service
MPO- Metropolitan Planning Organizations
NOA – Naturally Occurring Asbestos
NCCP- Natural Community Conservation Plan
NEPA- National Environmental Policy Act
PA&ED – Project Approval and Environmental Document
PID-Project Initiation Document
PS&E – Plans Specifications and Estimate
PSR- Project Study Report
RHNA- Regional Housing Needs Allocation
RTP- Regional Transportation Plan
RTIP – Regional Transportation Improvement Program
RTPA- Regional Transportation Planning Agencies
SAFETEA - Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2005
SCS- Sustainable Community Strategies
SHOPP- State Highway Operation Protection Program
STIP – State Transportation Improvement Program
TEA-21 Transportation Equity Act for the 21st Century
TDM – Transportation Demand Management
TMS – Transportation Management System
TSN- Transportation System Network
VMT – Vehicle Miles Traveled

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.

Bottlenecks – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

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.

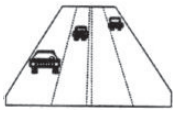
Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

Horizon Year – The year that the future (20-25 years) data is based on.

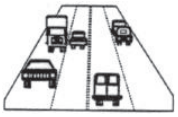
Intermodal Freight Facility – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or "transloaded") from one mode, such as rail, to another, such as truck.

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

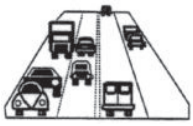
LOS – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels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



LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by 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 (Aux. lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or characteristic (e.g. HOV land to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

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

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

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

Planned– 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.

Platoon- From the *2010 HCM* "A group of vehicles or pedestrians traveling together as a group, either voluntarily or involuntarily because of signal control, geometrics, or other factors. "

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

1999 Route 211 Route Concept Report
2002 Route 101 Corridor Route Concept Report
2002 Traversable Highways Report
2007 EPA Lower Eel River Total Maximum Daily Loads for Temperature and Sediment
2010 Census, American Factfinder2
2010 Truck Traffic on the California State Highway System
2011 Truck Networks on California State Highways - District 1, June 23, 2011 revision
2012 Caltrans Lake County Economic Forecast
2012 Smart Mobility Framework Factsheet
2012 State Transportation Improvement Program
2012 Traffic Volumes on California State Highways
2012 Transportation Concept Report Guidelines
2013 Interregional Transportation Strategic Plan Status Update
California Historical Sites, California Office of Historic Preservation
CA Natural Diversity Database
CRS Maps
District 1 North Region Work Plan Status
Humboldt County General Plan Eel River Area Plan
National Register of Historic Places