Draft Transportation Concept Report

US 101

District 1

October 2017

Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 1 System Planning Division 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 Mission Statement
Provide 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) (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 is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMP Project List. The district-wide DSMP is a strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. 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. The CSMP is a complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. The DSMP Project List is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders, the public, and partner, regional, and local agencies. The following assumptions form the basis for the development of Transportation Concept Reports:

1. The relative importance of State highways in District 1 is generally based on functional classification. In general, higher priority is given to major improvements on principal arterial routes as compared to minor arterials, major collectors, and minor collectors.
2. Level of service calculations are based on the 2010 Highway Capacity Manual (see Appendix "A").
3. Determinations of future level of service for State highways in District 1 are based upon 20-year Growth Factors developed by Caltrans.
4. Concepts generally apply to an entire route or corridor, unless there are overriding considerations (e.g. a major change in function along the route or feasibility concerns).
5. Safety projects will be pursued when warranted for all segments along Route 101.
6. Environmental documents are not required for Transportation Concept Reports. Individual improvement projects identified in Transportation Concept Reports will follow established environmental processes when development is proposed, as required by law.

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

Internal and external stake holders were identified and drafts of the TCR were sent for comment to District 1 functional units. Internal stakeholders include: Headquarters System Planning and District 1 functional units (Traffic Operations, Hydraulics, Traffic Safety, Permits, Environmental, Maintenance). External stakeholders include: Mendocino Council of Governments (MCOG), Humboldt County Association of Governments (HCAOG), Del Norte Local Transportation Commission, the County of Mendocino, the County of Humboldt, the County of Del Norte, the City of Eureka, Crescent City, the California Coastal Commission, the California Coastal Conservancy, the Bureau of Land Management, The Redwood Community Action Agency, and California State

Parks. Sovereign governments include: the Yurok Tribe, the Resighini Rancheria, the Elk Valley Rancheria, the Smith River Rancheria, the Rohnerville Rancheria, the Table Bluff Reservation, the Blue Lake Rancheria, the Trinidad Rancheria, the Big Lagoon Rancheria, the Sherwood Valley Reservation, the Coyote Valley Reservation, the Cloverdale Reservation, the Hopland Rancheria, the Pinoleville Reservation, the Redwood Valley Reservation, and the Laytonville Rancheria. Stakeholder responses were considered, and revisions were made to the Draft TCR to address these comments.

EXECUTIVE SUMMARY

United States Highway 101 is the primary transportation route for Caltrans District 1, serving the majority of regional and interregional transportation. The US 101 corridor connects all but one of the major North Coast cities in District 1, including three of the four county seats. About 60% of the District's population resides in a census block within one mile of US 101. It is the District's primary route for freight, transit, and non-motorized traffic. In addition, US 101 provides access to other forms of transportation in District 1, including Humboldt Bay and both air carrier and general aviation airports.

20-YEAR FACILITY CONCEPT

The 20-year Facility Concept serves as a broad concept for US 101 throughout District 1 over the 20-year planning horizon, and is consistent with US 101's functional classification as a Principal Arterial, as well as US 101's function as a main street for communities it traverses. The 20-year facility concept focuses on projects that are deliverable within the next 20 years, and protects the State's investment in US 101, while recognizing environmental, economic, and context sensitive impacts.

All of Route 101:

- Maintain and rehabilitate as necessary
- Safety improvements – Safety is the highest priority of Caltrans and our Regional Partners. Safety improvements will be made as needs are identified.
- Widen paved shoulders where feasible to a minimum of 4 feet in rural areas and 5 feet in main street communities to accommodate non-motorized traffic.

Mendocino County:

- Hopland Bypass to Ukiah (PM 9.17/17.60): Upgrade existing 2-lane conventional highway to 4-lane freeway or expressway
- Willits Bypass (PM T43.50/48.44): Upgrade existing 2-lane freeway to 4-lane freeway.
- The remainder of Route 101 in Mendocino County: Maintain the existing Ultimate Facility Concept (i.e. a mixture of 4-lane freeway/expressway and 2-lane conventional highway.

Humboldt County:

- Richardson Grove (PM T0.0/R5.63): Develop access for industry standard (Surface Transportation Assistance Act – STAA) Trucks.
- City of Eureka (PM 74.78.79.57): Multi-modal operational improvements to address traffic congestion.
- The remainder of Route 101 in Humboldt County: Maintain the existing Ultimate Facility Concept (i.e. a mixture of 4-lane freeway/expressway and 2-lane conventional highway.

Del Norte County:

- "Last Chance Grade" (PM 12.5/15.5): Develop passing lanes in conjunction with this project.
- North of Route 199 to the Oregon State Line (PM 31.19/46.49): Develop passing lanes within this segment (excluding developed areas).
- Crescent City Couplet (PM 25.84/R27.87): Multi-modal operational improvements.
- The remainder of Route 101 in Del Norte County: Maintain the existing capital facility concept (i.e., a mixture of 4-lane freeway/expressway and 2-lane conventional highway/expressway.

ULTIMATE FACILITY CONCEPT

The Ultimate Facility Concept is Caltrans District 1's assessment of transportation needs past the 20-year planning horizon. This concept is not constrained to a specific timeline, and serves as a framework for developing projects on US 101. The Ultimate Facility Concept is subject to change based on new information, such as changes in: traffic volumes, funding levels, or policy. The Ultimate Facility Concept is the same as the 20-year Facility Concept, with the following exceptions:

Mendocino County:

- Expand all of U.S. Route 101 to a 4-lane freeway or expressway, with the exception of the Leggett to Red Mountain Creek segment (PM T91.25/R100.58), which will remain a 2-lane conventional highway.

Humboldt County:

- Develop the US Route 101 Eureka-Arcata Corridor as a "Climate Resillient Corridor", to address the impacts of sea level rise.

Del Norte County:

- The Ultimate Facility Concept is the same as the 20-year Facility Concept

LEVEL OF SERVICE CONCEPT

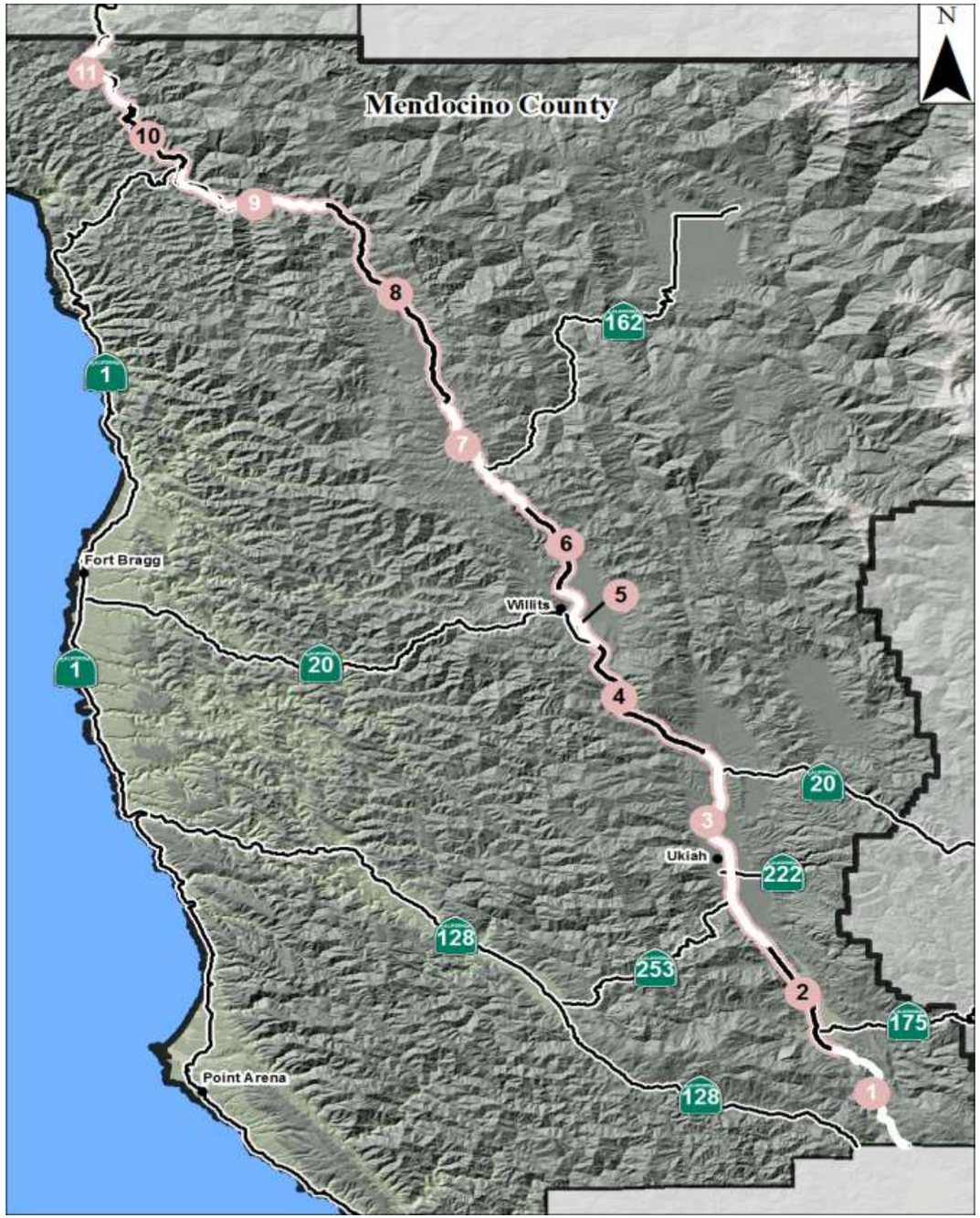
The Concept Level of Service for US Route 101 is:

- Maintain "C" or better for 4-lane freeway and expressway segments
- Maintain "D" or better for 2-lane conventional highway and expressway segments
- Segments where signalized intersections control traffic flow (e.g. City of Eureka and Crescent City) do not have a specified Concept Intersection Level of Service, as this TRC uses only Segment Level of Service for long range planning purposes.

CORRIDOR OVERVIEW

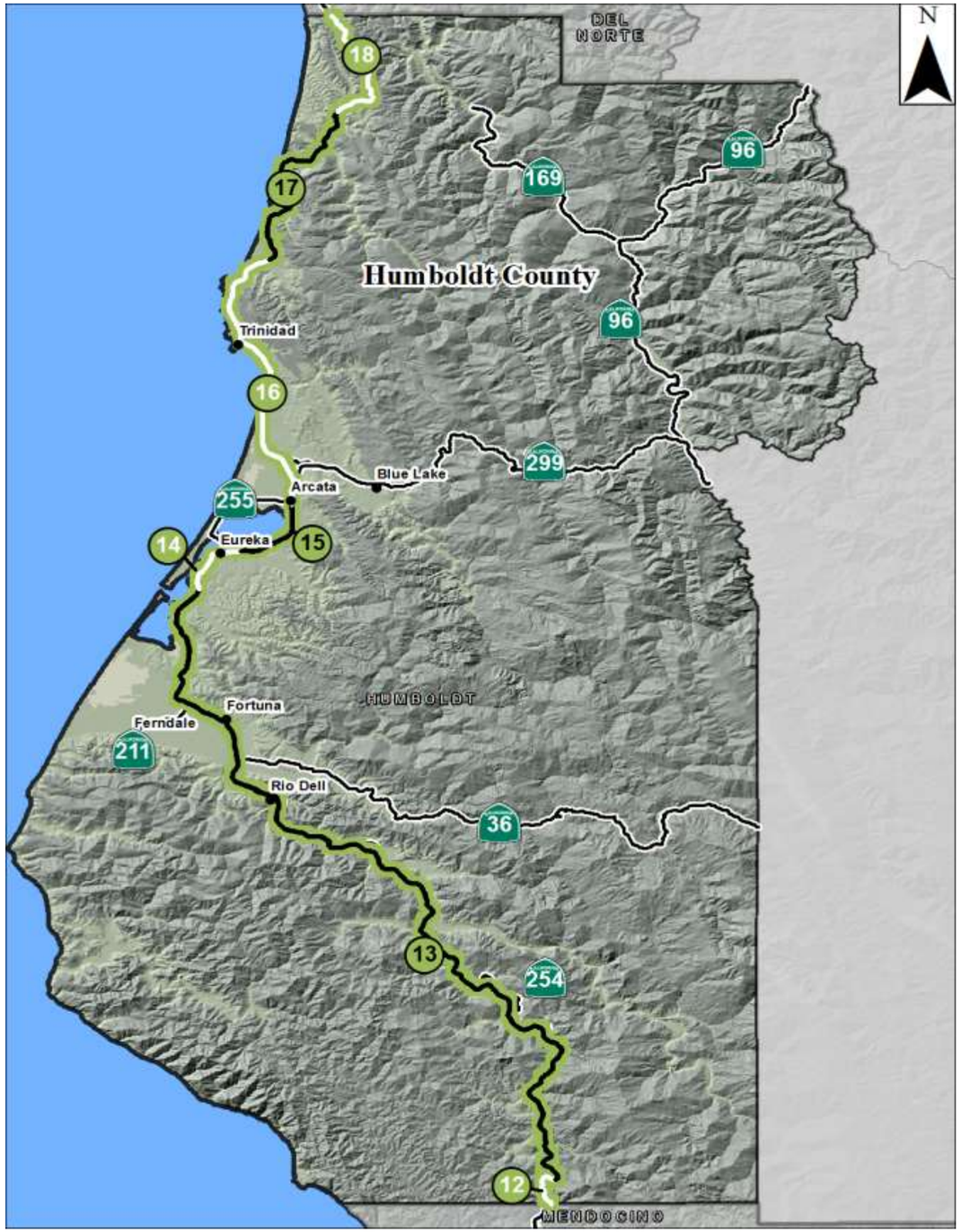
ROUTE SEGMENTATION

Mendocino County								
Segment	**Postmile Limits**	**Segment Description**	**Existing Facility**	**20 Year Capital Facility Concept**	**20 Year Facility Concept**	**Concept Source**	**Ultimate Capital Facility Concept**	**Ultimate Facility Concept**
1	R0.103-9.17	Sonoma/Mendocino County Line to East Side Road	4E*	4E	Maintain and Rehabilitate**	ITSP	4F	Convert to 4-Lane Freeway*
2	9.17-17.60	East Side Road to Beginning of 4-L Expressway south of Ukiah	2C*	4F	Upgrade to 4-lane facility where feasible	MCOG RTP	4F	Bypass of Hopland, Convert to 4-Lane Freeway
3	17.60-R32.62	Ukiah Valley Freeway	4F*	4F	Maintain and Rehabilitate	MCOG RTP, Intersection Study[1]	4F	Maintain and Rehabilitate
4	R32.62-T43.50	North State Street to the South End of the Willits Bypass	4E/4F	4E/4F	Maintain and Rehabilitate	RTP	4F	Maintain and Rehabilitate
5	T43.50-48.44	Willits Bypass	2F	4F	Upgrade to 4E/4F	RTP, ITSP	4F	Expand to 4-Lane Freeway
6	48.44-55.22	North End of the Willits Bypass to Big Trails Drive	2C	2C	Maintain and Rehabilitate	ITSP	4F	Convert to 4-Lane Freeway
7	55.22-64.70	Big Trails Drive to end of expressway south of Laytonville	4E	4E	Maintain and Rehabilitate	ITSP	4F	Maintain and Rehabilitate
8	64.70-81.43	South of Laytonville to Expressway north of Bell Springs Road	2C	2C	Maintain and Rehabilitate	ITSP	4E/4F	Bypass Laytonville, Convert to-4 Lane Freeway
9	81.43-T91.245	Expressway north of Bell Springs Road to end of Expressway at Junction US 101 and Route 1	4F	4F	Maintain and Rehabilitate	CT D1	4F	Maintain and Rehabilitate
10	T91.245-R100.58	Junction US 101 and Route 1 to beginning of expressway north of Elizabeth Jane Rosewarne Memorial Bridge	2C	2C	Maintain and Rehabilitate	CT D1 Leggett to Red Mountain Creek Feasibility Study	2C	Maintain and Rehabilitate
11	R100.58-T106.801	North of the Elizabeth Jane Rosewarne Memorial Bridge	4E/4F	4E/4F	Maintain and Rehabilitate	ITSP	4E/4F	Maintain and Rehabilitate



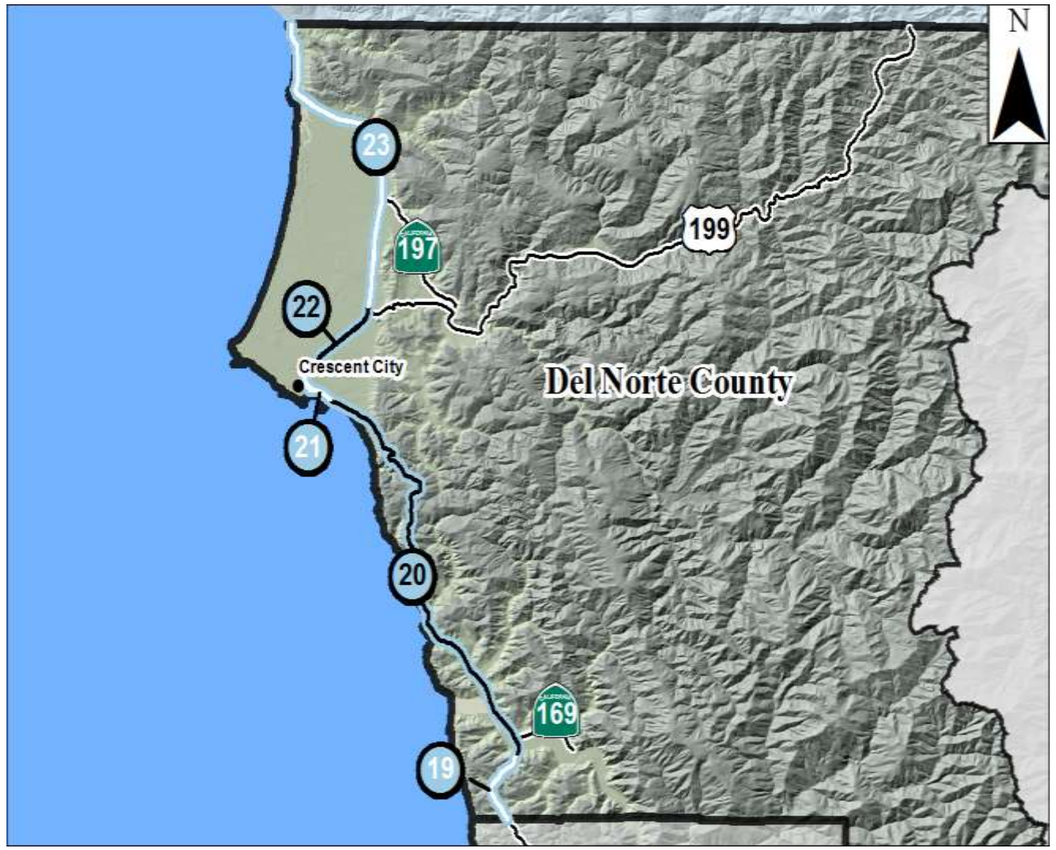
*C = Conventional Highway, E = Expressway, F = Freeway, 2 = 2-lane, 4 = 4-lane
**Safety projects will be pursued when warranted for all segments of Route 101.

Humboldt County								
Segment	**Postmile Limits**	**Segment Description**	**Existing Facility**	**20 Year Capital Facility Concept**	**20 Year Facility Concept**	**Concept Source**	**Ultimate Capital Facility Concept**	**Ultimate Facility Concept**
12	T0.0-R5.63	Mendocino/Humboldt County Line to the Edward C. Wagner Memorial Bridge	2C*	2C	Develop STAA Access	HCAOG RTP MCOG RTP DNLTC RTP ITSP	2C	Maintain Only
13	R5.63-74.78	Edward C Wagner Memorial Bridge to southern Eureka City Limits	4F*/4E*	4F/4E	Maintain and Rehabilitate **	ITSP	4F	Maintain Only
14	74.78-79.574	City of Eureka	4-6C	4-6C	Multi-Modal Operational Improvements	HCAOG RTP CT D1	4C/6-Lane Couplet	Multi-Modal Operational Improvements
15	79.574-85.83	Eureka Arcata Corridor	4E/F	4F	Complete Class I Non-Motorized Trail from Arcata to Eureka (Bay Trail North)	HCAOG RTP	4F	Climate Resilient Corridor
16	85.83-109.55	Junction US 101 Route 255 to Big Lagoon	4F	4F	Maintain and Rehabilitate	CT D1	4F	Maintain Only
17	109.55-R125.80	Big Lagoon to Redwood National Park Bypass	2C/4E	2C/4E	Maintain and Rehabilitate	ITSP	2C/4E	Maintain Only
18	R125.80-R137.14	Redwood National Park Bypass	4E/4F	4E/4F	Maintain and Rehabilitate	ITSP	4E	Maintain Only



*C = Conventional Highway, E = Expressway, F = Freeway, 2 = 2-lane, 4 = 4-lane
**Safety projects will be pursued when warranted for all segments of Route 101.

Del Norte County								
Segment	**Postmile Limits**	**Segment Description**	**Existing Facility**	**20 Year Capital Facility Concept**	**20 Year System Operations and Management Concept**	**Concept Source**	**Ultimate Capital Facility Concept**	**Ultimate Facility Concept**
19	M0.0-R3.56	Humboldt/Del Norte County Line to end of Freeway South of Klamath	4E*/4F*	4E/4F	Maintain and Rehabilitate **	ITSP, CT D1	4F	Maintain and Rehabilitate
20	R3.56-25.84	South of Klamath to Crescent City	2C*/E	2C/E	Add Passing Lanes at Last Chance Grade	ITSP, CT D1, DNLTC RTP?	2C	Maintain and Rehabilitate
21	25.84-R27.872	Crescent City (Couplet)	4-5C	4-5C	Multi-Modal Operational Improvements	CT D1, DNLTC RTP	4C/6-Lane Couplet	Multi-Modal Operational Improvements
22	R27.872-31.188	Parkway Drive to end of Freeway north of Junction US 101 and Route 199	4F	4F	Maintain and Rehabilitate	CT D1	4F	Maintain and Rehabilitate
23	31.188-46.492	North of Route 199 to the Oregon Border	2C	2C	Add Passing Lanes Where Necessary (Excluding Developed Areas)	CT D1	2C	Add Passing Lanes Where Necessary (Excluding Developed Areas)



*C = Conventional Highway, E = Expressway, F = Freeway, 2 = 2-lane, 4 = 4-lane
**Safety projects will be pursued when warranted for all segments of Route 101.

ROUTE DESCRIPTION

Route Location

As a United States Highway 101, US 101 traverses almost the entire West Coast of the continental United States (1,540 miles). US 101 originates at the junction US 101 with I-5 in Los Angeles and travels through California and Oregon to I-5 in Olympia, Washington. Within District 1, US 101 travels north from Sonoma County (District 4) through Mendocino County, Humboldt County, and Del Norte County, and on into Oregon (285 miles total in District 1). In Mendocino County, it begins approximately 30 miles from the coast, passes north through the unincorporated community of Hopland, then bypasses the cities of Ukiah and Willits before traversing through the unincorporated community of Laytonville, and bypassing the unincorporated communities of Leggett and Piercy in northern Mendocino County. US 101 continues northerly into Humboldt County, through Richardson Grove State Park, and bypassing numerous communities, as well as the cities of Rio Dell and Fortuna. The Route then traverses the City of Eureka, continuing around the east side of Humboldt Bay to bypass the City of Arcata, the community of McKinleyville, and the City of Trinidad, before passing through the community of Orick. In Del Norte County, US 101 crosses the Klamath River, passing through the community of Klamath before climbing "Last Chance Grade" and traversing Del Norte Redwoods State Park to Crescent City. US 101 then continues north through the community of Smith River to the California/Oregon State line.

Route Purpose

US 101 is the primary highway route for District 1, serving the majority of regional and interregional transportation. The US 101 Corridor connects all but one of the major North Coast[1] cities, including three of the four county seats in District 1. Within the region, US 101 connects the county seats of Ukiah, Eureka, and Crescent City. Approximately 60 percent of the North Coast's population resides in a census block within one mile of US 101. Consequently, US 101 is the district's primary freight, transit, and non-motorized route. As the primary freight route for District 1, US 101 is essential for transport of natural resources and finished products in and out of the region. Additionally, US 101 is utilized to transport forest materials to the Port of Humboldt for export. The primary airport for the region, the Arcata-Eureka Airport in McKinleyville, is located off of US 101. Additional smaller general aviation airports are located adjacent to US 101. As part of the Pacific Coast Bike Route (PCBR), US 101 serves touring cyclist traffic. The PCBR primarily runs north to south from British Columbia to Baja, Mexico. Through District 1 the PCBR runs along US 101 from the Oregon Border to Leggett, where it turns west on Route 1.

US 101 often serves two conflicting purposes as the primary interregional route for the North Coast and as a main street for local communities. As a main street, US 101 is responsible for a large volume of local trips as well as an increasing amount of non-motorized traffic[2]. US 101 serves as a freeway (grade separated facility) for the City of Ukiah, the City of Willits, the unincorporated community of Garberville, the City of Rio Dell, the City of Fortuna, the City of Arcata, and the unincorporated community of McKinleyville. US 101 serves as a main street for the unincorporated community of Hopland, the unincorporated community of Laytonville, the City of Eureka, the unincorporated community of Orick, Crescent City, and the community of Smith River.

Major Features

US 101 is the backbone for transportation along the Northern California coast, linking the Bay Area to the Oregon Coast. Furthermore, US 101 is the primary economic route for District 1 not only for freight mobility, but also for recreational travel. US 101 provides access to historic rural locations, and world-renowned natural attractions, including 262 square miles of State and National Parks, 290 miles of coastline, historic Benbow Inn, the historic City of Ferndale, the Lost Coast, and natural wonders such as Coast Redwoods and Roosevelt Elk.

[1] For the purpose of this document the North Coast refers to the Counties of Mendocino, Humboldt, and Del Norte.

[2] District 1 is currently collecting non-motorized counts in various locations throughout The District.

Public Airports

Airports play an important role in the economic development of a region. The North Coast Region has 235,000 annual aircraft operations. The number of aircraft and the annual operations for the highest volume regional airports are shown in the table below.

Mendocino County			
Airports	**# of Based Aircraft**	**Annual Aircraft Operations**	**Year Data Was Collected**
Ukiah Municipal Airport	*77*	*43,435*	*2015*
Willits Municipal Airport	*15*	*38,325*	*2016*

Humboldt County			
Airports	**# of Based Aircraft**	**Annual Aircraft Operations**	**Year Data Was Collected**
Garberville Airport	*18*	*16,425*	*2015*
Rohnerville Airport, Fortuna	*10*	*27,375*	*2015*
Murray Field, Eureka	*48*	*55,480*	*2016*
*Arcata/Eureka (located in McKinleyville) Airport**	*15*	*41,975*	*2016*

Del Norte County			
Airports	**# of Based Aircraft**	**Annual Aircraft Operations**	**Year Data Was Collected**
*McNamera Field, Crescent City**	*22*	*12,410*	*2016*

Airport Data obtained from: AirNav.com (http://www.airnav.com/airports/)

**Arcata/Eureka Airport and McNamera Field are the only airports in District 1 which provide commercial service.*

Travel and Tourism

Travel and tourism provides an economic boost to the region. District 1 generated $34.0 million in travel-generated tax revenue in 2016.

Mendocino County	
Travel-Generated Tax Revenue	*$16.4 Million*

Humboldt County	
Travel-Generated Tax Revenue	*$13.4 Million*

Del Norte County	
Travel-Generated Tax Revenue	*$4.2 Million*

Travel and Tourism data obtained from: *Dean Runyan Associates California Travel Impacts by County, 1992-2016* (http://www.deanrunyan.com/doc_library/CAImp.pdf)

ROUTE DESIGNATIONS AND CHARACTERISTICS:

Route Designations and Characteristics: Mendocino County											
Segment #	**1** (R0.103/9.17)	**2** (9.17/17.60)	**3** (17.60/R32.62)	**4** (R32.62/T43.50)	**5** (T43.50/48.44)	**6** (48.44/55.22)	**7** (55.22/64.70)	**8** (64.70/81.43)	**9** (81.43/T91.245)	**10** (T91.245/R100.58)	**11** (R100.58/T106.801)
Freeway/ Expressway/ Conventional	Expressway	Conventional	Freeway	Freeway/ Expressway	Freeway	Conventional	Expressway	Conventional	Freeway /Expressway	Conventional	Freeway /Expressway
Percent Freeway	0%	0%	100%	10%	100%	0%	0%	0%	71%	0%	96%
National Highway System	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Strategic Highway Network	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Eligible for Scenic Highway Designation	No	No	No	Eligible	No	No	No	No	No	Eligible	Eligible
Interregional Road System	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Federal Functional Classification	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial
Goods Movement Route	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Truck Designation	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	CA Legal
Rural/ Urban/ Urbanized[2]	Rural	Rural	Rural/ Urban	Rural	Rural	Rural	Rural	Rural	Rural	Rural	Rural
Regional Transportation Planning Agency	MCOG	MCOG	MCOG	MCOG	MCOG	MCOG	MCOG	MCOG	MCOG	MCOG	MCOG
Local Agency	Mendocino County	Mendocino County	Mendocino County, City of Ukiah	Mendocino County	Mendocino County, City of Willits	Mendocino County	Mendocino County	Mendocino County	Mendocino County	Mendocino County	Mendocino County
Tribes	Pomo	Pomo	Pomo, Coyote Valley Reservation, Pinoleville Reservation	Pomo	Pomo	Pomo, Coast Yuki	Coast Yuki, Kato	Kato, Sinkyone	Sinkyone	Sinkyone	Sinkyone, Mattole
Air District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District	Mendocino County Air Quality Management District
Terrain	Rolling	Flat	Flat	Rolling	Flat	Rolling	Mountainous	Rolling	Mountainous	Mountainous	Mountainous

Route Designations and Characteristics: Humboldt County								
Segment #		**12** (T0.0/R5.63)	**13** (R5.63/74.78)	**14** (74.78/79.574)	**15** (79.574/85.83)	**16** (85.83/109.55)	**17** (109.55/R125.80)	**18** (R125.80/R137.14)
Freeway/ Expressway/ Conventional		Conventional	Freeway/ Expressway	Conventional/One-Way Couplet	Freeway/ Expressway	Freeway/ Expressway	Expressway/ Conventional	Expressway
Percent Freeway		0%	90%	0%	18%	88%	0%	0%
National Highway System		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Strategic Highway Network		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Eligible for Scenic Highway Designation		Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible
Interregional Road System		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Federal Functional Classification		Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial
Goods Movement Route		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Truck Designation		65 ft. CA Legal/KPRA[3] Advisory	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA
Rural/ Urban/ Urbanized		Rural	Rural/ Urban	Urban	Urban	Rural/ Urban	Rural	Rural
Regional Transportation Planning Agency		HCAOG	HCAOG	HCAOG	HCAOG	HCAOG	HCAOG	HCAOG
Local Agency		Humboldt County	Humboldt County, City of Fortuna	City of Eureka	Humboldt County, City of Eureka, City of Arcata	Humboldt County, City of Arcata	Humboldt County	Humboldt County
Tribes		Mattole, Rohnerville Rancheria	Mattole, Sinkiyone, Wiyot	Wiyot	Wiyot	Wiyot, Yurok, Trinidad Rancheria	Yurok	Yurok
Air District		North Coast Unified Air Quality Management District						
Terrain		Rolling	Rolling/Flat	Flat	Flat	Flat/Rolling	Rolling	Mountainous

Route Designations and Characteristics: Del Norte County						
Segment #		**19** (M0.0/R3.56)	**20** (R3.56/25.84)	**21** (25.84/R27.872)	**22** (R27.872/31.188)	**23** 31.188/46.492)
Freeway/ Expressway/ Conventional		Freeway/Expressway	Expressway/ Conventional	Conventional/One-Way Couplet	Freeway	Conventional
Percent Expressway		90%	0%	0%	100%	4%
National Highway System		Yes	Yes	Yes	Yes	Yes
Strategic Highway Network		Yes	Yes	Yes	Yes	Yes
Eligible for Scenic Highway Designation		Eligible	Eligible/Designated (PM 11.0/23.1)	Eligible	Eligible	Eligible (PM 36.3/46.5)
Interregional Road System		Yes	Yes	Yes	Yes	Yes
Federal Functional Classification		Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial
Goods Movement Route		Yes	Yes	Yes	Yes	Yes
Truck Designation		Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA	Terminal Access Route STAA
Rural/Urban/Urbanized		Rural	Rural	Urban	Urban	Rural
County Transportation Commission		DNLTC	DNLTC	DNLTC	DNLTC	DNLTC
Local Agency		Del Norte County	Del Norte County	Del Norte County. Crescent City	Del Norte County	Del Norte County
Tribes		Yurok, Resighini Rancheria	Yurok, Tolowa, Elk Valley Rancheria	Tolowa, Elk Valley Rancheria	Tolowa	Tolowa, Smith River Rancheria
Air District		North Coast Unified Air Quality Management District	North Coast Unified Air Quality Management District	North Coast Unified Air Quality Management District	North Coast Unified Air Quality Management District	North Coast Unified Air Quality Management District
Terrain		Rolling/Mountainous	Flat/Rolling/Mountainous	Flat	Flat	Flat

[3] KPRA = Kingpin to rear-axle length

DEMOGRAPHICS: BY COUNTY

Population Mendocino County	
Mendocino County	87,841
Hopland	756
Ukiah	16,075
Willits	4,888
Laytonville	1,227
Leggett	122
Age Distribution Mendocino County	
0-19	24.6%
20-39	23.4%
40-59	28.4%
60↑	23.5%
Race by Percentage Mendocino County	
White	76.5%
White (Non-Hispanic Heritage)	68.6%
Hispanic or Latino Heritage	22.2%
Native American and Alaska Native	4.9%
Asian	1.7%
Black	0.7%
Pacific Islander	0.1%
Two or More Races	4.5%
Other Race	11.5%
Transport Mendocino County	
Drove to work alone	71.8%
Carpooled	12.2%
Worked from home	8.5%
Walked to work	4.9%
Bicycle	1.2%
Public transport	0.7%
Other	0.7%
Commute time (minutes)	18.5
Unemployment	
California	7.0%
Mendocino County	6.2%
Median Household Income	
California	$61,094
Mendocino County	$40,830
Top 3 Employers Mendocino County	
Retail trade	15.4%
Health care and social assistance	13.8%
Construction	8.7%

Population Humboldt County	
Humboldt County	134,623
Rio Dell	3,368
Fortuna	11,926
Eureka	27,191
Arcata	17,231
McKinleyville (CDP[4])	15,177
Trinidad	886
Orick (CDP)	357
Age Distribution Humboldt County	
0-19	23.6%
20-39	29.6%
40-59	26.9%
60↑	19.9%
Race by Percentage Humboldt County	
White	81.7%
White (Non-Hispanic Heritage)	77.2%
Hispanic or Latino Heritage	9.6%
Native American and Alaska Native	4.9%
Asian	1.7%
Black	0.7%
Pacific Islander	0.1%
Two or More Races	4.5%
Other Race	11.6%
Transport Humboldt County	
Drove to work alone	72.5%
Carpooled	10.6%
Worked from home	6.5%
Walked to work	6.0%
Bicycle	2.0%
Public transport	1.3%
Other	1.2%
Commute time (minutes)	17.5
Unemployment	
California	7.0%
Humboldt County	6.4%
Median Household Income	
California	$61,094
Humboldt County	$41,426
Top 3 Employers Humboldt County	
Health care and social assistance	14.4%
Retail trade	12.1%
Education services	10.9%

Population Del Norte County	
Del Norte County	28,610
Klamath (CDP)	779
Bertsch-Oceanview (CDP)	2,436
Crescent City	7,643
Smith River (CDP)	866
Age Distribution Del Norte County	
0-19	24.0%
20-39	27.3%
40-59	29.1%
60↑	19.6%
Race by Percentage Del Norte County	
White	77.9%
White (Non-Hispanic Heritage)	64.7%
Hispanic or Latino Heritage	17.8%
Native American and Alaska Native	7.8%
Black	3.5%
Asian	3.4%
Pacific Islander	0.1%
Two or More Races	4.5%
Other Race	6.9%
Transport Del Norte County	
Drove to work alone	86.8%
Carpooled	11.5%
Worked from home	5.8%
Walked to work	3.6%
Bicycle	0.9%
Public transport	0.3%
Other	1.2%
Commute time (minutes)	14.2
Unemployment	
California	7.0%
Del Norte County	8.7%
Median Household Income	
California	$61,094
Del Norte County	$37,909
Top 3 Employers Del Norte County	
Public administration	18.3%
Health care and social assistance	15.8%
Retail trade	10.6%

Data collected from the 2010 US Census, 2013 US Census Estimates, and US Bureau of Labor Statistics.

[4] CDP: Census Designated Place, unincorporated communities defined by each Census for statistical purposes.

LAND USE

Mendocino County	
Segment	**Place Type**
1	*Rural and Agricultural Lands*
2	*Rural and Agricultural Lands, Rural Town*
3	*Rural and Agricultural Lands, Compact Communities, Suburban Communities*
4	*Rural Lands*
5	*Compact Communities*
6	*Rural Lands*
7	*Rural Lands*
8	*Rural Lands, and Rural settlements*
9	*Rural Lands*
10	*Rural Lands*
11	*Rural Lands*

Humboldt County	
Segment	**Place Type**
12	*Rural Lands*
13	*Rural Lands, Rural Settlements, Suburban Communities, Compact Communities*
14	*Compact Communities*
15	*Rural & Agricultural Lands*
16	*Compact Communities, Suburban Communities*
17	*Rural Lands, Rural Settlements*
18	*Rural Lands*

Del Norte County	
Segment	**Place Type**
19	*Rural Lands*
20	*Rural Lands, Rural Settlements*
21	*Compact Communities*
22	*Rural Settlements*
23	*Rural and Agricultural Lands, Rural Settlements*

Place types are based off of the Smart Mobility Framework, a statewide framework to classify land uses and their relation to mobility as well as provide tools for transportation planning. Although many of the core principles of the Smart Mobility Framework are geared toward urban development, they can still apply to rural areas with some slight modifications. Listed below are the definitions of Smart Mobility place types and any modifications for rural areas:

- **Rural and Agricultural Lands:** Settlement patterns with widely spaced towns separated by farms, vineyards, orchard, or grazing lands. For the purpose of this TCR rural and agricultural lands can be split into agricultural lands and rural lands, undeveloped lands including forested lands.
- **Rural Towns:** Rural towns are a subset of rural and agricultural lands, and are classified by a mix of housing, services and public institutions in compact form that serve surrounding rural areas. Furthermore, rural towns exhibit a sense of community design. Examples of rural towns along US 101 include: Hopland, Laytonville, and Garberville.
- **Rural Settlements:** Rural settlements are also a subset of Rural and Agricultural Lands, and consist of scattered dwelling units, supporting commercial uses, and public facilities. Rural Settlements differ from Rural Towns in that they don't contain a strong sense of community design. Examples of Rural Settlements along US 101 include: Leggett, Orick, Miranda, Weott, Myers Flat, and Klamath.

The counties along US 101 follow a rural community distribution. In this distribution, the county seat acts as a central hub for work, retail, and education. As the distance increases from the county seat, populations decrease, and more small rural communities are found. A strong sense of community is often present in these small communities, and employment revolves around commuting to the county seats for employment.

- **Compact Communities:** Historic cities and towns as well as newer places characterized by strong presence of community design elements. Examples include: Ukiah, Willits, Rio Dell, Fortuna, Eureka, Arcata, and Crescent City.
- **Suburban Communities:** The distinguishing characteristic of suburban communities along US 101 includes low mixed use, small downtown areas, lower presence of community, and reduced connectivity. Examples include the Redwood Valley in Ukiah, Scotia, and McKinleyville.

SYSTEM CHARACTERISTICS

Mendocino County											
Segment #	**1** (R0.103/9.17)	**2** (9.17/17.60)	**3** (17.60/R32.62)	**4** (R32.62/T43.50)	**5** (T43.50/48.44)	**6**(48.44/55.22)	**7** (55.22/64.70)	**8** (64.70/81.43)	**9** (81.43/T91.245)	**10** (T91.245/R100.58)	**11** (R100.58/T106.801)
Existing Facility											
Facility Type	E	C	F	F/E	F	C	E	C	F/E	C	E
General Purpose Lanes	4	2	4	4	2	2	4	2	4	2	4
Lane Miles	36.68	19.69	60.08	43.52	10.06	15.57	37.92	37.61	39.26	18.67	26.36
Centerline Miles	9.17	8.43	15.02	10.88	5.03	6.78	9.48	16.73	9.82	9.34	6.22
Median Width	12’-13’	0	22’-46’	4’-22’	4'	0’	4’	0’	4’	0	4’
Median Characteristics	Paved	n/a	Landscaped	Landscaped, Paved	Paved	n/a	Paved	n/a	n/a	n/a	n/a
Barrier Type	Concrete, Barrier Stripe	Barrier Stripe	MBGR, Cable, Fence, Concrete	Barrier Stripe, MBGR, Concrete	Barrier Stripe	Barrier Stripe	Barrier Stripe	Barrier Stripe	Barrier Stripe	Barrier Stripe	Barrier Stripe
Passing Lane Miles	n/a	Yes	n/a	n/a	n/a	1.57	n/a	4.19	n/a	0.49	n/a
Truck Climbing Lane Miles	n/a	n/a	n/a	n/a	n/a	0.44	n/a	n/a	4.52	n/a	1.48
20 Year Facility Concept											
Facility Type	E	F/E	F	F/E	F	F	E	C	F/E	C	F
General Purpose Lanes	4	2	4	4	4	4	4	2	4	2	4
Lane Miles	36.68	33.72	60.08	43.52	20.12	13.56	37.92	33.46	39.26	18.67	24.884
Centerline Miles	9.17	8.43	15.02	10.88	5.03	6.78	9.48	16.73	9.82	9.34	6.22
Ultimate Facility Concept											
Facility Type	F	F	F	F/E	F	F	E	F	F	C	F
General Purpose Lanes	4	4	4	4	4	4	4	4	4	2	4
TMS Elements											
TMS Elements (BY)	None	RWIS	CCTV, CMS, WIM	CCTV	None	EMS	None	None	RWIS, EMS, Detection	CCTV, EMS, Detection	CCTV
TMS Elements (HY)	To Be Determined (TBD)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

System Characteristics: Humboldt County							
Segment #	**12** (T0.0/R5.63)	**13** (R5.63/74.78)	**14** (74.78/79.574)	**15** (79.574/85.83)	**16** (85.83/109.55)	**17** (109.55/R125.80)	**18** (R125.80/R137.14)
Existing Facility							
Facility Type	C	F/E	C	F/E	F/E	C/E	E
General Purpose Lanes	2	4	4/6 Couplet	4	4	2	4
Lane Miles	7.5	280.23	21.68	25.024	95.80	33.61	45.2
Centerline Miles	3.4	68.87	4.79	6.256	23.64	16.07	11.3
Median Width	0’	2-40’	12’	22’-80’	4’-54’	0’-4’	6’
Median Characteristics	n/a	Landscaped, Paved	Paved[1]	Landscaped	Landscaped	Paved	Paved
Barrier Type	Barrier Striping	Barrier Stripe, Concrete, MBGR, Cable	Two way Left Turn	MBGR, Barrier Stripe	Cable	Barrier Stripe	Barrier Stripe
Passing Lane Miles	n/a	n/a	n/a	n/a	n/a	0.73	n/a
Truck Climbing Lane Miles	n/a	4.75	n/a	n/a	0.79	n/a	n/a
20 Year Facility Concept							
Facility Type	C	F/E	C	F	F/E	C/E	E
General Purpose Lanes	2	4	4/6 Couplet	4	4	2	4
Lane Miles	7.5	280.23	21.68	25.024	95.80	33.61	45.2
Centerline Miles	3.4	68.87	4.794	6.256	23.64	16.07	11.3
Ultimate Facility Concept							
Facility Type	C	F/E	C	F	F	F/E	E
General Purpose Lanes	2	4	4-6 Couplet	4	4	4	4
TMS Elements							
TMS Elements (BY)	None	CCTV, CMS, RWIS, EMS, WIM, Detection	CCTV, RWIS, EMS, HAR, Detection	EMS	CCTV, CMS, EMS, HAR	EMS	RWIS
TMS Elements (HY)	TBD	TBD	Adaptive Signal Control, CCTV, Fiber Connection	TBD	TBD	TBD	TBD

System Characteristics: Del Norte County					
Segment #	**19** (M0.0/R3.56)	**20** (R3.56/25.84)	**21** (25.84/R27.872)	**22** (R27.872/31.188)	**23** (31.188/46.492)
Existing Facility					
Facility Type	F/E	C/E	C	F	C
General Purpose Lanes	4	2	2/4 Couplet	4	2
Lane Miles	14.24	49.72	8.39	13.264	31.13
Centerline Miles	3.56	21.13	2.032	3.316	15.304
Median Width	4'-6'	0-12'	n/a	6-7'	0
Median Characteristics	Paved	Paved	Paved	Landscaped	n/a
Barrier Type	Barrier Stripe	Barrier Stripe, Two Way Left Turn, Concrete	Two Way Left Turn, Barrier Stripe	Barrier Stripe	Barrier Stripe
Passing Lane Miles	n/a	7.46	n/a	n/a	n/a
Truck Climbing Lanes	n/a	n/a	n/a	n/a	n/a
20 Year Facility Concept					
Facility Type	F	C/E	C	F	C/E
General Purpose Lanes	4	2	2/4 Couplet	4	2
Lane Miles	14.24	TBD[5]	8.39	13.264	31.13
Centerline Miles	3.56	TBD	2.032	3.316	15.304
Ultimate Facility Concept					
Facility Type	F	C/E	C	F	C/E
General Purpose Lanes	4	2	2/4 Couplet	4	2
TMS Elements					
TMS Elements (BY)	None	CCTV, CMS, RWIS, EMS	EMS, HAR	CCTV, EMS	CCTV, CMS, EMS
TMS Elements (HY)	TBD	TBD	TBD	TBD	TBD

Currently, 1 fiber optic communication line is available in District 1; this line is buried underground and is coincident with US Route 101 in District 1. Fiber optic communications would be necessary should the district desire to upgrade TMS elements including: real time traffic monitoring, HD CCTV, and advance traffic management systems. Installation of fiber optic communication capabilities should be considered in conjunction with other ITS projects in high volume areas. Should additional fiber optic lines be pursued near US 101, District 1 should investigate gaining access to the line.

[5] 20-Year Facility Concept lane miles will not be available until the "Last Chance Grade" project is developed and the length of the passing lanes is known.

BICYCLE FACILITIES

Bicycle Facilities: Mendocino County										
Segment	State Bicycle Facility							Parallel Bicycle Facility		
	Postmile Limits	Facility Type	Outside Paved Shoulder Width	Facility Description	Terrain	Posted Speed Limit	Parallel Facility Present	Name	Location Description	Facility Type
1-3	R0.103/ R32.62	Shared Roadway	2'-10' (Majority at 6-8')	Generally Highway conditions with the exception of Hopland	Flat/Rolling	35-65 mph	No	n/a	n/a	n/a
4	R32.62/ T43.50	Shared Roadway	3'-10' (Majority at 4-8')	Curvilinear Expressway with some steep grades	Rolling	55-65 mph	No	n/a	n/a	n/a
5	T43.50/ 48.44	Shared Roadway	8'	Bypass of Willits	Flat	55 mph	Yes (PM 44.0/48.3)	SR 20, Willits City Streets PM 44.0/48.3	Conventional Highway, City Streets	Shared Roadway
6-7	48.44/ 64.70	Shared Roadway	0'-14' (Majority at 3-4')	Curvilinear Highway with some steep grades	Rolling/ Mountainous	55-65 mph	No	n/a	n/a	n/a
8	64.70/ 81.43	Shared Roadway	5'-6'	Laytonville North (Class II Bike Lane in Laytonville on Route 101)	Rolling	35-65 mph	Yes (PM 68.90/69.49)	Long Valley Creek Bridge	Rattlesnake Creek Bridge	Shared Roadway
9	81.43/ T91.245	Shared Roadway	3'-10' (Majority at 3-4')	Curvilinear Expressway with some steep grades	Mountainous	65 mph	No	n/a	n/a	n/a
10	T91.245/ M100.58	Shared Roadway	0'-8' (Majority at 1-4')	Confusion Hill, Shoulders limited by terrain and trees	Mountainous	55 mph with advisories	No	n/a	n/a	n/a
11	M100.58/ T106.801	Shared Roadway	2'-10' (Majority at 3-8')	Freeway with some steep grades	Mountainous	65 mph	Yes (PM 84.5/106.8)	SR 271	Conventional highway	Shared Roadway

Bicycle Facilities: Humboldt County										
Segment	State Bicycle Facility							Parallel Bicycle Facility		
	Post Mile	Facility Type	Outside Paved Shoulder Width	Facility Description	Terrain	Posted Speed Limit	Parallel Facility Present	Name	Location Description	Facility Type
12	T0.0/ R5.63	Shared Roadway	2'-12' (Majority at 2-4')	Richardson Grove, Proximity to Redwoods Limits Shoulder Width	Rolling	35-55 mph	Yes (PM 0.0/.3)	SR 271	Conventional highway	Shared Roadway
13	R5.63/ 74.78	Shared Roadway	4'-10' (Majority at 4-8')	Curvilinear Expressway with some steep grades	Rolling/Flat	65 mph	Yes (PM 10.9/14.4, 17.9/47.8, 50.6/53.5 58.7/70.7, 72.7/73.8)	Redwood Dr., Avenue of the Giants, Railroad Ave., Wildwood Ave., Eel River Dr., Kenmar Rd., 12th St., Main St. Fortuna, Tompkins Hill Rd., South Broadway Ave.)	Conventional highway, county roads, city streets	Shared Roadway
14	74.78/ 79.574	Shared Roadway	0'-14' (Majority at 8')	US 101 through the City of Eureka	Flat	30-55 mph	Yes PM 78.0/79.5)	1st-3rd St., 6th-7th St.	City Streets	Shared Roadway
15-16	79.574/ 109.55	Shared Roadway	2'-10' (Majority at 8')	General Freeway Conditions some steep grades	Flat/Rolling	50-65 mph	Yes (PM 85.1/88.8, 89.9/94.0, 95.8/97.1, PM 98.4/100.9)	Alliance Rd., Janes Rd., Central Ave., Airport Rd., Clam Beach Dr., Westhaven Dr.	City Streets, county roads	Shared Roadway
17-18	109.55/ R137.14	Shared Roadway	0'-12' (Apx. 40% at 2-4') Apx, 60% at 8')	Curvilinear Highway with some steep grades	Rolling/ Mountainous	35-65 mph	Yes (PM 126.0/137.1)	Newton B Drury Scenic Parkway	Scenic Route through Prairie Creek Redwoods State Park	Shared Roadway

Bicycle Facilities: Del Norte County										
Segment	State Bicycle Facility							Parallel Bicycle Facility		
	Post Mile	Facility Type	Outside Paved Shoulder Width	Facility Description	Terrain	Posted Speed Limit	Parallel Facility Present	Name	Location Description	Facility Type
19-20	M0.0/ 25.84	Shared Roadway	0'-8' (Majority at 1-4')	Curvilinear Highway with limited shoulder in some areas and some steep grades	Flat/Rolling/ Mountainous	30-65 mph	Yes (0.0/0.3)	Newton B Drury Scenic Parkway	Scenic Route through Prairie Creek Redwoods State Park	Shared Roadway
21	25.84/ R27.872	Shared Roadway	2'-10' (Majority at 2')	US 101 through Crescent City	Flat	30-55 mph	Yes (PM 25.8/36.0)	Railroad Ave., Lake Earl Dr.	City Streets, County Roads	Shared Roadway
22-23	R27.872/ 46.492	Shared Roadway	1'-8' (Apx. 40% at 4-5') (Apx. 55% at 8')	US 101 north of Crescent City	Flat	35-65 mph	Yes (PM 36.5/45.9)	Fred Haight Dr., Sanria Rd., Ocean View Dr.	County roads	Shared Roadway

Interregional Bicycle Travel

As part of the Pacific Coast Bike Route (PCBR), US 101 serves interregional bicycle travel. In the United States the PCBR follows US 101 through Washington and Oregon, entering District 1 in Del Norte County. Within District 1, the PCBR follows US 101 through Del Norte, Humboldt, and Mendocino County until Leggett where the PCBR turns southwest to follow Route 1 into Sonoma County. Furthermore, interregional bicycle travel could choose to continue south on US 101 as all routes in District 1 permit bicycle use. Primary bicycle facilities for US 101 include mixed-use shoulders and shared travel lanes in spot locations. Alternative routes to US 101 exist in some locations, offering scenic views and reduced traffic volumes.

Regional Bicycle Travel

The majority of regional bicycle travel along Route 101 occurs within Eureka and between Eureka and Arcata. In 2012, Caltrans District 1 re-paved and re-striped Route 101 between Eureka and Arcata to provide ten-foot paved shoulders with shoulder rumble strip, and colored the shoulders terracotta to visually separate shoulders from the traveled way. To improve non-motorized safety, provide separation between motorized and non-motorized traffic, and increase bicycle and pedestrian travel between Eureka and Arcata, Phase I of the Bay Trail North Project will construct a Class-I non-motorized path from Arcata to Bracut.

Bicycle Improvements

The majority of US 101 has adequate shoulders for experienced cyclists. Portions of US 101 do not have standard shoulder widths for a variety of reasons including environmental constraints, limited funding for shoulder widening projects, topography, and legacy[5] structures. Shoulder limitations along US 101 occur predominantly in rural two lane segments where US 101 travels through rolling or mountainous terrain. Due to the terrain, US 101 follows a curvilinear path often in close proximity to sensitive natural resources. As a result, obtaining additional shoulder width is not feasible in certain locations, and improvements including alternate routes, and cyclist activated warning signs should be pursued at locations where warranted.

Through district-level planning and implementation, Caltrans can help agency partners and stakeholders connect networks across jurisdictional boundaries that create comfortable experiences for all users, and meet California's diverse urban, suburban, and rural contexts.

PEDESTRIAN FACILITIES

Mendocino County						
Segment	**Post mile**	**Location Description**	**Ped. Access Prohibited**	**Sidewalk Present**	**Sidewalk Width**	**Facility Description**
1-4	R0.103/ T43.5	Sonoma/Mendocino County line North to the Greater Ukiah Valley	Yes (PM 17.5/R33.9)	Only within the Community of Hopland	5'-8' Hopland	Predominantly mixed use shoulder, sidewalks present in Hopland
5-11	T43.50/ T106.801	101 Willits North	Yes (PM R43.5/48.7, R84.5/T91.2)	Only in Laytonville	6' Laytonville	Predominantly mixed use shoulder, minimal sidewalks in Laytonville
Humboldt County						
12-13	T0.0/ 74.78	Mendocino/Humboldt County line North to Eureka	Yes (PM R5.6/74.78	No	n/a	Mixed use shoulder
14	74.78/ 79.574	City of Eureka	No	Yes	4'-8'	Sidewalk/ADA gaps
16-18	85.83/ R137.14	Arcata North	No	No	n/a	Mixed Use Shoulder
Del Norte County						
19-20	M0.0/ 25.84	Humboldt/Del Norte County line North to Crescent City	No	No	n/a	Mixed use shoulder
21	25.84/ R27.872	Crescent City	No	Yes	4'-8'	Sidewalk/ADA gaps
22-23	R27.872/ 46.492	101 North of Crescent City	No	Yes (Smith River PM 43.4/43.7)	6'	Mixed Use Shoulder/ Sidewalk through Smith River

Main Street Facilities

Where US 101 serves as a main street it is expected to experience higher volumes of pedestrians and bicyclists. Pedestrian and bicycle facilities vary in communities where US 101 serves as a main street, but in general rural communities have less developed pedestrian infrastructure compared with urban facilities. The most common facility problems for rural communities include: lack of a complete or coherent sidewalk network and a limited number of visual cues alerting drivers to non-motorized users. In contrast, more densely populated cities have complete sidewalk networks and more visual cues. The following improvements should be considered for areas where US 101 functions as a main street:

- **Complete Sidewalk Networks:** a uniform sidewalk improves pedestrian usability and safety. Protected facilities should be provided for both pedestrians and bicyclists whenever feasible.

- **Improved Crossings:** crossings can be improved through the appropriate combination of bulbouts, raised medians, pavement markings, and advance warning devices.

- **Landscaping:** the use of landscaping should be considered where it is consistent with community plans, and helps differentiate pedestrian and bicycle spaces from the traveled way. Furthermore, if landscaped facilities are determined to be mutually beneficial to Caltrans and our partner agencies, cooperative maintenance agreements should be explored.

Pedestrians on the State Highway

US 101 is one of the few routes in District 1 with large segments of freeway. In general, freeway access by pedestrians is prohibited. Pedestrians are allowed to use the shoulder in freeway areas where no feasible alternative route for pedestrians exists.

TRANSIT FACILITIES

Regional Bus Transit

In addition to the bus routes listed in the tables below, shorter local bus routes are offered by county transit providers in cities and communities along US 101. Furthermore, bus routes from Eureka Transit, Arcata & Mad River Transit Service, Redwood Transit System, and Blue Lake Rancheria Transit System offer various routes through their respective cities, some of which utilize US 101.

Interregional Bus Transit

Interregional bus travel along US 101 is available throughout Mendocino County through Mendocino Transit Authority. Additionally bus service from Garberville north to Brookings Oregon is offered through a combination of bus routes from Redwood Transit System (Humboldt County), Redwood Coast Transit, and Curry Public Transit (Curry County Oregon). Currently, there is a 67-mile gap between Willits and Garberville that does not provide connected county bus service. Transit service is offered throughout District 1 from Amtrak as long as the trip utilizes Amtrak rail service at some point, as well as from Greyhound.

Mendocino County						
Segment	**Mode**	**Transit Provider**	**Bus Route**	**Destinations**	**Interregional Connections**	**Schedule**
1-5	Bus	Mendocino Transit Authority	65	Santa Rosa, Hopland, Ukiah, Willits, Ft. Bragg	Yes	7-days per week
3-5	Bus	Mendocino Transit Authority, Greyhound	1,20	Ukiah, Willits	No	M-F
1-11	Bus*	Amtrak	n/a	Ukiah, Willits, Laytonville, Leggett	Yes	7-days per week
Humboldt County						
13-17	Bus	Redwood Transit System	65	Garberville to Trinidad	No	7-days per week
16-18	Bus	Redwood Coast Transit	1,20	Arcata to Crescent City	Yes	M-F
12-16	Bus*	Amtrak	n/a	Garberville, Scotia, Fortuna, Eureka, Arcata, McKinleyville	Yes	7-days per week
12-15	Bus*	Amtrak	n/a	Garberville, Rio Dell, Eureka, Arcata	Yes	7-days per week
Del Norte County						
18-21	Bus	Redwood Coast Transit	20	Arcata, Smith River	Yes	M-Sa
20-21	Bus	Redwood Coast Transit	10	Klamath to Crescent City	No	M-Sa
21	Bus*	Amtrak, Greyhound	n/a	Crescent City	Yes	7-days per week
22-23	Bus	Curry Public Transit, Amtrak, Greyhound	Coastal Express	Smith River, Brookings OR	Yes	M-F

* Amtrak - Must book bus with train trip

FREIGHT

Due to the geographical isolation of District 1, goods movement is primarily truck based. Historically freight moved along the US 101 corridor by truck and by a parallel rail line. Severe winter storms in 1995 caused damage to the railroad line and resulted the halt of rail service in District 1. Within Humboldt County, the Port of Humboldt offers deep water channels, but is still largely dependent on truck freight for the import and export of materials. Currently the largest obstacle to truck freight mobility in District 1 is the lack of industry-standard truck access due to non-STAA portions of US 101.

Mendocino County		
Mode of Transport	**Major Commodity/Industry**	**Comments/Issues**
Truck	*Fruits & Nuts*	*Produced $106.9 million in 2015 (Wine Grapes attributed to $88.3 million and Pears attributed $17.3 million of the $106.9 million)*
Truck	*Timber*	*Produced $83.7 million in 2015*
Truck	*Field Crops*	*Produced $11.1 million in 2015*
Boat/Truck	*Commercial Fish Catch*	*Produced $11.1 million in 2015*
Truck	*Livestock & Poultry Products*	*Produced $5.5 million in 2015*
Truck	*Nursery Production*	*Produced $1.6 million in 2015*
Truck	*Vegetable Crops*	*Produced $1.2 million in 2015*
Humboldt County		
Truck	*Livestock*	*Produced $76.9 million in 2013*
Truck/Port of Humboldt	*Timber Production*	*Produced $72.5 million in 2013*
Truck	*Milk and Milk Products*	*Produced $61.9 million in 2013*
Truck	*Nursery Stock*	*Produced $49.8 million in 2013*
Boat/Truck/Port of Humboldt	*Commercial Fish Catch*	*Produced $15.4 million in 2006*
Boat/Truck/Port of Humboldt	*Aquaculture (Oysters and Clams)*	*Produced $7.6 million in 2013*
Truck	*Field Crops*	*Produced $4.9 million in 2013*
Truck	*Fruit and Nut Crops*	*Produced $1.9 million in 2013*
Truck	*Vegetable Crops*	*Produced $1.4 million in 2013*
Del Norte County		
Boat/Truck/Crescent City Harbor	*Commercial Fish Catch*	*Produced $22.7 million in 2006*[8]
Truck	*Timber and Forest Production*	*Produced $21.9 million in 2015*
Truck	*Livestock Products*	*Produced $16.9 million in 2015*
Truck	*Livestock*	*Produced $13.7 million in 2015*
Truck	*Nursery Crops*	*Produced $10.2 million in 2015 (Easter Lily Bulbs accounted for $6.7 million of the $10.2 million)*
Truck	*Field Crops*	*Produced $4.4 million in 2015*
Truck	*Vegetables & Fruits*	*Produced $160,000 in 2015*

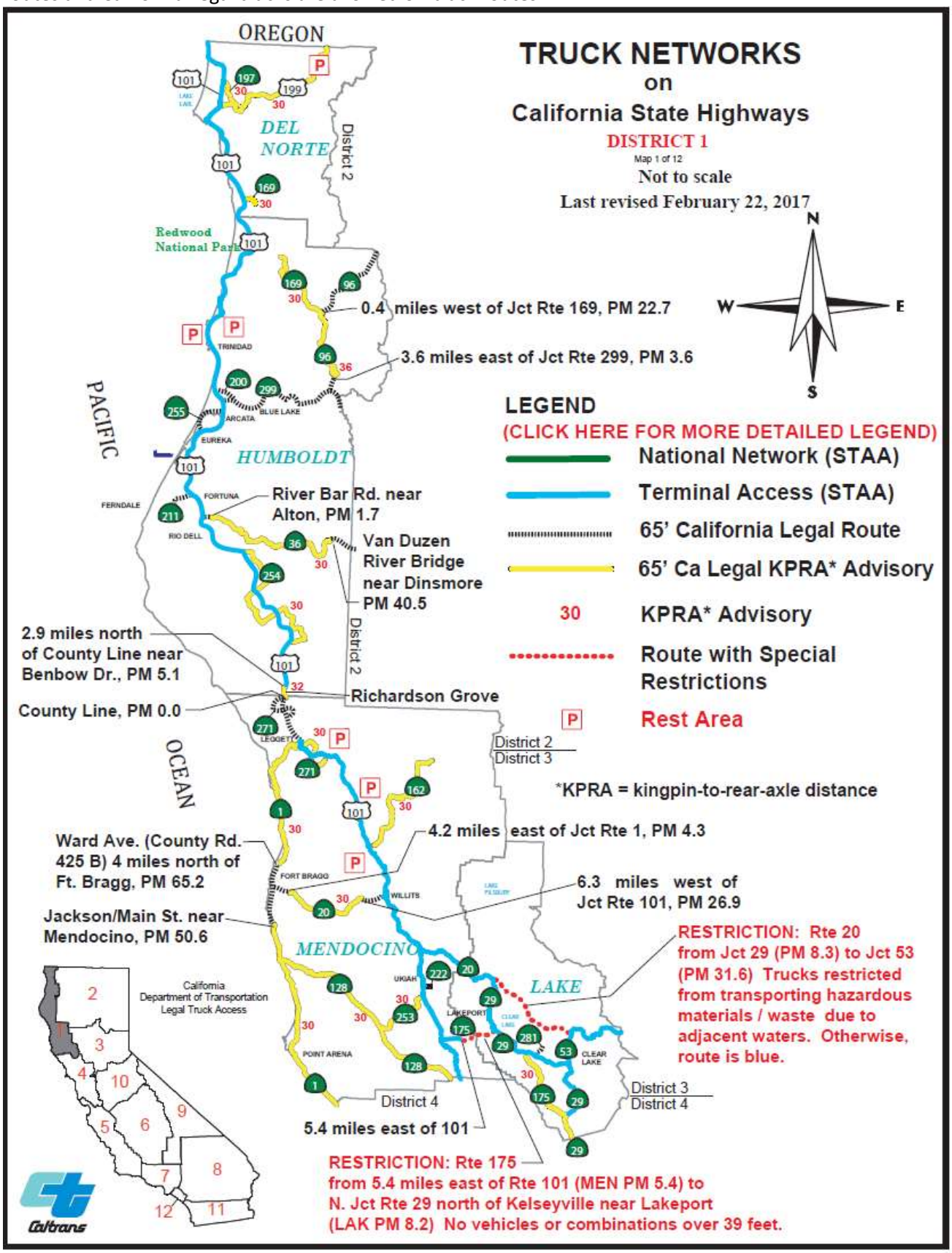
The two categories of truck-tractor assemblies in California are: (1) the “green” trucks (Interstate STAA Trucks) and 2) “black” trucks (California Legal Trucks). The two table below show the maximum allowed lengths for the two categories of truck-tractor combinations.

LENGTHS	"GREEN" STAA TRUCKS		"BLACK" CALIFORNIA LEGAL TRUCKS
			
ROUTE COLORS:			
OVERALL LENGTH:	unlimited	unlimited	65 feet MAX
SEMITRAILER:	53 feet MAX	48 feet MAX	unlimited
KPRA (kingpin-to-rearmost-axle distance):	40 feet MAX (two-axle semitrailer); 38 feet MAX (single-axle semtrailer)	unlimited	40 feet MAX (two-axle semitrailer); 38 feet MAX (single-axle semtrailer)

Doubles:

LENGTHS	"GREEN" STAA TRUCKS	"BLACK" CALIFORNIA LEGAL TRUCKS	
			
ROUTE COLORS:			
		OPTION A	**OPTION B**
OVERALL LENGTH:	unlimited	75 feet MAX	65 feet MAX
TRAILERS:	28 ft - 6 inch MAX (each trailer)	28 ft - 6 inch MAX (each trailer)	28 ft - 6 inch MAX (one trailer) unlimited (other trailer)

The Caltrans District 1 "Truck Networks" Figure below shows that STAA trucks are allowed on green and blue routes and California Legal trucks are allowed on black routes.



ENVIRONMENTAL CONSIDERATIONS

District 1 coordinates closely with regional, state, and federal regulatory and natural resource agencies during project development. Furthermore, projects are designed to avoid or minimize impacts whenever feasible. When impacts are unavoidable, mitigation measures are implemented in accordance with state and federal laws.

California Coastal Zone

Approximately 79 miles of US 101 in Humboldt (55 miles) and Del Norte (24 miles) Counties is in, or acts as the boundary for, the California Coastal Zone. The California Coastal Commission is tasked with the conservation of the California coast by the California Coastal Act of 1976. Historically, in reviewing coastal permit applications, the California Coastal Commission has been concerned with Caltrans projects that could be impacted by coastal hazards and that could affect coastal wetlands, water quality, environmentally sensitive habitat areas (ESHAs), the coastal view shed, and public access to the shoreline and along the coast.

Coastal Development Permit Requirements

Coastal Development Permits are required for new development[6] projects within the California Coastal Zone. While exclusions to the requirement for Coastal Development Permit exist, and where local agencies have a certified Local Coastal Program, staff should consult local Coastal Commission staff for projects where there is potential need for a Coastal Development Permit.

Fish Passage

Senate Bill 857 was enacted into law effective January 1, 2006, concerning fish passage. This bill requires Caltrans projects be constructed so that they do not present a barrier to anadromous fish[7] passage at any life stage. Additionally, all projects on streams that currently or historically supported fish and affect culverts, bridges, or associated structures shall include a fish passage assessment prior to commencing project design, according to National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) guidelines. Caltrans is also required to develop necessary passage corrections during project development in consultation with the California Department of Fish and Wildlife. Caltrans works with its partners to improve fish passages in accordance with Senate Bill 857. Caltrans prepares an annual fish passage report which is reviewed by State Legislature; this report includes completed fish passage projects as well as fish passage projects currently in development.

Climate Change

Current scientific consensus indicates global climate change will continue to affect sea level, weather patterns, and coastal processes. Consequently, District 1 must continue to adapt to meet new and increased planning, design, and maintenance challenges created by global climate change. On the California coast climate change will exacerbate existing coastal hazards such as coastal bluff erosion, dune erosion, 1-percent flood[8] events, landslide frequency, and wildfire frequency and severity. In addition to existing coastal hazards, sea level rise (SLR) has the potential to inundate low lying coastal areas. In District 1, Caltrans has identified several potential solutions to address sea level rise on California's North Coast, including raising the grade of the roadway, maintenance/installation of sea walls, placement of fill and rock slope protection at targeted low lying areas, and roadway re-alignment.

Coastal Hazard Guidance

Information for coastal hazard guidance was taken from the 2015 *Coastal Commission Sea Level Rise Policy Guidance* and the 2014 *District 1 Climate Change Vulnerability Assessment and Pilot Studies FHWA Climate Resilience Pilot Final Report*. In general, adaptation strategies can be divided into three categories: [protect

[6] The definition of a development is found in section 30106 of the California Public Resources Code: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=30001-31000&file=30100-30122

[7] An anadromous fish is a fish which spawns in freshwater, migrates to the ocean to mature, 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

[8] Definition for 100 year flood event http://www.fema.gov/flood-zones

defend, accommodate, or retreat1[9]]. Where applicable, projects should consider one or more of these climate change adaptation strategies. The following are a subset of specific Coastal Hazards applicable to projects along Route 1:

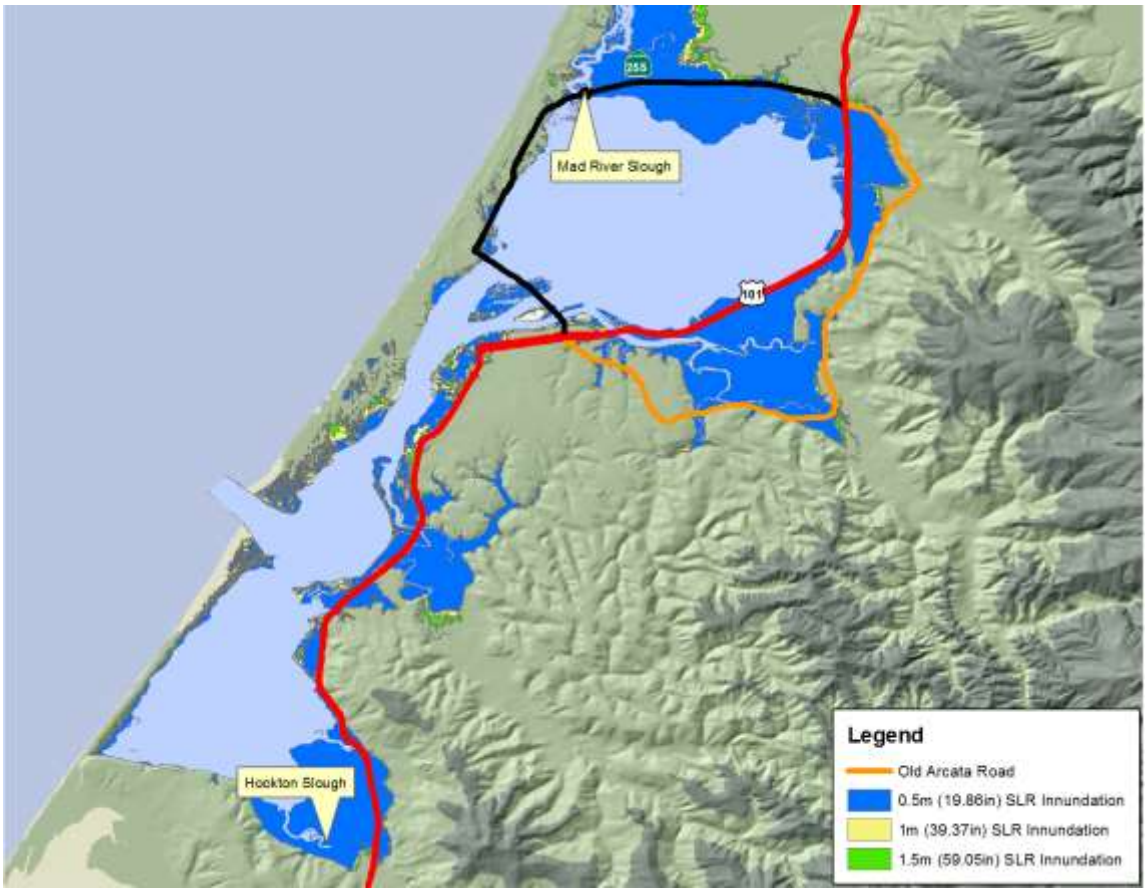
Sea Level Rise

Areas of US 101 may experience seawater inundation by 2100. As an example, the area around Humboldt Bay has been extensively studied, and mapping of sea level rise (SLR) is readily available. US 101 between the cities of Fortuna and Arcata is located on or near the perimeter of Humboldt Bay, and is susceptible to SLR. Current California Coastal Commission guidance on SLR suggests defining an expected life span for projects, and evaluating current science to determine approximate SLR range in the area. Although this TCR has a horizon year of 2037, it is expected that US 101 will continue to operate well beyond the 2037 horizon year. As such, the horizon years used for SLR evaluation will be in line with standard practice, using 2030, 2050, and 2100.

A report prepared for the State Coastal Conservancy modeled and mapped SLR in Humboldt Bay based on various SLR estimates. The report also takes into account subsidence of Humboldt Bay, and projections of relative SLR. Projections of relative SLR for Mad River Slough and Hookton Slough are provided in the table below.

	Mad River Slough		Hookton Slough	
Year	**SLR Projection**	**SLR Range**	**SLR Projection**	**SLR Range**
2030	5.23 in.	3.5-9.37 in.	8.11 in.	6.33-12.24 in.
2050	10.59 in.	6.1-20.55 in.	15.39 in.	10.9-25.34 in.
2100	33.93 in.	19.4 -58.66 in.	43.58 in.	29.05-68.3 in.

NOAA Sea Level Rise Viewer at Mean Higher High Water (MHHW)(excludes wind driven tides)



[9] Bracketed information refers to language used in the 2014 *District 1 Climate Change Vulnerability Assessment and Pilot Studies FHWA Climate Resilience Pilot Final Report* https://toolkit.climate.gov/reports?f[0]=field_content%3ARisk%20/%20Vulnerability%20Assessments

The NOAA SLR Viewer map above shows inundation of Humboldt Bay at 0.5, 1.0, and 1.5 meter increments (19.86, 23.37, and 59.05 inches) of SLR, which is within the range for 2050 and 2100. Included in the map are the three vehicle routes around Humboldt Bay between Eureka and Arcata: SR 255 (black line), Old Arcata Road orange line), and US 101 (red line). At 19.86 inches of SLR, all routes are at least partially flooded, with Old Arcata Road showing the least innundation. Because of the susceptibility of SLR impacts on US 101, SLR should be addressed during future project development.

Cultural Resources

US 101 travels through many Tribal reservations, trusts, and ancestral lands. As such, there are many areas with cultural resources along US 101 in District 1. Caltrans will consult with Tribes during project development to ensure that cultural resources are avoided and protected.

CORRIDOR PERFORMANCE

Corridor Performance: Mendocino County											
Segment #	**1** R0.103/ 9.17	**2** 9.17/ 17.60	**3** 17.60/ R32.62	**4** R32.62/ T43.50	**5** T43.50/ 48.44[11]	**6** 48.44/ 55.22	**7** 55.22/ 64.70	**8** 64.70/ 81.43	**9** 81.43/ T91.245	**10** T91.245/ R100.58	**11** R100.58/ T106.801
Basic System Operations											
AADT[13] (2017)	14,800	15,200	22,900	17,600	14,500	7,050	7,000	6,500	6,250	6,250	5,300
AADT (2037)	19,300	19,800	29,700	22,900	18,800	7,800	7,350	6,800	6,600	6,550	5,550
LOS Method	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010	HCM 2010
LOS (2017)	A	C	B/C	B	A	B	A	B	A	C	A
LOS (2037)	A/B	A/B	C	B	B	B/C	A	B/C	A	C	A
LOS Concept	C	C	C	C	C	D	C	D	C	D	C
Daily VMT (2017)	136,000	128,300	347,600	191,900	72,900	47,900	66,200	108,600	61,500	53,200	32,800
Daily VMT (2037)	176,900	166,700	451,900	249,500	94,800	52,700	69,500	114,000	64,600	61,100	34,500
Truck Traffic											
Average Annual Daily Truck Traffic (2017)	1,300	2,850	2,700	2,350	1,550	1,350	1,000	900	950	850	800
Average Annual Daily Truck Traffic (2037)	1,700	3,700	3,500	3,100	1,950	1,500	1,050	950	1,000	900	850
Total Trucks (% of AADT) (2017)	8.5%	11.2%	12.5%	8.6%	7.0%	12.1%	14.4%	14.3%	15.2%	16.1%	17.0%
5+ Axle Truck Average Annual Daily Truck Traffic (2017)	600	650	800	750	600	600	450	500	550	500	400
5+ Axle Trucks (as % of Truck Traffic (2017)	46.3%	26.0%	30.4%	38.3%	40.0%	43.5%	44.8%	54.7%	59.3%	54.5%	49.7%
Two-Way Equivalent Axle Loads (X1000) (2017)	250	325	375	325	275	250	200	200	225	200	175
Peak Hour Traffic Data											
Peak Hour Volume (2017) [10]	1,400	1,450	2,350	1,750	1,500	850	850	800	800	800	750
Peak Hour Volume (2037)	1,800	1,900	3,100	2,250	2,000	1,000	900	850	850	850	800

[10] AADT and peak hour volumes were obtained from Caltrans hose or loop counts and represent the total 2-way traffic volume for a 1-year period, divided by 365, and is expressed in units of *Vehicles*. Peak Hour represents an estimate of the largest 2-way volume of traffic flow which usually occurs between 7-9 A.M. and 5-7 P.M, and is expressed in units of *Vehicles Per Hour*. On roads with large seasonal fluctuations in traffic, the peak hour is the hour near the maximum for the year, excluding the top 30-50 hours with exceedingly high volumes that are not typical of the peak hours defined above.

[11] Volumes for Segment 5 (PM T43.50/48.44) were obtained before the construction of the Willits Bypass

Corridor Performance: Humboldt County								
Segment #	**12** T0.0/ R5.63	**13a**[12] R5.63/ 51.84	**13b**[12] 51.84/ 74.78	**14** 74.78/ 79.574	**15** 79.574/ 85.83	**16** 85.83/109.55	**17** 109.55/R125.80	**18** R125.80/R137.14
Basic System Operations								
AADT* (2017)	4,800	5,850	20,100	40,000	38,700	13,700	3,900	3,000
AADT (2037)	5,050	6,150	25,100	50,100	48,400	17,200	4,100	3,150
LOS Method	HCM 2010	HCM 2010	HCM 2010	N/A	HCM 2010	HCM 2010	HCM 2010	HCM 2010
LOS (2017)	B	A	B	SUF[13]	C	A/B	B	A
LOS (2037)	B/C	A	B/C	SUF	D	B	B	A
LOS Concept	D	C	C	N/A	C	C	C	C
Daily VMT (2017)	26,900	268,500	442,700	190,600	242,400	324,500	63,400	34,200
Daily VMT (2037)	28,200	281,900	553,300	238,300	303,000	405,600	66,500	35,900
Truck Traffic								
Average Annual Daily Truck Traffic (2017)	900	1,100	1,750	1,850	1,800	1,150	1,200	550
Average Annual Daily Truck Traffic (2037)	950	1,150	2,200	2,300	2,250	2,200	1,250	550
Total Trucks (% of AADT) (2017)	19.1%	17.8%	7.5%	4.9%	5.5%	14.2%	14.1%	14.1%
5+ Axle Truck Average Annual Daily Truck Traffic (2017)	450	600	700	650	650	275	175	175
5+ Axle Trucks (as % of Truck Traffic (2017)	49.7%	52.8%	39.0%	34.3%	34.3%	24.8%	30.8%	30.8%
Two-Way Equivalent Axle Loads (X1000) (2017)	200	225	300	275	275	150	80	80
Peak Hour Traffic Data								
Peak Hour Volume (2017)	750	800	2,150	4,200	4,400	1,550	550	425
Peak Hour Volume (2037)	800	850	2,700	5,250	5,500	1,950	550	450

[12] Segment 13 of Humboldt County was split at pm 51.84 into 13a and 13b for the purpose of this table. Traffic volumes increase substantially from the community of Scotia north to the City of Eureka.

[13] SUF (signalized unstable flow): From the 2010 Highway Capacity Manual for signalized intersections, *Signalized Unstable Flow* is defined as average control delay greater than 55 seconds. *Average Control Delay* is defined as: the total elapsed time from when a vehicle stops at the end of a queue until the Page 4 vehicle departs from the stop line.

Corridor Performance: Del Norte County					
Segment #	**19** M0.0/R3.56	**20** R3.56/25.84	**21** 25.84/R27.872	**22** R27.872/31.188	**23** 31.188/46.492
Basic System Operations					
AADT* (2017)	3,250	5,250	21,400	8,750	7,250
AADT (2037)	3,450	5,500	23,500	9,650	8,000
LOS Method	HCM 2010	HCM 2010	N/A	HCM 2010	HCM 2010
LOS (2017)	A	B	SSF[14]	A	C
LOS (2037)	A	B	SSF	A	C
LOS Concept	C	C	N/A	C	C
Daily VMT (2017)	11,600	117,200	43,400	29,000	111,200
Daily VMT (2037)	12,200	123,000	47,800	31,900	122,400
Truck Traffic					
Average Annual Daily Truck Traffic (2017)	500	550	1,600	1,100	650
Average Annual Daily Truck Traffic (2037)	500	600	1,750	1,200	700
Total Trucks (% of AADT) (2017)	13.1%	10.7%	9.0%	6.9%	8.6%
5+ Axle Truck Average Annual Daily Truck Traffic (2017)	160	225	450	190	140
5+ Axle Trucks (as % of Truck Traffic (2017)	32.0%	39.9%	29.1%	30.6%	23.8%
Two-Way Equivalent Axle Loads (X1000) (2017)	75	95	225	95	75
Peak Hour Traffic Data					
Peak Hour Volume (2017)	450	750	700	1,000	900
Peak Hour Volume (2037)	500	800	750	1,100	950

[14] SSF (signalized stable flow): From the 2010 Highway Capacity Manual: For signalized intersections, *Signalized Stable Flow* is defined as: average control delay is less than 35 seconds.

ADDITIONAL TOPICS

Community Enhancement Strategy

Community enhancements, which include the development of traffic calming improvements to reduce traffic speed and noise, development of context-sensitive improvement alternatives, and development of bicycle/pedestrian facilities to increase the opportunities for non-motorized trips, can improve the quality of life in our communities. Caltrans supports community enhancement opportunities and is interested in partnering with Regional Transportation Planning Agencies, counties, cities, and communities where Route 101 is the main street through a city or community (examples include Orick and Crescent City), to achieve livable community goals. In addition, interim concepts for community enhancements will be considered in areas like Hopland, Laytonville, and the City of Eureka. Safety will continue to be the primary concern in the consideration of the entire transportation network of which community streets are a part.

Complete Streets

When the state highway acts as a main street for a community, Complete Streets Improvements can be utilized to meet the transportation needs of all highway users. The most effective Complete Streets Improvements are determined by the community where they will be implemented and the needs of the traveling public. Often times these improvements include a selection of: bulb outs, median islands, enhanced crossing facilities, landscaping, ADA access, integrated transit facilities, gateway treatments, and bicycle facilities. Often these complete streets projects are an ideal time to integrate community character into transportation design through the incorporation of context sensitive art.

Intelligent Transportation System (ITS) Elements

ITS elements include using technology to manage more efficient and safer transportation patterns. ITS elements can influence traffic patterns through direct or indirect actions. Direct influence could include systems such as adaptive signal control which actively manages traffic flow through a city. In contrast, indirect management could include providing traveler information allowing for more informed travel decisions. Other ITS elements include:

- Adaptive/Smart Lighting: Street lights are dim, and fully illuminate an area when pedestrians/bicycles are sensed in the area.
- Leading Pedestrian Interval: A safety technique that provides pedestrians more time to cross the street preceding the green light.

Access Control

In general, access control can be defined as where vehicles are legally allowed to enter or leave a route. A highway can be divided into three types by access control: conventional, expressway, and freeway. A conventional highway has no access control; abutting property owners have access rights via encroachment permits. In contrast, a freeway has full access control; no private driveway connections are allowed, on and off turning movements are permitted only at select public roads, and all crossings are grade separated.[17] Expressways have a mixture of access control permitting some private driveways and at-grade crossings, but may restrict access in other locations or provide grade separation[15] at key crossings. By reducing the number of access points, the number of turning movements is reduced, resulting in increasing safety and efficiency. Moreover, reducing the number of turning movements decreases the number of turning conflicts, resulting in increasing safety. Access control can be useful in areas where turning movements are generating an elevated number of accidents, system efficiency would benefit from reduced access, or roadway geometry complicates turning movements.

Corridor Preservation Strategy

Virtually all of the right of way on Route 101 is either owned by the State or the State has acquired easements for the construction and maintenance of the roadway. Right of way width is generally a minimum of 60 feet for two-lane sections, and approximately 120 feet for four-lane conventional and expressway sections. Most recently constructed

[15] Grade *separation*: north-south and east-west traffic are separated by vertical alignment through use of an overpass, interchange or similar structure.

freeway sections have minimum right of way widths of approximately 140 feet. Based on projections of development currently envisioned for the Route 101 corridor, and subject to environmental and financial constraints, it is anticipated that the long-term right of way needs will include the right of way required to convert two-lane conventional highway and multi-lane conventional highway to four-lane freeway/expressway or the bypass of areas, or add passing lanes to two-lane highwaysm consistent with the Ultimate Facility Concept for Route 101.

Transportation Demand Management

Transportation demand management strategies should be considered in urban areas to reduce congestion, reduce GHG emissions, reduce, VMT, improve traffic safety, improve public health, and strengthen communities. Transportation demand management strategies include, but are not limited to: implementation of a road diet, improving public transportation infrastructure, and improving non-motorized transit infrastructure.

KEY CORRIDOR ISSUES

STAA RESTRICTIONS

STAA Trucks are the standard truck for interregional shipping. In general, STAA Trucks have a longer tractor unit often including a sleeper unit for long distance trips when compared with CA Legal trucks; due to the longer tractor unit, these trucks require larger turn radii. On US 101 there is one location that does not accommodate STAA trucks; this segment is known as Richardson Grove, and is located on Route 101 in Humboldt County, from postmile 2.1/3.5. At Richardson Grove, narrow lanes, tight corner radii, and shoulder widths are not sufficient to accommodate STAA Trucks without off tracking. Industry standard truck restrictions on this segment of US 101 cause economic impacts to the North Coast including increased handling and transportation costs. Furthermore, STAA trucks are becoming the standard chassis for the trucking industry.

LIMITED ALTERNATIVE ROUTES

Due to the rural nature of District 1, few alternative Routes exist for US 101, and of these alternative routes all require significant detours and out-of-direction travel. Furthermore, any closure or significant reduction in capacity to US 101 has wide ranging economic impacts to the North Coast Region.

LAST CHANCE GRADE

Last Chance Grade is a section of US 101 in Del Norte County between PM 12.5-16.0 that continues to experience significant geologic instability. Numerous projects in the past 30 years have attempted to maintain the existing alignment with varying levels of success. A feasibility study for a permanent solution at Last Chance Grade was completed in June 2015, and a Project Study Report in June 2016. Alternatives range from a tunnel to varying lengths of bypasses, with capital costs varying between $250 million to $1.1 billion at the estimated time of construction. As of 2017, funding for the project still needs to be identified., and Caltrans is in the process of performing Environmental and Geological studies.

CORRIDOR CONCEPT

United States Highway 101 is the primary transportation route for Caltrans District 1, serving the majority of regional and interregional transportation. The US 101 corridor connects all but one of the major North Coast cities in District 1, including three of the four county seats. About 60% of the District's population resides in a census block within one mile of US 101. It is the District's primary route for freight, transit, and non-motorized traffic. In addition, US 101 provides access to other forms of transportation in District 1, including Humboldt Bay and both air carrier and general aviation airports.

20-YEAR FACILITY CONCEPT

The 20-year Facility Concept serves as a broad concept for US 101 throughout District 1 over the 20-year planning horizon, and is consistent with US 101's functional classification as a Principal Arterial, as well as US 101's function as a main street for communities it traverses. The 20-year facility concept focuses on projects that are deliverable within the next 20 years, and protects the State's investment in US 101, while recognizing environmental, economic, and context sensitive impacts.

All of Route 101:

- Maintain and rehabilitate as necessary
- Safety improvements – Safety is the highest priority of Caltrans and our Regional Partners. Safety improvements will be made as needs are identified.
- Widen paved shoulders where feasible to a minimum of 4 feet in rural areas and 5 feet in main street communities to accommodate non-motorized traffic.

Mendocino County:

- Hopland Bypass to Ukiah (PM 9.17/17.60): Upgrade existing 2-lane conventional highway to 4-lane freeway or expressway
- Willits Bypass (PM T43.50/48.44): Upgrade existing 2-lane freeway to 4-lane freeway.
- The remainder of Route 101 in Mendocino County: Maintain the existing Ultimate Facility Concept (i.e. a mixture of 4-lane freeway/expressway and 2-lane conventional highway.

Humboldt County:

- Richardson Grove (PM T0.0/R5.63): Develop access for long (Surface Transportation Assistance Act – STAA) Trucks
- City of Eureka (PM 74.78.79.57): Multi-modal operational improvements to address traffic congestion.
- The remainder of Route 101 in Humboldt County: Maintain the existing Ultimate Facility Concept (i.e. a mixture of 4-lane freeway/expressway and 2-lane conventional highway.

Del Norte County:

- "Last Chance Grade" (PM 12.5/16.0): Develop passing lanes in conjunction with this project.
- North of Route 199 to the Oregon State Line (PM 31.19/46.49): Develop passing lanes within this segment (excluding developed areas).
- Crescent City Couplet (PM 25.84/R27.87): Multi-modal operational improvements.
- The remainder of Route 101 in Del Norte County: Maintain the existing capital facility concept (i.e., a mixture of 4-lane freeway/expressway and 2-lane conventional highway/expressway.

ULTIMATE FACILITY CONCEPT

The Ultimate Facility Concept is Caltrans District 1's assessment of transportation needs past the 20-year planning horizon. This concept is not constrained to a specific timeline, and serves as a framework for developing projects on US 101. The Ultimate Facility Concept is subject to change based on new information, such as changes in: traffic volumes, funding levels, or policy. The Ultimate Facility Concept is the same as the 20-year Facility Concept, with the following exceptions:

Mendocino County:

- Expand all of U.S. Route 101 to a 4-lane freeway or expressway, with the exception of the Leggett to Red Mountain Creek segment (PM T91.25/R100.58), which will remain a 2-lane conventional highway.

Humboldt County:

- Develop the US Route 101 Eureka-Arcata Corridor as a "Climate Resillient Corridor", to address the impacts of sea level rise.

Del Norte County:

- The Ultimate Facility Concept is the same as the 20-year Facility Concept

LEVEL OF SERVICE CONCEPT

The Concept Level of Service for US Route 101 is:

- Maintain "C" or better for 4-lane freeway and expressway segments
- Maintain "D" or better for 2-lane conventional highway and expressway segments
- Segments where signalized intersections control traffic flow (e.g. City of Eureka and Crescent City) do not have a specified Concept Intersection Level of Service, as this TRC uses only Segment Level of Service for long range planning purposes.

PROJECTS AND STRATEGIES TO ACHIEVE CONCEPT (20-YEAR HORIZON)

Segment	Description	Location	Purpose	Implementation Phase
5	Willits Bypass	MEN-101 PM T43.50/48.44	Reduce congestion & reduce travel times	Complete
12	Richardson Grove Re-alignment	HUM-101 PM 1.1/2.2	Provide STAA accessibility	Estimated advertisement: 9/1/2018
23	Dr. Fine Bridge Replacement	DN-101 PM 35.8/36.5	Replace bridge	Estimated advertisement: 6/1/2019
15	Non-Motorized Trail	HUM-101 PM 83.4/85.8	Connect communities with non-motorized path	Estimated Advertisement 5/4/2015
15	101/255 Bicycle/Pedestrian Improvements	HUM/101 PM 85.8	Improve safety for bicyclists & pedestrians	Long-term planning
2	Hopland Bypass	MEN-101 PM 9.17/17.60	Reduce congestion & reduce travel times	Long-term planning
14	Koster Couplet	HUM-101 PM 77.2/78.0	Create one-way couplet along Broadway for operational and non-motorized improvements	Long-term planning
15	101/255 Complete Streets Improvements	HUM-101 PM 85.8	Increase multi-modal safety and access.	Long-term planning
20	Last Chance Grade	DN-101 PM 12.5/15.5	Realign US Route 101 to bypass geologic instability	Long-term planning

APPENDIX A: GLOSSERY OF TERMS & ACRONYMS

Transportation Concept Report: The Transportation Concept Report (TCR) is a Caltrans long-range planning document that informs the regional multi-modal transportation planning process through the year 2035. The TCR appraises existing conditions and maintenance needs, analyzes imminent population and job growth scenarios, then, in accord with local governments and planning agencies, suggests strategies to cope with both current and future mobility challenges. Projects identified in the TCR require environmental and engineering studies and may be modified due to changes in transportation needs and technology.

Caltrans District 1: District 1 is headquartered in Eureka, and includes the counties of Del Norte, Humboldt, Lake, and Mendocino. Our District Director is Matthew K. Brady.

Arterial: A high-capacity urban road; the primary function of an arterial road is to deliver traffic between collector roads and freeways/expressways, and between urban centers at the highest level of service possible.

Principal Arterial: Serve major activity centers, have the highest traffic volumes, and serve demand for intra-city travel between the central business district and outlying residential areas.

Minor Arterial: Interconnect and augment the principal arterials. Serve trips of moderate length at a significantly lower level of travel mobility than principal arterials. Provide urban connections for rural collectors.

Major Collector: Distribute and channel trips between local roads and arterials, usually over a distance greater than ¾ of a mile. Operating characteristics include higher speeds and signalized intersections.

Minor Collector: Provide direct access to adjacent land, providing access to major collectors and arterials.

APPENDIX B: CONCEPT LEVEL OF SERVICE

Concept Level of Service (LOS) is a planning level analysis tool that rates segments of roadway using a letter grading system of A-F that characterizes density, free flow speed, and delay conditions. LOS "A" provides motorists the least density of traffic, least delay, and highest operating speeds, whereas LOS "F" provides the greatest density, greatest delay, and lowest operating speeds. Freeways should be designed to accommodate the design year peak hour traffic volumes and to operate at an acceptable LOS determined by District Planning and/or Traffic Operations.

LEVELS OF SERVICE

for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

LEVELS OF SERVICE
for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

LEVELS OF SERVICE

for Two-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		55+	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. **No delays**
B		50	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. **No delays**
C		45	Stable traffic flow, but less freedom to select speed, change lanes or pass. **Minimal delays**
D		40	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. **Minimal delays**
E		35	Unstable traffic flow. Speeds change quickly and maneuverability is low. **Significant delays**
F			Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. **Considerable delays**

APPENDIX C: RESOURCES

Airport Data
http://www.airnav.com/airports/

Bridge Rails and Barriers
http://www.dot.ca.gov/hq/LandArch/16_la_design/aesthetics/barriers/pdf/Caltrans_Bridge_Rails_and_Barriers.pdf

California Agricultural Statistics 2013 Crop Year
https://www.nass.usda.gov/Statistics_by_State/California/Publications/California_Ag_Statistics/Reports/

2017 California Coastal Act
https://www.coastal.ca.gov/coastact.pdf

CA Coastal Commission Sea Level Rise Adopted Policy Guidance
http://www.coastal.ca.gov/climate/slrguidance.html

California Public Resources Code
http://www.slc.ca.gov/Laws-Regs/Statutes.html

California Travel Impacts by County, 1992-2016
http://www.deanrunyan.com/doc_library/CAImp.pdf

2015 Caltrans District 1 Traffic Census Volumes
http://www.dot.ca.gov/trafficops/census/

Caltrans LOS Graphics
http://www.dot.ca.gov/ser/forms.htm

Definition of a 100-Year Flood Event
http://www.fema.gov/flood-zones

2009 Economic Structure of California's Commercial Fisheries
https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=30741&inline

Exclusion from Permit Requirements
http://www.coastal.ca.gov/legal/rmu-exclusions.pdf

FHWA Climate Resilience Pilot Final Report
https://toolkit.climate.gov/reports?f[0]=field_content%3ARisk%20/%20Vulnerability%20Assessments

2015 Del Norte County Crop Report
https://docs.google.com/viewer?a=v&pid=sites&srcid=Y28uZGVsLW5vcnRlLmNhLnVzfGRuY298Z3g6NmRkZWVkZTc3ZTFjMzc3Nw

2017 Del Norte County Economic & Demographic Profile
https://static1.squarespace.com/static/57f8232ce58c6208092f73fa/t/58b624f8cd0f6894d85c5b91/1488332034820/2017+Del+Norte+County+Economic+and+Demographic+Profile.pdf

2010 Highway Capacity Manual
https://app.knovel.com/web/toc.v/cid:kpHCMV000O/viewerType:toc/root_slug:highway-capacity-manual

2013 Humboldt County Crop & Livestock Report
http://www.humboldtgov.org/ArchiveCenter/ViewFile/Item/1016

Caltrans LOS Tables
http://www.dot.ca.gov/ser/forms.htm

HCS 2010-McTrans
http://mctrans.ce.ufl.edu/mct/index.php/hcs/hcs-support/hcs2010/

2004 Memo: Protecting Views from the Ocean Under the Coastal Act
http://www.coastal.ca.gov/lu/views.pdf

2015 Mendocino County Crop Report
https://www.mendocinocounty.org/home/showdocument?id=3274

NOAA Sea Level Rise Viewer
https://coast.noaa.gov/slr/#/layer/slr/0/-11581024.663779823/5095888.569004184/4/satellite/none/0.8/2050/interHigh/midAccretion

FHWA - Federal Size Regulations for Commercial Motor Vehicles
https://ops.fhwa.dot.gov/freight/publications/size_regs_final_rpt/

State Bicycle Pedestrian Plan: Toward an Active California: May 2017