Transportation Concept Report

State Route 188
District 11
October 2016

Transportation Concept Report (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 and health, providing excellent stewardship and efficiency, maintaining system performance, and meeting community and environmental needs of sustainability, livability and economy along the corridor through integrated management of the transportation network, including highway, transit, pedestrian, bicycle, freight, and operational improvements, as well travel demand management components of the corridor.

California Department of Transportation

"Provide a safe, sustainable integrated and efficient transportation system to enhance California's economy and livability"

Approvals:

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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 the statutory responsibility of Caltrans as owner/operator of the State Highway System (SHS) by evaluating conditions and proposing enhancements to the SHS (Gov. Code §65086). Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets the Caltrans goals of safety and health, stewardship and efficiency, sustainability, livability and economy, system performance, and organizational excellence.

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, involving the public as well as regional and local agencies.

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 11 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.

STAKEHOLDER PARTICIPATION

As part of the development of this TCR, Caltrans District 11 has coordinated with the jurisdictions located along the State Route 188 (SR-188) corridor. The local stakeholders include the County of San Diego, the San Diego Association of Governments (SANDAG) along with tribal partners. Obtaining internal and external input during the TCR development and reviewing the draft report are essential to validate data and the overall characterization of the route and obtain consensus on future needs and opportunities. Much of the TCR information came from internal Caltrans files and databases managed by the Divisions of Program and Project Management, Traffic Operations, Environmental Planning, and Transportation Planning (Travel Modeling and Forecasting Branch), in addition to our System Planning counterparts in Caltrans Headquarters and adjacent Caltrans Districts. Caltrans staff reviewed and considered partner agency documents such as City and County General Plans, Regional Transportation Plans, Bicycle Transportation Plans, Public Transit Plans, traffic studies, TCRs of adjoining Caltrans Districts, statewide planning tools, and other related documents.

EXECUTIVE SUMMARY

State Route 188

SR-188 is known locally as Tecate road and begins at the U.S./Mexico international border and travels north to its junction with SR-94 where the route ends near the community of Potrero. The primary purpose of SR-188 is to serve international and interregional (via SR-94) commuter, commercial, and recreational travel. Extending 1.85 miles, the route is a two-lane north-south conventional highway facility and has an Average Annual Daily Traffic (AADT) of approximately 3,000.

Concept Summary

There are no major transportation projects proposed by Caltrans or currently identified by SANDAG. Therefore, a route concept of "maintain only" was assigned to the facility. The County of San Diego General Plan Mobility Element Network (August 2011) does list improving SR-188 from two lanes to a four lane "Major Collector" with a raised median.

Table 1: SR-188 Concept

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
1	U.S./Mexico Border to State Route 94	2C	2C	Maintain	Maintain	2C[1]

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

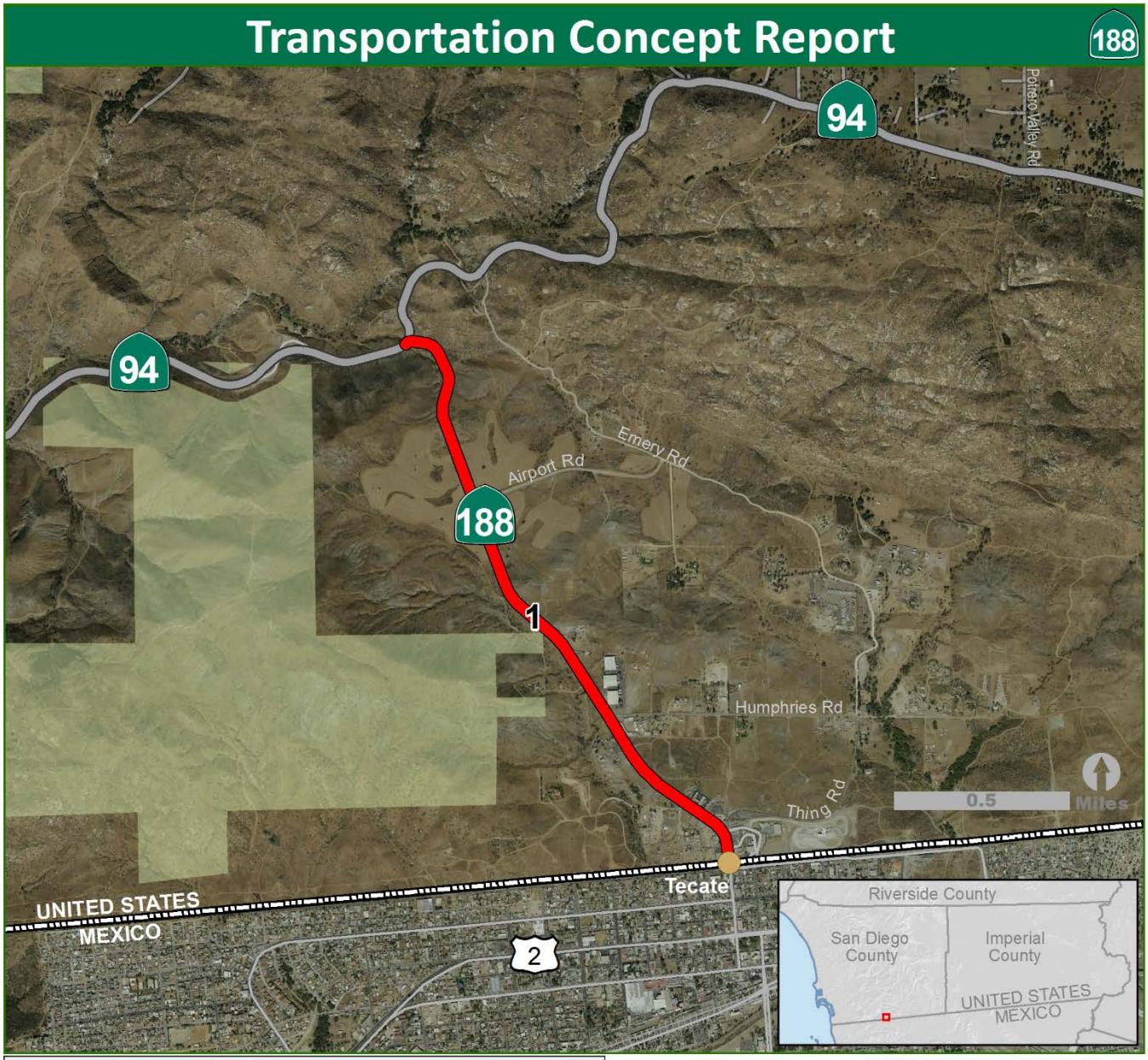
For the purpose of analysis, SR-188 was kept as one segment due to consistent conditions and length of route.

Table 2: SR-188 Route Segmentation

Segment	Location Description	Beginning Post Mile	End Post Mile
1	U.S./Mexico Border to State Route 94	0.0	1.850

[1] San Diego County proposes a four facility.

Map 1: SR-188 Route Segmentation



Segment	CO	Location Description	Begin PM	End PM
1	SD	U.S./Mexico Border to State Route 94	000.000	001.850

Route Segmentation
Port of Entry
Freeway/Highway
US Bureau of Land Management
International Border

Caltrans gis District 11

This map contains geographic information provided and/or maintained by Caltrans District 11 GIS, Open Street Map, California Protected Areas Database.

Sep 07, 2016

ROUTE DESCRIPTION

Route Location

SR-188 is known locally as Tecate Road and begins at the U.S./Mexico international border. The route travels north passing through the commercial district of Tecate, California before heading to an intersection with Thing Road, where it turns to the northwest. As the route continues northwest, it intersects with Humphries Road, where the surrounding area become highly undeveloped. SR-188 continues northwest to its junction with SR-94 where the route ends near the community of Potrero.

Route Purpose

The primary purpose of SR-188 is to serve international and interregional (via SR-94) commuter, commercial, and recreational travel. SR-188 is a two-lane north-south conventional highway beginning at the United States/Baja California, Mexico International Port of Entry (POE) at Tecate. On the Mexico side of the border is the City of Tecate, which in 2010 had a population of over 64,000 and has three major roads that feed into the POE: Paseo Lazaro Cardenas, Mexico Federal Highway 2, and Mexico Federal Highway 3. This POE handled about three percent of all vehicle traffic between Mexico and California during 2015.

Route History

A road from the town of Potrero to Tecate existed by 1917. The Tecate border crossing originally opened in 1932. In 1938, the San Diego County Board of Supervisors proposed rerouting the road to be shorter and on more level ground, but there was opposition from local residents and businesses who favored the old road. The route of the road to Tecate has remained the same since then.

The current routing of SR-188 was assigned in 1972 under the CA streets & Highway Code. The route has remained virtually unchanged since. The Tecate Point of Entry border crossing was expanded in 2004 and 2005. The final expansion was completed with the opening of the Tecate Commercial Vehicle Enforcement Facility in 2008.

Major Route Features

SR-188 is not included in the State Scenic Highway System. However, The San Diego County General Plan Conservation and Open Space Element (August 2011) designates SR-188 as a "scenic highway corridor". The Federal functional classification for SR-188 is "Rural-Other Principal Arterial". The entire route is in the National Highway System (NHS), a network of roadways important to the country's economy, defense, and mobility. SR-188 is also included in the Interregional Road System (IRRS), but is not designated as part of the national network for Surface Transportation Assistance Act (STAA) for trucks or the Subsystem of Highways for the Movement of Extra Legal Permit Loads (SHELL). In accordance with the Truck Kingpin-to-Rear Axle (KPRA) Length State Highway System Evaluation Report dated December 1989, the portion of SR-188 from Humphries Road to SR-94 has been identified as geometrically inadequate for use by truck tractor-semitrailer combinations having a 40 foot kingpin-to-rear axle length. This restriction is Advisory for trucks wishing to continue from the POE to SR-94. The section from the POE to Humphries Road is CA Legal.

"A California Legal truck has an overall maximum length of 65 feet, and a maximum king-to-rear-axle (KPRA) of 40 feet".[2]

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[2] California Vehicle Code for California Legal Trucks: CVC Section 35401

Truck Category for Designated Truck Routes:

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

Table 3: Route Designations and Characteristics

Segment #	1
Freeway & Expressway	No
National Highway System	Yes
Strategic Highway Network	Yes
Scenic Highway	No
Interregional Road System	Yes
High Emphasis	No
Focus Route	No
Federal Functional Classification	Minor Arterial
Goods Movement Route	Yes
Truck Designation	Advisory / CA Legal
Rural/Urban/Urbanized	Rural
Metropolitan Planning Organization	San Diego Association of Governments (SANDAG)
Regional Transportation Planning Agency	SANDAG
County Transportation Commission	SANDAG
Local Agency	County of San Diego
Tribes	None
Air District	San Diego County Air Pollution Control District
Terrain[3]	Rolling

[3] D11 Traffic Operations Traffic Accident Surveillance and Analysis System (TASAS) website.

COMMUNITY CHARACTERISTICS

County of San Diego

In August 2011, the County of San Diego updated their General Plan. As part of the update, the County created the Tecate Special Study Area (SSA). Based on the 2010 Census, the population of Tecate US is under 100 residents, the majority of whom are identified as Hispanic/Latino. This low population number reflects the rural nature of SR-188. Closer to the POE, denser commercial land use is present. The Tecate SSA is intended to create a cross-border community and to promote development of Tecate, U.S. as an International Trade Community with commercial and industrial uses intended to provide goods and services that complement the needs of the residents of Tecate, Mexico. A companion component for the development of Tecate, U.S. will be fostering industrial land uses that emphasize International Trade.

The County SSA includes design criteria consistent with the SR-188 scenic corridor as designated by the General Plan, as well as infrastructure needed to support the land use designations. Currently, Tecate does not have adequate infrastructure to serve the proposed SSA. Therefore, the County SSA implementation considers which facilities will be needed to serve the community and how those facilities will be provided.

LAND USE

Development Review

Based on the Caltrans Traffic Impact Study (TIS) guidelines, a 1,000 Average Daily Traffic (ADT) threshold size triggers the need for developers to prepare a traffic study for their project. There may be an additional number of smaller development projects that may have additional cumulative impacts on traffic in the corridor. Because of uncertainties associated with future demographic, socioeconomic, and political climates, the scale of development may be subject to change. The development application and approval process is also subject to change. Appropriate traffic studies for any proposed developments will need to be conducted and reviewed carefully by Caltrans staff. Land development and local capital improvement projects should also be coordinated with Caltrans projects. Further information regarding specific development projects in the SR-188 corridor can be obtained from the Caltrans District 11 Development Review Branch.

SYSTEM CHARACTERISTICS

State Route 188 is a two lane, undivided conventional highway.

Table 4: SR-188 System Characteristics

Segment #	**1**
Existing Facility	
Facility Type	Conventional Highway
General Purpose Lanes	2
Lane Miles	3.7
Centerline Miles	1.85
Median Characteristics	Striped/Undivided
Passing Lanes	None
Truck Climbing Lanes	None
Distressed Pavement	0
Concept Facility	
Facility Type	Conventional Highway
General Purpose Lanes	2
Lane Miles	3.7
Centerline Miles	1.85
Passing Lanes	None
Truck Climbing Lanes	None
Post 25 Year Facility	
Facility Type	Conventional Highway
General Purpose Lanes	2[4]
Lane Miles	7.4
Centerline Miles	1.85
TMS Elements	
TMS Elements (BY)	None
TMS Elements (HY)	None

[4] San Diego County proposes a four facility.

FREIGHT

The Tecate POE was initially opened in 1932. The facility in the United States was renovated and expanded in 2004 and 2005. The POE provides service for pedestrians, passenger vehicles, commercial vehicles, and rail (the rail line crosses at Campo, located east of the POE). The passenger-vehicle facility is open to traffic from 5 a.m. to 11 p.m. seven days a week, while the cargo facility is open to traffic from 8 a.m. to 4 p.m. Monday through Friday.

Based on the U.S. Bureau of Transportation Statistics (BTS), in 2015 the Tecate POE had northbound crossings of 52,090 trucks, 908,482 private vehicles with 1,776,948 passengers, 176 buses with 4,306 passengers, and 608,359 pedestrians.[5] These counts represent less than 10% of the trips served at the Otay Mesa POE. With the addition of the Otay Mesa East POE scheduled to open in 2018, freight crossings at Tecate POE are forecasted to decrease in the coming years, reducing the truck traffic on SR-188. Without an increase in demand, there is no justification for capacity increasing projects in this corridor.

The Tecate Commercial Vehicle Enforcement Facility (CVEF) was completed in 2008. The Tecate CVEF provides safety inspections and regulatory compliance for all commercial vehicles crossing through the International Border at Tecate from Mexico into the United States. The CVEF increases the State's ability to inspect for safety violations and licensing requirements as part of the full implementation of the North American Free Trade Agreement (NAFTA). The CVEF includes office space for California Highway Patrol (CHP) staff, a truck scale, an inspection bays, a truck circulation route, and parking for staff and trucks.

In 2008, Caltrans received a request from the California Highway Patrol (CHP) to install regulatory semi-truck restriction signs for a segment of SR-94 located between Otay Lakes Road, west of SR-188, and Tierra del Sol Road, east of SR-188. At that time, CHP also requested regulatory semi-truck restriction signs be installed for a segment of SR-188 between Humphries Road and SR-94. Requested signs would support CHP enforcement with regard to issuing citations to drivers operating truck tractor semitrailer combinations that exceed the California legal semi-truck size limits. California legal semi-truck length limits allow a 65 foot maximum combination length and a maximum king-pin-to-rear-axle (KPRA) length of 38 feet for single axle trailers, and a maximum KPRA length of 40 feet for trailers with 2 or more axles. A California legal semi-truck may also be up to 75 feet in length when combined with 2 trailers that are each no longer than 28 feet and 6 inches.

Some longer truck tractor semitrailer combinations (exceeding 65 feet in total length) are known as Surface Transportation Assistance Act (STAA) trucks. STAA trucks are allowed to travel on designated State highway segments referred to as "Terminal Access" routes. Based on truck tracking evaluations, STAA trucks are not allowed to travel on SR-94 between Otay Lakes Road and Tierra Del Sol Road nor on SR-188 between Humphries Road and SR-94.

[5] http://www.bts.gov

Although the federal STAA passed in 1982, truck tractor semitrailer combinations exceeding the California legal limits have never been legally allowed to travel on the subject SR-94 highway segment. Therefore, the described semi-truck restriction was already in effect prior to Caltrans installing the regulatory restriction signs in 2009.

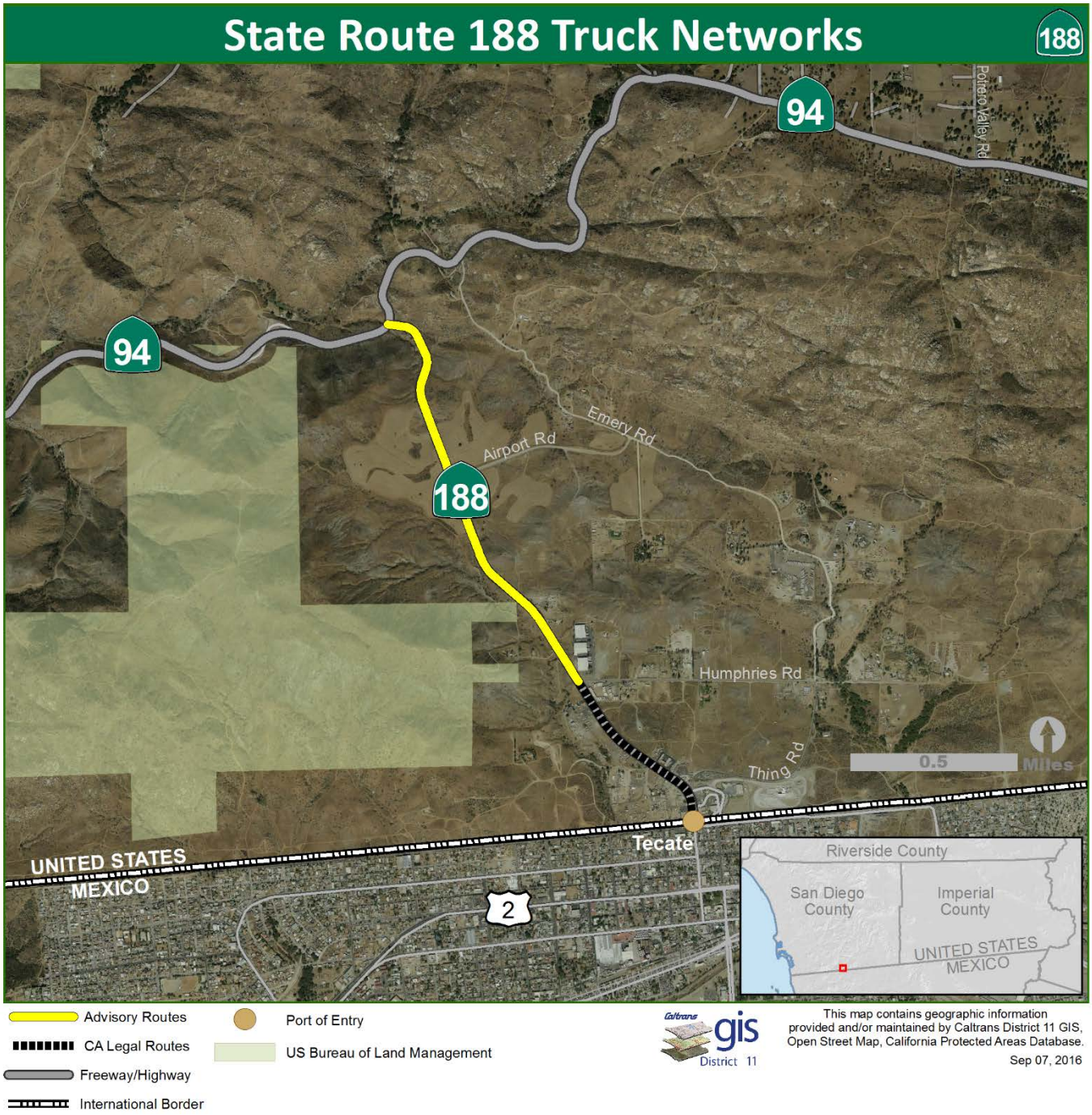
SR-94 truck tractor semitrailer combination tracking evaluations were completed in 1989, 1999, 2001, 2007, and 2011. All evaluations support the Caltrans decision to not designate the SR-94 highway segment of interest as a "Terminal Access" route. This was determined on the basis that existing highway constraints prevent truck tractor semitrailer combinations with a KPRA length over 30 feet to negotiate the highway without off-tracking outside of the designated travel lane. Based on the findings within these studies, the existing semi-truck restrictions should remain in place. These truck designations impact the size and weight of freight trucks that can use the Tecate POE that wish to travel further than Humphries Road.

In 2001, Caltrans completed a Project Study Report (PSR) for a segment of SR-94 located between Melody Road (beginning approximately 4 miles west of Otay Lakes Road) and SR-188. The purpose of this PSR was to identify alternatives to improve highway geometrics to accommodate all legal length trucks, but did not include SR-94 highway segment improvements between SR-188 and Tierra del Sol Road, nor improvements on SR-188. Exclusive of spot location improvement projects and maintenance projects, there are no other upcoming projects along this rural corridor. The current San Diego Association of Governments (SANDAG) updated 2050 Regional Transportation Plan (October 9, 2015) known as "San Diego Forward: The Regional Plan" does not include capital improvement projects along SR-188.

Table 5: SR-188 Freight System

Facility Type/Freight Generator	Location	Mode	Name	Major Commodity/ Industry	Comments/Issues
Land Port of Entry	Tecate	Auto, Pedestrian, Truck	Tecate Port of Entry (POE)	Agriculture, refrigerated foods, building supplies, beer, paper goods.	Truck restrictions on SR-188 from SR-94 to Humphries Road are kingpin-to-rearmost-axle distance (KPRA) of 40 feet. This limits the types of trucks that can access the freight facility.

Map 2: SR-188 Route Truck Network



MULTIMODAL TRANSPORTATION

Complete Streets

Caltrans Complete Streets Policy (Deputy Directive 64-R2) guides Caltrans to provide for travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System (SHS). Caltrans views all transportation improvements (new and retrofit) as opportunities to improve safety, access, and mobility for all travelers and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Caltrans needs to integrate multimodal projects in balance with community goals, plans, and values. Caltrans addresses the mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding. Bicycle, pedestrian, and transit travel are facilitated by creating "Complete Streets" starting with system planning and continuing through project delivery, maintenance, and operations.

A Complete Street is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility.

Implementing Complete Streets supports local agencies' efforts required by the California Complete Streets Act of 2008 (Assembly Bill 1358). Complete Streets policies support the goal of reducing greenhouse gas emissions, set out in the California Global Warming Solutions Act of 2006 (Assembly Bill 32) and Senate Bill 375, which requires the development of Sustainable Communities Strategies (SCS). It also demonstrates how the future land use development pattern and the transportation network, policies, and programs in the region can work together to achieve the greenhouse gas (GHG) emission reduction targets for cars and light trucks established by the California Air Resources Board (ARB). The SCS integrates land use, housing, and transportation planning to provide a regional policy foundation that local governments may build upon to create a more sustainable Southern California.

Pedestrians represent a wide range of our population, including children walking to and from school, teens visiting friends, adults on errands, and people who walk for recreation or exercise. Pedestrians also include people with disabilities using walkers, wheelchairs or other assistance devices, as well as transit users who walk between their destinations and transit stops.

The safety and mobility needs of all who have legal access to the transportation system must be addressed including requirements under the Americans With Disabilities Act of 1990 (ADA).

There are no park and ride lots on SR-188. The nearest park and ride facility is a small, private lot at the Potrero Post office on SR-94 east of the SR-94/SR-188 junction. This lot has a capacity of 10 parking spaces. Private parking lots are located near the POE.

In California, bicyclists and pedestrians have the legal right to use all of Caltrans' conventional highways, including SR-188. Because bicyclists and pedestrians are allowed on SR-188, it is vital to provide for their use and safety on the route. Increasing and improving bicycle and pedestrian facilities along SR-188 and at the Tecate POE will ensure a viable border crossing for non-motorized travel. Currently, SR-188 has unpaved or minimal shoulder for bicyclists and pedestrians to use.

Caltrans partnered with ICTC and the San Diego Association of Governments (SANDAG) to develop the *Pedestrian and Bicycle Transportation Access Study for the California/Mexico Land Ports of Entry*.[6] The Study focused on the POEs and the infrastructure within one-half mile in each direction surrounding those POEs and was completed in February 2015. The study described existing conditions for pedestrians and bicyclists at these POEs, identified opportunities to improve conditions for non-motorized users, and proposed future infrastructure improvements. See Appendix B for recommendations from the Study.

Table 6: Bicycle Facilities

Segment	State Bicycle Facility							Parallel Bicycle Facility	
	Post Mile	Location Description	Bicycle Access Prohibited	Outside Paved Shoulder Width	Facility Description	Distressed Shoulder Pavement	Posted Speed Limit	Parallel Facility Present/ Name	Facility Type
1	*0.0 to 1.85*	*Tecate POE to SR-94*	*No*	*0-4 Feet*	*Main Street/ Conventional Highway*	*Yes*	*65*	Yes/ Emery Road	Arterial

Table 7: Pedestrian Facilities

Segment	Post mile	Location Description	Pedestrian Access Prohibited	Sidewalk Present	Facility Description	Alt. Facility
1	*0.0 to 1.85*	*Tecate POE to SR-94*	*No*	*Partial near POE*	*Main Street/ Conventional Highway*	*Emery Road*

[6] http://www.dot.ca.gov/dist11/departments/planning/pdfs/border/2015_Bicycle_Pedestrian_Border_Study.pdf

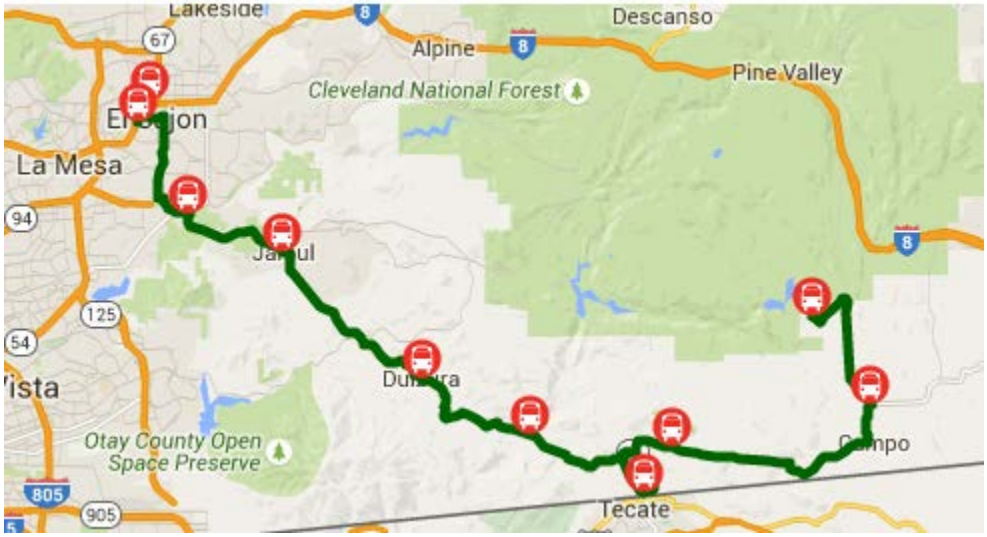
TRANSIT FACILITIES

In San Diego County, the Metropolitan Transit System (MTS)[7] provides fixed route services throughout much of the county. SANDAG shares public transit planning and decision-making responsibilities with Caltrans, MTS, NCTD, and other transit operators. In addition to its role as MPO, SANDAG provides long range planning, funding administration, programming, project development, and construction for public transit in the San Diego region.

MTS provides bus and rail service directly or through contract for the majority of San Diego County and coordinates and monitors these services. MTS owns San Diego Trolley, Inc. (SDTI); San Diego Transit Corporation (SDTC); and the San Diego & Arizona Eastern (SD&AE) Railway Company, which owns 108 miles of track and right-of-way. In addition, MTS provides administrative and support services to San Diego Vintage Trolley, Inc., a non-profit corporation established to restore historic Trolley vehicles. MTS serves about 570 square miles of the urbanized areas of San Diego County as well as the rural parts of East County. Overall, MTS covers 3240 total square miles and serves approximately 3 million people in San Diego County. Services include 93 fixed bus routes and Americans with Disabilities Act (ADA) complementary paratransit service (MTS Access). Fixed route bus service include local, urban, express, premium express and rural routes. MTS contracts with the San Diego & Imperial Valley (SD&IV) Railroad and the Pacific Imperial Railroad, Inc. (PIR) to provide freight service to San Diego shippers over SD&AE right-of-way. SD&IV shares certain tracks with SDTI, operating during non-service Trolley hours.

Rural Bus Route 894 provides weekday service, four times a day, between Campo and the El Cajon Transit Center. The Route also serves Lake Morena once a day on weekdays. Route 894 travels primarily on SR-94 and makes scheduled stops on SR-188.

Map 3: MTS Bus 894 Route



[7] http://www.sdmts.com/

Table 8: SR-188 Transit Facilities MTS Bus 894 Timetable

Eastbound

Parkway Plaza Transit Center	El Cajon Transit Center	Rancho SD Town Center	Jamul	Dulzura	Barrett Junction	Tecate	Potrero	Campo/Cameron Corners	Lake Morena
8:20 AM	8:30 AM	8:51 AM	8:59 AM	9:19 AM	9:28 AM	9:41 AM	9:53 AM	10:17 AM	--
11:35 AM	11:45 AM	12:06 PM	12:14 PM	12:34 PM	12:43 PM	12:56 PM	1:08 PM	1:32 PM	--
2:50 PM	3:00 PM	3:21 PM	3:29 PM	3:49 PM	3:58 PM	4:13 PM	4:27 PM	4:54 PM	5:14 PM
5:35 PM	5:45 PM	6:06 PM	6:14 PM	6:34 PM	6:43 PM	6:56 PM	7:09 PM	7:33 PM	--

Westbound

Lake Morena	Campo/Cameron Corners	Potrero	Tecate	Barrett Junction	Dulzura	Jamul	Rancho SD Town Center	El Cajon Transit Center	Parkway Plaza Transit Center
--	5:39 AM	6:00 AM	6:15 AM	6:23 AM	6:32 AM	6:50 AM	7:00 AM	7:23 AM	7:33 AM
6:42 AM	6:54 AM	7:15 AM	7:30 AM	7:38 AM	7:47 AM	8:05 AM	8:15 AM	8:38 AM	8:48 AM
--	10:54 AM	11:15 AM	11:30 AM	11:39 AM	11:48 AM	12:06 PM	12:16 PM	12:41 PM	12:52 PM
--	2:54 PM	3:15 PM	3:30 PM	3:39 PM	3:48 PM	4:06 PM	4:16 PM	4:41 PM	4:52 PM

ENVIRONMENTAL CONSIDERATIONS[8]

The purpose of this environmental section is to conduct a high level identification of environmental factors that may need future analysis in the project development process. This information does not represent all possible environmental considerations that may exist within the area surrounding the route. As seen in Table 12, the environmental factors have been categorized based on a scale of high-medium-low probability of environmental resource issues established by district staff. Resources with a greater than "low" environmental sensitivity are explained below:

Environmental Justice: Although the primary land uses immediately surrounding State Route 188 are composed of light industrial, commercial, and undeveloped land, both low-income and minority populations exist within the rural residential areas that are within proximity of the Route 188 corridor. Project planning efforts should be made to avoid any disproportionately high and adverse impacts on these populations and ensure that all populations, regardless of race and income level are included in the project development process.

Cultural Resources: Cultural resources encompass both the built and archeological environments, which includes both prehistoric and historic archeological sites. Cultural resources are found throughout the County and include not only physical evidence of the past but also intangible evidence such as traditional cultural lands and sacred sites. Record searches and often pedestrian surveys would be required to assess the potential for these resources within the Route 188 corridor.

Paleontological Resources: These types of resources are considered fossilized remains of both plants and animals as well as the sedimentary rock in which they occur. Route 188 traverses a valley within the Mountain Empire Region of San Diego County. Fossils have the potential to occur in valleys and other environments where material eroded from the mountains has been transported downhill and deposited. Research to identify the potential of fossil remains may be required during the project development process.

Visual/Aesthetics: Although Route 188 is not designated as a State Scenic Highway, it is considered to be part of the County Scenic Highway System as the highway passes through natural landscape. Project planning efforts should remain consistent with the landscape goals and policies set forth by the County in order to maintain and preserve the scenic corridor.

Hazardous Materials and Naturally Occurring Asbestos: Route 188 within Tecate serves mainly commercial and industrial land uses with future planning focused around commercial development. As such, an Initial Site Assessment may be required to identify potential sources of hazardous materials. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction. Naturally Occurring Asbestos is considered a low risk.

Water Quality: Route 188 lies within the Mountain Empire Region of the unincorporated part of San Diego County, which largely relies on groundwater to provide drinking water and supply the natural environment. Section 401 of the Clean Water Act requires water quality certification from the State Water Resources Control Board or from a Regional Water Quality Control Board when the project requires a Clean Water Act Section 404 permit to dredge or fill within a water of the United States.

Along with Section 401 of the Clean Water Act, Section 402 of the Act establishes the National Pollutant Discharge Elimination System permit for the discharge of any pollutant into waters of the United States.

[8] District 11 Environmental Coordinator

The federal Environmental Protection Agency has delegated administration of the National Pollutant Discharge Elimination System program to the State Water Resources Control Board and Regional Water Quality Control Board. The State Water Resources Control Board has developed and issued a statewide National Pollutant Elimination System permit to regulate storm water discharges from all Department activities on its highways and facilities. All construction projects require a Storm Water Pollution Prevention Plan to be prepared and implemented during construction.

Air Quality: Most of California's transportation air quality requirements come from the Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA). The FCAA sets nationwide standards called National Ambient Air Quality Standards (NAAQS) managed by the U.S. Environmental Protection Agency (EPA). As such, the U.S. EPA has set both primary (health) and secondary (welfare) standards for the six "criteria pollutants"– carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide, and particulates (PM_{10} and $PM_{2.5}$).

The California Clean Air Act, managed by the California Environmental Protection Agency (Cal EPA), sets California's vehicle emission control and fuel standards at more stringent levels than Federal standards. This often results in differing air quality designations for the same region within California. Both federal and state designations are provided in the table for San Diego area pollutants. Ozone, particulate matter, and carbon dioxide are the remaining criteria pollutants that have non-attainment designations within the San Diego Air Basin. San Diego County is classified as attainment for the federal PM10 standard and attainment for the federal PM 2.5 standard.

Ozone (O_3): San Diego County is classified as a "Maintenance Area" for the 1997 8-hour ozone standard of 0.08 parts per million (ppm). San Diego County submitted a Redesignation Request and Maintenance Plan for the 1997 Nation Ozone Standard in December 2012. Effective April 4, 2013, United States Environmental Protection Agency (USEPA) found that the motor vehicle emissions budgets for ozone for the years 2020 and 2025 are adequate for transportation conformity purposes.

USEPA has promulgated the 2008 ozone standard of 0.075 ppm. On May 21, 2012 the USEPA classified San Diego County as marginal nonattainment. For this nonattainment designation, tribal areas that were previously excluded are now included as part of the San Diego region nonattainment designation. However, one small portion (approximately 119 acres) of the Pechanga Band of Luiseno Indians' tribal land was excluded from the San Diego region 2008 Eight-Hour ozone nonattainment designation. All other tribal lands within San Diego County were included in the designation. As of July 20, 2013 the 1997 ozone standard was revoked and replaced with the 2008 ozone standard.

Effective June 3, 2016, U.S. Environmental Protection Agency determined that 11 areas, including the San Diego air basin, failed to attain the 2008 Ozone National Ambient Air Quality Standards (NAAQS) by the applicable attainment date of July 20, 2015, and thus are reclassified as "Moderate" for the 2008 Ozone NAAQS. The action also established a due date of January 1, 2017, by which states with newly-classified Moderate areas must submit State Implementation Plan revisions to address Moderate nonattainment area requirements.

Particulate Matter (PM_{10}): Particle Matter (PM) is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. San Diego County is classified as attainment for PM_{10}. Imperial County is classified as Nonattainment/Serious for PM_{10} as of August 3, 2004. The two main reasons for PM_{10} excesses are emission transport from Mexicali, Mexico (especially in the Calexico area),

and occasional high wind activity. The Maintenance Plan for PM_{10} approval by the U.S. Environmental Protection Agency was published in the Federal Register on March 19, 2013.

Fine Particulate Matter ($PM_{2.5}$): San Diego County is classified as a maintenance area for the federal CO standard and as in attainment for the federal Primary 1-Hour SO2, and NO2 standards.

Carbon Monoxide (CO) and Nitrogen Dioxide (NO_2): San Diego County is classified as attainment for the CO, Primary 1-Hour SO_2, and NO_2.

Climate Change: Within California, transportation sources including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electrical generation) of Greenhouse Gas emitting sources. The project development process should include all possible measures that support efforts to reduce vehicle miles traveled by working with local jurisdictions on planning activities; however, the Department does not have local land use planning authority.

Special Status Species: A portion of the Route 188 corridor is bordered by chaparral habitat. Both federal and state special-status species have the potential to occur within this habitat type. Some examples associated with chaparral may include the San Diego throne-mint *Acanthomintha ilicifolia* and the Orcutt's spineflower *Chorizantha orcuttiana*. During the project development process, a records search and a potential natural environment study would be required to identify the presence of any special status species within the Route 188 corridor.

Table 9: SR-188 Environmental Considerations

State Route 188	Section 4(f) Land	Coastal Zone/LCP	Farmland/ Timberland	Environmental Justice	Paleontology	Cultural Resources	Visual Aesthetics	NPDES/Water Quality	Seismic / Geology / Soils	Floodplain	Climate Change and Sea Level Rise Vulnerability	Hazardous Materials	Naturally Occurring Asbestos	Air Quality				Noise	Waters and Wetlands	Wild and Scenic Rivers	Special Status Species	Fish Passage	Habitat Connectivity
														Ozone	PM 2.5	PM 10	CO						
Segment 1	*Not Applicable*	*Not Applicable*	*Low*	*Medium*	*Medium*	*Medium*	*High*	*Medium*	*Low*	*Not Applicable*	*Medium*	*Medium*	*Low*	*Non-Attainment (Federal and State)*	*Attainment(Federal) Non-Attainment (State)*	*Attainment(Federal) Non-Attainment (State)*	*Attainment (Federal and State)*	*Low*	*Low*	*Not Applicable*	*Medium*	*Not Applicable*	*Low*

CORRIDOR PERFORMANCE

SR-188 will be experiencing an increase in passenger vehicle traffic in the future, however truck volumes show a decrease. This is attributable to SR-188 truck restrictions and planned construction of Otay Mesa East POE. Based on traffic analyses, the existing two lane conventional highway appears to be adequate for expected future traffic. The following table shows existing and future traffic conditions for SR-188.

Table 10: SR-188 Corridor Performance

Segment # 1	**(U.S./Mexico Border to State Route 94)**				
	North	South		Both Directions	
Basic System Operations				**Truck Traffic**	
AADT 2012 5 Day	3,070	2,870		**AADTT 2014**	610
AADT 2040	4,540	4,230		**AADTT 2040**	530
AADT: Growth Rate/Year	1.60%	1.60%		**Total Trucks (% of AADT) 2012**	10.3
Peak Hour Volumes 2012	AM 320 PM 170	AM 120 PM 330		**Total Trucks (% of AADT) 2040**	6
Peak Hour Volumes 2040	AM 530 PM 240	AM 170 PM 490		**5+ Axle (AADTT) 2012**	250
LOS Method	HCM 2000	HCM 2000		**5+ Axle (AADTT) 2040**	230
Segment LOS 2012	AM B PM A	AM A PM A		**5+ Axle Trucks (as % of AADT) 2012**	43.5
Segment LOS 2040	AM A PM A	AM A PM A		**5+ Axle Trucks (as % of AADT) 2040**	43.5
Peak Hour Traffic				**Legend**	
VMT 2012	1,320	1,234		AADT-Average Annual Daily Trip	
VMT 2040	1,952	1,818		BY-Base Year	
Peak Period Length	AM 1 Hour PM 1 Hour	AM 1 Hour PM 1 Hour		HY-Horizon Year LOS-Level of Service	
Peak Hour Time of Day	AM 11-12 PM 5-6	AM 5-6 PM 1-2		VMT-Vehicle Miles Traveled V/C-Vehicle/Capacity	
Peak Hour VMT 2014	AM 50 PM 140	AM 140 PM 70		AADTT- Average Annual Daily Truck Traffic	
Peak Hour VMT 2040	AM 70 PM 210	AM 230 PM 100			
Peak Hour V/C 2014	AM 0.060 PM 0.170	AM 0.185 PM 0.085			
Peak Hour V/C 2040	AM 0.085 PM 0.245	AM 0.265 PM 0.120			

ROUTE CONCEPT

CONCEPT RATIONALE

There are no major transportation projects proposed by Caltrans for SR-188; therefore, a route concept is to "maintain only" was assigned to the facility. The County of San Diego General Plan Mobility Element Network (August 2011) does list improving SR-188 from two lanes to a four lane "Major Collector" with a raised median; however, the project is not currently identified is SANDAG's funding plan.

Table 11: SR-188 Concept

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
1	U.S./Mexico Border to State Route 94	2C	2C	Maintain	Maintain	2C[9]

[9] San Diego County proposes a four facility.

APPENDIX

APPENDIX A
GLOSSARY OF TERMS AND ACRONYMS

AADT	Annual Average Daily Traffic
AB	Assembly Bill
ADA	Americans with Disabilities Act of 1990
ADT	Average Daily Traffic
BLM	Bureau of Land Management
BRT	Bus Rapid Transit
BY	Base Year (2010)
CALTRANS	California Department of Transportation
CEQA	California Environmental Quality Act
CMA	Congestion Management Agencies
CO	Carbon Monoxide
CO2	Carbon Dioxide
CTC	California Transportation Commission
FHWA	Federal Highway Administration
GHG	Green House Gases
GIS	Geographic Information System
GSA	United States General Service Administration
HOT	High occupancy toll lane
HOV	High Occupancy Vehicle
HY	Horizon Year (2035)
IC	Interchange
ICTC	Imperial County Transportation Commission
IGR	Inter-governmental Review
IRRS	Interregional Route System
IS	Intersection
ITC	Intermodal Transit Center
ITS	Intelligent Transportation System
LOS	Level of Service
MPO	Metropolitan Planning Organization
NOA	Naturally Occurring Asbestos
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act
NHS	National Highway System
NO2	Nitrogen Dioxide
PID	Project Initiation Document
PM	Post Mile
PM	Particulate Matter
PSR	Project Study Report
ROW	Right-of-Way
RTP	Regional Transportation Plan

RTIP	Regional Transportation Improvement Program
RTPA	Regional Transportation Planning Agency
SANDAG	San Diego Association of Governments
SCS	Sustainable Community Strategy
SHOPP	State Highway Operation and Protection Program
SHS	State Highway System
SIP	State Implementation Plan
STIP	State Transportation Improvement Program
STTA	Surface Transportation Assistance Act
TCIF	Trade Corridors Improvement Fund
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TMS	Transportation Management System
USEPA	United States Environmental Protection Agency
VMT	Vehicle Miles Travels

DEFINITIONS

AADT – Annual Average Daily Traffic - The total traffic volume for the year divided by 365 days. The traffic count year runs from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved to locations throughout the state in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of the 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 of the most current data available to Caltrans District Offices.

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 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 capital facility investments on the route. The capital investment can include capacity increases, bicycle, pedestrian, and transit facilities, grade separations and managed lanes.

Complete Streets - A transportation facility that is planned, designed, operated, and maintained, appropriate to the function and context of the facility, to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists. (See Caltrans Deputy Directive number DD-64-R1).

Concept LOS – The minimum acceptable Level of Service over the next 20-25 years.

Conceptual Project– An improvement or action needed to maintain mobility or to serve multimodal users that is not currently included in a fiscally constrained plan and is not currently programmed. It could be included in a General Plan or in the unconstrained section of a long-term plan.

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

Environmental Justice – The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. http://www.epa.gov/environmentaljustice/.

Goods Movement Corridor – Port-to-border transportation corridors that constitute the State's goods movement backbone. The four corridors identified in California's Goods Movement Action Plan are: Los Angeles-Long Beach-Inland Empire, Bay Area, San Diego/Border, and Central Valley.

Facility Concept – Description of a Facility and strategies that may be needed within 20-25 years. The concept can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility, non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, Transportation Demand Management, and Incident Management.

Facility Type – Describes the State Highway. The facility could be freeway, expressway, conventional, or one-way city street.

Federal Functional Classification - The Federal-Aid Highway Act of 1973 required the use of functional highway classification to update and modify the Federal-aid highway systems by July 1, 1976. This legislative requirement is still effective today.
http://www.fhwa.dot.gov/planning/processes/statewide/related/functional_classification/fc01.cfm

Focus Route – A phrase specific to the Interregional Transportation Specific Plan. Focus Routes are a subset of the 34 High Emphasis Routes. The routes represent 10 Interregional Road System (IRRS) corridors that should be of the highest priority for completion to minimum facility standards in the 20-year period. Completion of the Focus Routes to minimum facility standards (for most routes freeway or expressway) will assure a statewide trunk system is in place and complete for higher volume interregional trip movements.

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.

High Emphasis Route - Due to the large number of routes and capacity improvements needed on the Interregional Road System, the 1990 IRRS Plan identified 13 of the 87 routes as being the most critical IRRS routes and identified them by the term "High Emphasis Routes".

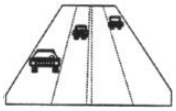
Horizon Year – The year that the future (20-25 years) data is based on.

Intermodal Freight Facility – A freight facility where different transportation modes and networks connect. The freight is transferred (or "transloaded") from one mode, such as rail, to another, such as a truck.

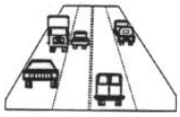
IRRS - Interregional Road System **-** Consists of State Routes located outside the boundaries of urbanized areas exceeding a population of over 50,000. In some cases, routes have been continued through urban areas to provide connections for continuations of the IRRS routes. Routes in urbanized areas are not eligible for IRRS funding

ITS – Intelligent Transportation System - Improves transportation safety and mobility and enhances productivity through the integration of advanced communication technologies with the transportation infrastructure and vehicles. Intelligent transportation systems encompass a broad range of wireless and wired communication-based information and electronics technologies to collect information, process it, and take appropriate actions.

LOS – Level of Service - A qualitative measurement of the perceptions of motorists to operational conditions within a traffic stream. A LOS generally describes the conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. The six levels of service 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.

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

Peak Hour Volume – Amount of traffic counted during the hour of the day in which the maximum volume occurs across a point on the highway. 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 – The 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 Project – An improvement or action in a fiscally constrained section of a long-term plan, such as an approved Regional or Metropolitan Transportation Plan (RTP or MTP), Capital Improvement Plan, or measure.

Post-25 Year Concept – This dataset may be defined and re-titled at the District's discretion. In general, the Post-25 Year concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-25 year horizon. The post-25 year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Post Mile – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route 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 relocated, new mileposts (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 Project – An improvement or action 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.

Railroad Class I – The Surface Transportation Board (STB) defines a Class I railroad in the U.S. as a carrier having annual operating revenues of $250 million or more. This class includes the nation's major railroads. In California, Class I railroads include Union Pacific Railroad (UP) and Burlington Northern Santa Fe Railway (BNSF).

Railroad Class II – STB defines a Class II railroad in the U.S. as having annual carrier operating revenues of less than $250 million but more than $20 million. Class II railroads are considered mid-sized, freight-hauling railroad in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads.

Railroad Class III – Railroads with annual carrier operating revenues of $20 million or less. The typical Class III is a short line railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad.

Route Designation – Adopted through legislation to identify 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 as determined by the U.S. Census Bureau

Scenic Highway - When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. These local agencies must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes.

These ordinances make up the scenic corridor protection program. Landscape Architecture advises the local jurisdictions of the processes and procedures involved in preparing and presenting the applications for scenic highway designations to the California Department of Transportation for approval.

Section 4(f) – Department of Transportation Act "Section 4(f)" [49 USC § 303] – defines protected resources as publicly-owned public parks, recreational areas of national, state or local significance, wildlife or waterfowl refuges; or lands from a historic site of national, state or local significance. Recreational areas include formal and informal facilities, including after-school public use of school playgrounds and recreational facilities.

Segment – A portion of a facility between two points.

Special Route (Truck) Restrictions – A Caltrans list of restrictions on routes pertaining to truck weight, number of axles, or carrying of hazardous materials, etc.

Special Status Consideration - Species of Special Concern Includes fish, amphibians, reptiles, birds, and mammals that the Department of Fish and Game (DFG) has determined are potentially at risk to become threatened or endangered.

Strategic Highway Network (STRAHNET) - Routes that provide defense access, continuity, and emergency capabilities for movement of personnel and equipment in both peace and war. In addition, STRAHNET connectors link important military installations and ports to STRAHNET.

System Operations and Management Concept – Descriptions of 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.

TASAS - Traffic Accident Surveillance and Analysis System (TASAS) is a source for highway data and collision data. The highway data is updated via construction plan reviews and District TASAS Coordinators. The accident data is provided by the California Highway Patrol (CHP) from their SWITRS database. Caltrans is responsible for coding the accident location and CHP is responsible for coding all other accident information.

TDM – Transportation Demand Management - Programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

Terrain – Caltrans documents two types of terrain; the topography of the route corridor and the profile of the roadway. The terrain data in the TCR describes the topography of each route segment and is obtained from TASAS and is characterized subjectively as "Flat," "Rolling," or "Mountainous." The Highway Design Manual defines maximum grades for types of highways and terrain conditions. The types of terrain are categorized as "Level," "Rolling," and "Mountainous." The grade percentage chart can be found in Chapter 200, Table 204.3.

TMS – Transportation Management System - The business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

Truck Designation - The California "Truck Network" Route List provides the state route segments and their truck access designations (such as National Network, Terminal Access, California Legal, Advisory, or Restricted) with each segment's beginning and ending post miles, and beginning and ending cross streets.

Urban – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

Urbanized – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

VMT – Vehicle Miles of Travel - The total number of miles traveled by motor vehicles on a road or highway segment.

APPENDIX B- BICYCLE AND PEDESTRIAN ACCESS STUDY RECOMMENDATIONS FOR TECATE POE

United States	Pedestrian Project Recommendations
Project 46	SR 188 Pedestrian-Friendly Crossing Improvement ($110,000)
SR 188 at Thing Rd	In the absence of Kumeyaay Crossing at Tecate International Border Crossing, create north-south pedestrian-friendly crossing across SR 188 at intersection of Thing Road.
Project 47	Kumeyaay Crossing at Tecate International Border Crossing ($2,382,000)
SR 188 extending from POE to approximately 1100' north	Replace and widen sidewalk on west side of SR 188 including additional space for pedestrian pathway amenities and signage. Add bike lane. Add pedestrian crosswalks on and across SR 188. This is a TEA project that remains viable if TEA program or other funding becomes available.
Project 48	Tecate, California Pedestrian Pathway Enhancements ($326,000)
Border to MTS bus stop on SR 188	Add restrooms, water fountain, informational kiosks, benches, lighting, and informational and directional signage. Add additional benches behind bus stop and bus shelter. Add additional shade for southbound queuing area.
United States	**Bicycle Project Recommendations**
Project 49	Tecate, California Bicycle Border Crossing ($300,000)
POE	Create northbound and southbound bicycle-only inspection lanes with appropriate amenities. Appropriate amenities depend on whether lanes are designed for mounted bicyclists or bicyclists who are dismounted and crossing as pedestrians.
Project 50	Bicycle Routes in Tecate, California ($23,000)
Various	Construct bicycle routes in Tecate, California and install bicycle-related signage.
Project 51	Bicycle Parking in Tecate, California ($7,000)
Within a three minute walk of the pedestrian queue	Construct bicycle parking at the POE. Consider secure parking and storage where possible.
United States	**Transit Project Recommendations**
Project 52	Increase Route 894 Frequency
-	Increase frequency of Route 894 with service to and from Tecate.
United States	**Vehicle Project Recommendations**
Project 53	Tecate, California Passenger Pick-Up/Drop-Off Zone ($47,000)
SR 188	Create a passenger pick-up/drop-off zone outside of CBP pedestrian processing facility. Add bench, shade, lighting, and signage.

Figure 1.5 Tecate/Tecate Pedestrian, Transit, and Vehicle Projects

Figure 1.6 Tecate/Tecate Bicycle Projects