



**Transportation Concept Report
Interstate 8
District 11
February 2016**



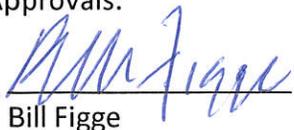
Transportation Concept Report (TCR) Purpose

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.

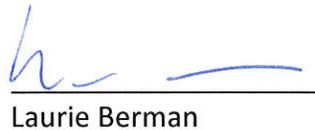
California Department of Transportation

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

Approvals:


Bill Figge

2-9-16
Date


Laurie Berman

2-9-16
Date

Deputy District Director, Planning

District 11 Director

TABLE OF CONTENTS

About the Transportation Concept Report.....	1
Stakeholder Participation	1
EXECUTIVE SUMMARY	2
Concept Summary.....	2
Concept Rationale.....	2
CORRIDOR OVERVIEW	5
Route Segmentation	5
Route Description	8
System Characteristics	13
Federal Land.....	17
Community Characteristics and Land Use	20
California-Baja California International Border	27
Freight/Goods Movement	28
Multimodal Transportation.....	34
Airport Facilities	34
Bicycle Facilities	36
San Diego County.....	36
Pedestrian Facilities	41
I-8 Corridor Study Active Transportation Analysis and Improvement Strategy	41
Transportation Demand Management.....	50
Car and Ride Sharing.....	50
Park and Ride	51
Transit Facilities	52
Environmental Considerations for Interstate 8 in Imperial and San Diego Counties	56
CORRIDOR PERFORMANCE	63
CORRIDOR CONCEPT.....	72
APPENDICES	81
Appendix A – Glossary of Terms and Acronyms	81
Appendix B – Imperial County Renewable Energy Projects.....	89
Appendix C – Additional Corridor Data from I-8 Corridor Study	90
Appendix D – Map.....	94

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 Interstate 8 (I-8) corridor. The local stakeholders include the Counties of Imperial and San Diego, the Southern California Association of Governments (SCAG), the Imperial County Transportation Commission (ICTC), the San Diego Association of Governments (SANDAG) along with local cities and 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

The California Department of Transportation (Caltrans) has prepared this Transportation Concept Report (TCR) for Interstate 8 (I-8). The TCR is a long term consensus-based vision intended to assist Caltrans, the Southern California Association of Governments (SCAG), the Imperial County Transportation Commission (ICTC), the San Diego Association of Governments (SANDAG), and other public agencies serving Imperial and San Diego Counties in managing the route. The report includes an assessment of current and future operating conditions, and improvements that will be needed to meet operational goals on the route.

Concept Summary

A multimodal approach is necessary to provide for the projected increased person-trips in the I-8 corridor. Interchange improvements, operational improvements and continued maintenance of existing facilities would be the main strategy for the urban portion of the freeway based on funding and congestion needs. In San Diego County, from Ocean Beach through El Cajon, I-8 is a major east/west corridor through a highly dense urban area. Mobility and safe access for all travelers, bicyclists, pedestrians, and transit users is the main corridor concept for the I-8 along this section of the route. Limited right-of-way and lack of adequate arterials requires focus on operational improvements, system management and multimodal efficiency. In East County San Diego and Imperial County, pavement conditions were analyzed and pavement rehabilitation projects are under to address long term maintenance needs. As the primary east-west route in Imperial County, north-south routes continued connectivity need to be addressed through interchange improvements at key locations. This includes the construction of interchange improvements at Dogwood Avenue, Imperial Avenue, and State Route 186 (SR-186).

Concept Rationale

The concept rationale for I-8 is based on the route's primary purpose. The primary purpose of I-8 in the San Diego area is to provide for east-west movement of commuter, regional, and interregional traffic. The western, more urbanized portion of I-8 is a major commuter route serving Ocean Beach, Mission Valley, San Diego State University, La Mesa, El Cajon, Lakeside and Alpine. The eastern portion of I-8 beyond the urban area is primarily an interregional route used for goods movement, and for access to mountain and desert recreational areas. I-8 is the primary route used by Imperial County agricultural producers to ship products into the San Diego region. In turn, I-8 provides access to suppliers of the agricultural support industries. This has been particularly true since the parallel San Diego & Arizona Eastern (SD&AE) railway which ran from San Diego to Plaster City/El Centro was disrupted in 1983.

Table 1: I-8 Concept Rationale

Segment	Segment Description	Existing Facility	Mid-term (2015-2025) Capital Facility Concept	Mid-term System Operations and Management Concept	Mid-term Facility Concept	Long-term (2025-2035) Concept ¹
1	Sunset Cliffs to Interstate 5	6F+2Aux	6F+2Aux	Transportation Demand Management (TDM), Integrated Corridor Management (ICM)	Maintain	Operational Improvements
2	Interstate 5 to State Route 163	8F+3Aux	8F+3Aux	TDM, ICM	Maintain	Operational Improvements
3	State Route 163 to Interstate 805	8F+4Aux	8F+4Aux	TDM, ICM	Maintain	Operational Improvements
4	Interstate 805 to Interstate 15	8F+4Aux	8F+4Aux	TDM, ICM	Maintain	Operational Improvements
5	Interstate 15 to College Ave	10F+3Aux	10F+3Aux	TDM, ICM	Maintain	Operational Improvements
6	College Ave to Lake Murray Blvd	8F+1Aux	8F+1Aux	TDM, ICM	Maintain	Operational Improvements
7	Lake Murray Blvd to State Route 125	8F+2Aux	8F+2Aux		Maintain	Operational Improvements
8	State Route 125 to State Route 67	8F+4Aux	8F+4Aux		Maintain	Add 2 Auxiliary Lanes
9	State Route 67 to Greenfield Drive	4/6F+2Aux	6F+2Aux		Maintain	
10	Greenfield Drive to Lake Jennings Park Road	4F	4F		Maintain	Add 2 General Purpose Lanes and 1 eastbound Auxiliary Lane

¹ Identified operational improvements may be accelerated if funding opportunities become available.

Segment	Segment Description	Existing Facility	Mid-term (2015-2025) Capital Facility Concept	Mid-term System Operations and Management Concept	Mid-term Facility Concept	Long-term (2025-2035) Concept ¹
11	Lake Jennings Park Road to Tavern Road	4F	4F		Maintain	Add 2 General Purpose Lanes ²
12	Tavern Road to Willows Road	4F	4F		Maintain	
13	Willows Road to State Route 79	4F	4F		Maintain	
14	State Route 79 to State Route 94	4F	4F		Maintain	
15	State Route 94 to Imperial County Border	4F	4F		Maintain	
16	Imperial County Border to State Route 98	4F	4F		Maintain	
17	State Route 98 to Forrester Road	4F	4F		Maintain	
18	Forrester Road to State Route 86	4F	4F		Maintain	Add 2 General Purpose Lanes
19	State Route 86 to State Route 111	4F	4F		Maintain	Add 2 General Purpose Lanes
20	State Route 111 to State Route 7	4F	4F		Maintain	
21	State Route 7 to State Route 115	4F	4F		Maintain	
22	State Route 115 to State Route 98	4F	4F		Maintain	
23	State Route 98 to State Route 186	4F	4F		Maintain	
24	State Route 186 to the Arizona State Line	4F	4F		Maintain	

² Proposed easterly limit to Dunbar Lane

CORRIDOR OVERVIEW

ROUTE SEGMENTATION

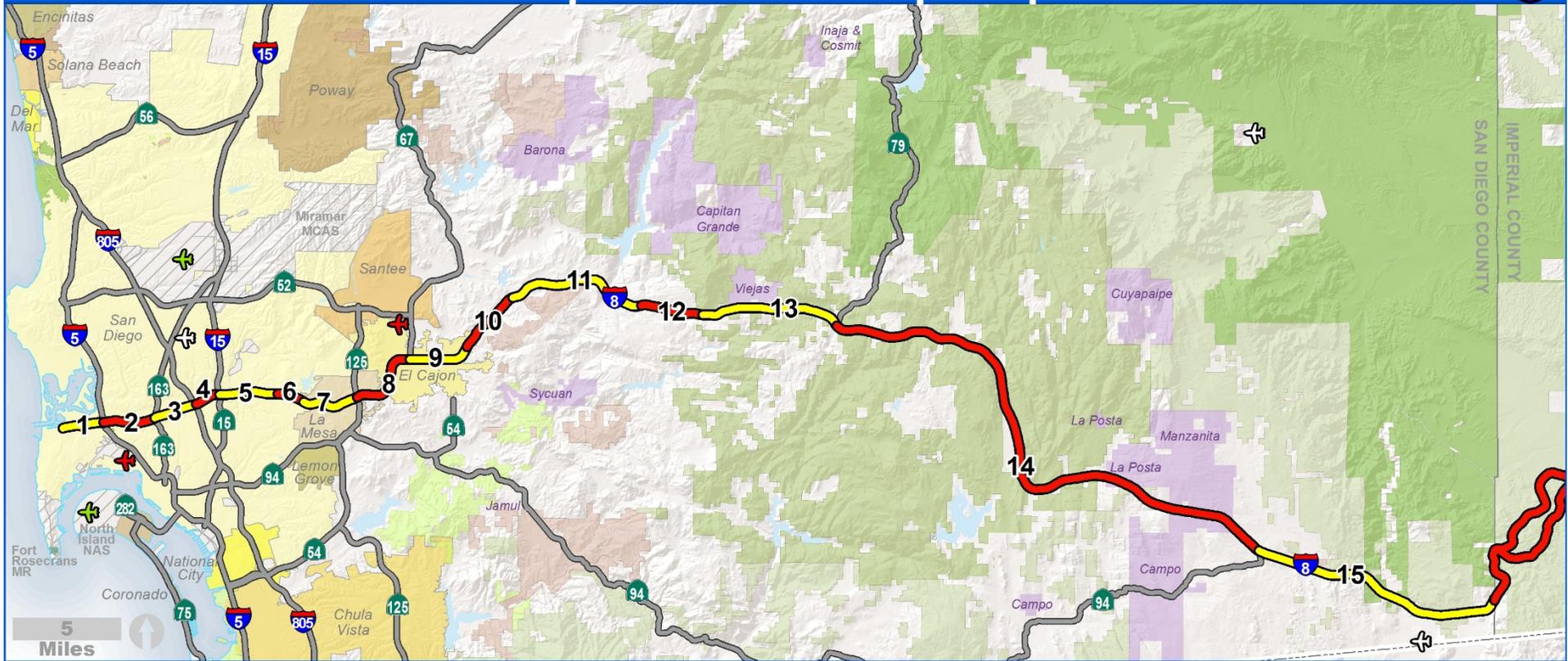
I-8 can be viewed in three major parts: From Sunset Cliffs to Lake Jennings Park Road (Segments 1-10), Lake Jennings Park Road to the San Diego/Imperial County Line (Segments 10-15), and the County Line to the Arizona State Line (Segments 16-24). The western part of I-8 represents the urban core of San Diego County with the east part being the both rural San Diego and Imperial Counties.

Table 2: I-8 Route Segmentation

Segment #	Location Description	County Route Beginning Post Mile	County Route End Post Mile	Existing Facility Eastbound	Existing Facility Westbound	City/County
1	Sunset Cliffs to Interstate 5	SD_8_L000.000	SD_8_R000.239	3F ³	3F	SD
2	Interstate 5 to State Route 163	SD_8_R000.239	SD_8_002.410	4F	4F	SD
3	State Route 163 to Interstate 805	SD_8_002.410	SD_8_004.429	4F	4F	SD
4	Interstate 805 to Interstate 15	SD_8_004.429	SD_8_005.638	4F	4F	SD
5	Interstate 15 to College Ave	SD_8_005.638	SD_8_008.336	5F	5F	SD
6	College Ave to Lake Murray Blvd	SD_8_008.336	SD_8_009.591	4F	4F	SD
7	Lake Murray Blvd to State Route 125	SD_8_009.591	SD_8_012.240	4F	4F	La Mesa
8	State Route 125 to State Route 67	SD_8_012.240	SD_8_015.800	4F	4F	La Mesa/ El Cajon
9	State Route 67 to Greenfield Drive	SD_8_015.800	SD_8_R018.727	2/3F	2/3F	El Cajon
10	Greenfield Drive to Lake Jennings Park Road	SD_8_R018.727	SD_8_R021.843	2F	2F	SD County
11	Lake Jennings Park Road to Tavern Road	SD_8_R021.843	SD_8_R028.464	2F	2F	SD County
12	Tavern Road to Willows Road	SD_8_R028.464	SD_8_R031.343	2F	2F	SD County
13	Willows Road to State Route 79	SD_8_R031.343	SD_8_R037.856	2F	2F	SD County
14	State Route 79 to State Route 94	SD_8_R037.856	SD_8_R065.896	2F	2F	SD County
15	State Route 94 to Imperial County Border	SD_8_R065.896	SD_8_R077.770	2F	2F	SD County
16	Imperial County Border to State Route 98	IMP_8_R000.000	IMP_8_R010.279	2F	2F	Imp County
17	State Route 98 to Forrester Road	IMP_8_R010.279	IMP_8_R033.991	2F	2F	Imp County
18	Forrester Road to State Route 86	IMP_8_R033.991	IMP_8_R037.960	2F	2F	El Centro/ Imp County
19	State Route 86 to State Route 111	IMP_8_R037.960	IMP_8_R040.944	2F	2F	El Centro/ Imp County
20	State Route 111 to State Route 7	IMP_8_R040.944	IMP_8_R047.783	2F	2F	Imp County
21	State Route 7 to State Route 115	IMP_8_R047.783	IMP_8_R053.497	2F	2F	Imp County
22	State Route 115 to State Route 98	IMP_8_R053.497	IMP_8_R065.752	2F	2F	Imp County
23	State Route 98 to State Route 186	IMP_8_R065.752	IMP_8_R090.740	2F	2F	Imp County
24	State Route 186 to the Arizona State Line	IMP_8_R090.740	IMP_8_R096.986	2F	2F	Imp County

³ Freeway Lanes

Transportation Concept Report



- Route Segmentation
- Route Segmentation
- Community Airports
- Cargo Airports
- Military Airports
- Tribal Land
- Military
- National Park Service
- CA Dept. of Fish and Wildlife
- CA Dept. of Parks and Recreation
- US Forest Service
- US Fish and Wildlife Service
- US Bureau of Land Management
- Cities

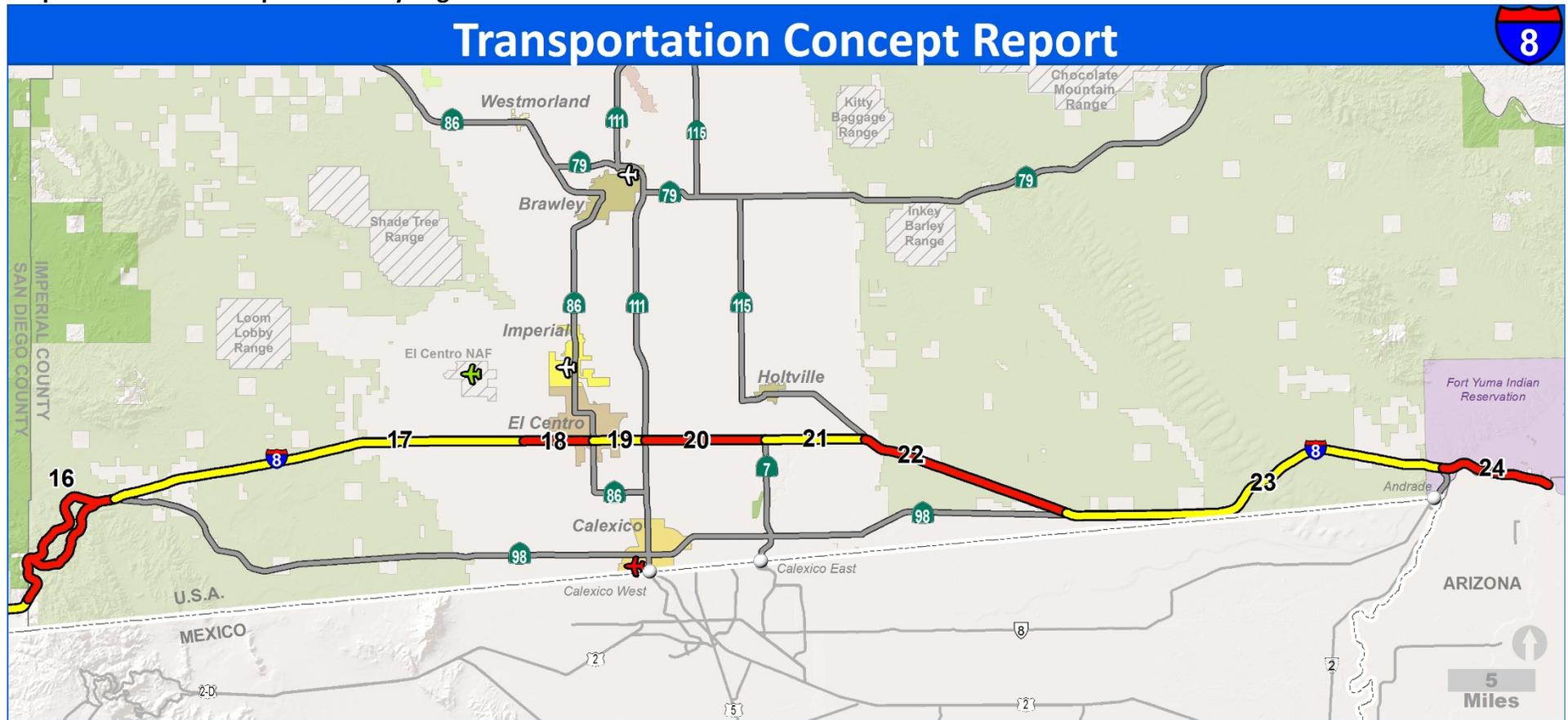


This map contains geographic information provided and/or maintained by Caltrans District 11 GIS, SanGIS, SANDAG, Bureau of Indian Affairs Pacific Regional Office, California Protected Areas Database, and U.S. Census Bureau.

District 11
Sep 23, 2015

Segment	CO	Location Description	Begin PM	End PM
1	SD	Nimitz Blvd to Interstate 5	T000.466	L002.379
2	SD	Interstate 5 to State Route 163	L002.379	002.410
3	SD	State Route 163 to Interstate 805	002.410	004.429
4	SD	Interstate 805 to Interstate 15	004.429	005.638
5	SD	Interstate 15 to College Ave	005.638	008.336
6	SD	College Ave to 70th St./Lake Murray Blvd	008.336	009.591
7	SD	70th St./Lake Murray Blvd to State Route 125	009.591	012.240
8	SD	State Route 125 to State Route 67	012.240	015.800
9	SD	State Route 67 to Greenfield Drive	015.800	R018.727
10	SD	Greenfield Drive to Lake Jennings Park Road	R018.727	R021.815
11	SD	Lake Jennings Park Road to Tavern Road	R021.815	R028.464
12	SD	Tavern Road to Willows Road	R028.464	R031.343
13	SD	Willows Road to State Route 79	R031.343	R037.856
14	SD	State Route 79 to State Route 94	R037.856	R065.896
15	SD	State Route 94 to Imperial County Border	R065.896	R077.770L

Map #2: Interstate 8 Imperial County Segmentation



- Route Segmentation
- Community Airports
- Cargo Airports
- Military Airports
- Ports of Entry
- Tribal Land
- Military
- CA Dept. of Fish and Wildlife
- CA Dept. of Parks and Recreation
- US Fish and Wildlife Service
- US Bureau of Land Management
- Cities



This map contains geographic information provided and/or maintained by Caltrans District 11 GIS, SanGIS, SANDAG, Bureau of Indian Affairs Pacific Regional Office, California Protected Areas Database, and U.S. Census Bureau.

Caltrans
gis
District 11
Sep 23, 2015

Segment	CO	Location Description	Begin PM	End PM
16	IMP	Imperial County Border to State Route 98	R000.000R	R010.279
17	IMP	State Route 98 to Forrester Road	R010.279	R033.991
18	IMP	Forrester Road to State Route 86	R033.991	R037.960
19	IMP	State Route 86 to State Route 111	R037.960	R040.944
20	IMP	State Route 111 to State Route 7	R040.944	R047.783
21	IMP	State Route 7 to State Route 115	R047.783	R053.497
22	IMP	State Route 115 to State Route 98	R053.497	R065.752
23	IMP	State Route 98 to State Route 186	R065.752	R090.740
24	IMP	State Route 186 to the Arizona State Line	R090.740	R096.986

ROUTE DESCRIPTION

Route History

California Streets and Highways Code Section 308 defines Interstate 8 (I-8) from (a) Sunset Cliffs Boulevard to Route 5 in San Diego and (b) Route 5 in San Diego to Yuma via El Centro. I-8 was added to the State Highway System in three sections, former Route 12 from San Diego, Interstate 5 (I-5), to El Centro in 1909, former Route 109 from Sunset Cliffs Boulevard to I-5, and former Route 27 from El Centro to the Arizona State Line in 1915. Large portions of I-8 were primarily completed as U.S. Route 80 before being renamed by the State of California in 1964 to meet Interstate Highway guidelines and remove duplicate numbering of state routes. In Imperial County, I-8 parallels the alignment of Old Plank Road that was built in 1915 to connect El Centro/Imperial to Winterhaven/Yuma.

Route Location

I-8 begins in the City of San Diego at Sunset Cliffs Boulevard as access to the community of Ocean Beach. It continues through the urban core of San Diego before crossing through the Cities of La Mesa and El Cajon. In this portion, I-8 interconnects with I-5, State Route 163 (SR-163), Interstate 15 (I-15), Interstate 805 (I-805), and State Route 125 (SR-125). Within the jurisdiction of the County of San Diego, I-8 serves rural communities and tribal lands with a much needed east-west connection. In this portion, I-8 interconnects with State Route 67 (SR-67), State Route 79 (SR-79), and State Route 94 (SR-94). In Imperial County, I-8 parallels the U.S./Mexico Border and the All-American Canal providing the east-west connection to rural communities and the urban areas of the City of El Centro and the City of Imperial. In this portion, I-8 interconnects with State Route 98 (SR-98), Forrester Road, State Route 86 (SR-86), State Route 111 (SR-111), State Route 7 (SR-7), State Route 115 (SR-115) and State Route 186 (SR-186). Within Caltrans District 11, I-8 is 172.0 miles long (Sunset Cliffs to the Arizona State Line.) I-8 continues into Arizona until it intersects with Interstate 10 (I-10) near Casa Grande.

Route Purpose

The primary purpose of I-8 is to provide an east-west travel corridor in San Diego and Imperial County and continues into Arizona. In the San Diego urban area, I-8 provides for east-west movement of commuter and interregional traffic. In the eastern portion of San Diego County, I-8 is primarily a rural interregional route used for goods movement, and for access to tribal lands, agricultural centers, and mountain and desert recreational areas. I-8 is used by Imperial County agricultural producers to ship products into San Diego. I-8 also connects distribution centers and consumers between San Diego to Calexico/Mexicali region and other parts of the U.S. Rather than travel on the parallel facility in Mexico, many residents of Mexico enter the U.S. at Calexico to access shopping, recreation and work centers in Imperial and San Diego Counties.

Major Route Features

As an Interstate Freeway, the full length of I-8 is part of the National Highway System (NHS) that begins at Sunset Cliffs Boulevard in San Diego to the California-Arizona State line, just outside of Yuma, Arizona. The NHS provides an integrated national highway system that serves both urban and rural America. It connects major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations, as well as meets national defense requirements and serves interstate and interregional travel. The entire length of I-8 is part of the Strategic Highway Network (STRAHNET). STRAHNET routes provide defense access, continuity, and emergency capabilities for movement of personnel and equipment in both peace and war.

The Federal Highway Administration (FHWA) has designated a National Network of routes comprised primarily of Interstate Highways available to larger trucks. I-8 is designated as a National Network route under the Surface Transportation Assistance Act (STAA) Truck Network. From Sunset Cliff Boulevard to Interstate 5 (Segment 1), the route is designated as Terminal Access. The State of California added Terminal Access routes to the STAA network. Terminal Access routes are State or local roads that allow STAA trucks to travel between national network routes or reach truck operating facilities or freight terminals. Certain categories of large tractor-semitrailer combinations are restricted to this system.

*“Moving Ahead for Progress in the 21st Century (MAP-21) includes a number of provisions to improve the condition and performance of the national freight network and support investment in freight-related surface transportation projects.”*⁴ MAP-21 defines a National Freight Network (NFN) and sets the policy to improve the performance and condition of the network. The purpose of the NFN is *“to assist States in strategically directing resources toward improved system performance for efficient movement of freight on the highway portion of the Nation’s freight transportation system”*.⁵ The NFN consists of the Primary Freight Network (PFN), the portions of the Interstate System not designated as part of the PFN, and Critical Rural Freight Corridors (CRFC). The entire I-8 is part of the NFN, with I-5 to SR-163 and I-805 to 11.56 miles east being part of the PFN.

The Intermodal Corridors of Economic Significance (ICES) system was created by Caltrans in response to 1994 State legislation to identify significant transportation arteries in the State that connect or provide access to major sea or waterway ports, nationwide railway systems, airports and interstate and intrastate highway systems. I-8 from I-5 to the Arizona State Line is designated as part of the ICES system. The ICES system emphasizes corridors that are most essential to the California economy in terms of national and international trade. To be included in the ICES system, a route must provide access between major freight intermodal facilities and serve freight traffic destined for Canada and Mexico, as well as the Pacific Rim, and other U.S. trade markets. The Entire I-8 is part of the International Border Trade Corridors (IBTC) system. The IBTC system is comprised of routes of statewide significance to facilitate and increase trade, ensure safe cross-border trucking, and to improve the multimodal transportation network leading to the major international border crossings. It includes both highway and rail intended to provide for the movement of both goods and people.

Being a key transportation corridor, I-8 is also part of the High Emphasis Interregional Road System (IRRS), which is composed of major through trunkline routes that form the backbone of the State’s transportation network. As part of the Interregional Transportation Strategic Plan (ITSP), Focus Routes have the highest priority for Interregional Transportation Improvement Program (ITIP) funding for completion to minimum facility standards within 20 years. These facilities will ensure that a statewide core system will be in place for higher volume interregional mobility. I-8, as an Interstate Freeway already meets the standards required.

⁴ Map 21 Factsheet: <http://www.fhwa.dot.gov/map21/factsheets/freight.cfm> (September 13, 2013)

⁵ National Freight Network: <http://ops.fhwa.dot.gov/freight/infrastructure/nfn/index.htm>

I-8 is eligible but not designated as a State Scenic Highway from Sunset Cliffs Boulevard to the west State Route 98 Junction (Segments 1-16). The Scenic Highway System was created by the Legislature in 1963. The purpose is to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways.

Table 3: Route Designations and Characteristics

Segment #	1	2	3	4	5	6	7	8	9	10	11	12
Freeway and Expressway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway						
National Highway System	Yes	Yes	Yes	Yes	Yes	Yes						
Strategic Highway Network	Yes	Yes	Yes	Yes	Yes	Yes						
Scenic Highway	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible						
Interregional Road System	Yes	Yes	Yes	Yes	Yes	Yes						
High Emphasis	Yes	Yes	Yes	Yes	Yes	Yes						
Focus Route	No	No	No	No	No	No						
Federal Functional Classification	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate						
Goods Movement Route	Yes	Yes	Yes	Yes	Yes	Yes						
Truck Designation	STAA ⁶ Terminal Access	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network
Rural/Urban/Urbanized	Urban	Urban	Urban	Urban	Urban	Urban						
Metropolitan Planning Organization	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG						
Regional Transportation Planning Agency	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG						
County Transportation Commission	SANDAG ⁷	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG	SANDAG
Regional Transit Agency	MTS ⁸	MTS	MTS	MTS	MTS	MTS	MTS	MTS	MTS	MTS	MTS	MTS
Local Agency	San Diego County/ City of San Diego	San Diego County/ La Mesa	San Diego County/ El Cajon	San Diego County	San Diego County	San Diego County						
Tribes	N/A	N/A	N/A	N/A	N/A	N/A						
Air District	San Diego County APCD ⁹	San Diego County APCD	San Diego County APCD	San Diego County APCD	San Diego County APCD	San Diego County APCD	San Diego County APCD					
Terrain	Flat	Flat	Flat	Flat	Flat	Rolling	Rolling	Rolling	Flat/Rolling	Rolling	Rolling	Rolling

⁶ Surface Transportation Assistance Act
⁷ San Diego Association of Governments
⁸ Metropolitan Transit System
⁹ Air Pollution Control District

Table 3: Route Designations and Characteristics

Segment #	13	14	15	16	17	18	19	20	21	22	23	24
Freeway and Expressway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway
National Highway System	Yes	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	Yes
Scenic Highway	Eligible	Eligible	Eligible	Eligible	No	No	No	No	No	No	No	No
Interregional Road System	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High Emphasis	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Focus Route	No	No	No	No	No	No	No	No	No	No	No	No
Federal Functional Classification	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate	Interstate
Goods Movement Route	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Truck Designation	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network	STAA National Network					
Rural/Urban/Urbanized	Rural	Rural	Rural	Rural	Rural	Urban	Urban	Rural	Rural	Rural	Rural	Urban
Metropolitan Planning Organization	SANDAG	SANDAG	SANDAG	SCAG ¹⁰	SCAG	SCAG	SCAG	SCAG	SCAG	SCAG	SCAG	SCAG
Regional Transportation Planning Agency	SANDAG	SANDAG	SANDAG	ICTC ¹¹	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC
County Transportation Commission	SANDAG	SANDAG	SANDAG	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC
Regional Transit Agency	MTS	MTS	MTS	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC	ICTC
Local Agency	San Diego County	San Diego County	San Diego County	Imperial County	Imperial County	Imperial County/El Centro	Imperial County/El Centro	Imperial County				
Tribes	Viejas	La Posta/Campo	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Quechan	Quechan
Air District	San Diego County APCD	San Diego County APCD	San Diego County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD	Imperial County APCD
Terrain	Rolling	Mountain/Rolling	Mountain	Mountain	Flat	Flat	Flat	Flat	Flat	Flat	Rolling/Flat	Flat

¹⁰ Southern California Association of Governments

¹¹ Imperial County Transportation Commission

SYSTEM CHARACTERISTICS

I-8 is a 172 mile, east-west, divided, Interstate Freeway within California from Sunset Cliffs Boulevard to the Arizona State Line. Beginning with two lanes in each direction, I-8 grows to 6 lanes at Midway drive and 8 lanes after the I-5 Junction. The route gains a lane in each direction from I-15 to Lake Murray Boulevard before dropping down to 8 lanes until SR-67, where it drops to 6 lanes. After 2nd Street, I-8 becomes a 4 lane facility through to the Arizona State line. I-8 has auxiliary lanes between Sunset Cliffs to Greenfield Drive that span from 1 to 4 depending on the segments to facilitate entering and exiting traffic. The Green Line Trolley Line, operated by the San Diego Metropolitan Transit System (MTS), runs parallel to I-8 from the Old Town Station to the City of El Cajon. The freeway shoulders of Interstate 8 are open to bicycle traffic in the following places in San Diego and Imperial Counties, East Willows Road to SR-79 (3.5 miles), In-Ko-Pah Road to Imperial Highway (12.1 miles), Gordons Well Road to Ogilby Road (10.3 miles), and Sidewinder Road to State Route 186 (SR-186) (2.0 miles).

In the urban segments weaving and diverging traffic is a common travel pattern for commuters access the freeways that intersect I-8. In Segment 2, between Hotel Circle and Taylor Street, westbound travel lanes bear Interstate shields and corresponding directional text that provide advanced, supplemental lane assignment information to motorists. This is the first location statewide to bear the embedded plastic logos in pavement. The shields were placed to reduce the number of lane changes at the I-5/I-8 interchange.



In Imperial County, I-8 faces heavy loads from freight trucking and adverse environmental conditions. Caltrans will be placing Continuously Reinforced Concrete Pavement (CRCP) to provide a long-life, superior roadway while at the same time reducing cost and improving safety for highway workers exposed to traffic by reducing maintenance time. The asphalt shoulders will also be replaced with CRCP reducing environmental impacts and increasing durability. These projects will provide a smooth drive in the short term and to extend the life expectancy of the pavement in the long term along three segments of Interstate 8 in from east of State Route 111 to the Arizona border. Without this project, the pavement would soon deteriorate.

Roadside Rest Areas¹²

A major characteristic of I-8 is the presence of long distance trucking operations. Caltrans provides Safety Roadside Rest Areas as a part of the State Highway System pursuant to Streets and Highways Code, Sections 218-226.5. Safety Roadside Rest Areas provide opportunities for travelers to safely stop, stretch, take a nap, use the restroom, get water, check maps, place telephone calls, switch drivers, check vehicles and loads, and exercise pets. Rest areas reduce drowsy and distracted driving and provide a safe and convenient alternative to unsafe parking along the roadside. There are three Rest Areas along the rural segments of I-8. In San Diego County, Buckman Springs provides a safe refuge for drivers traveling through the Cleveland National Forest and can be accessed at the Buckman Springs Road Exit. Imperial County has Rest Areas to serve both directions of traffic at Sunbeam. The Sunbeam Rest Areas are independent exits that connect back on to the Freeway. The third location, Sand Hills, is located in the median of the Imperial Sand Dunes portion of I-8.

¹² <http://dot.ca.gov/hq/LandArch/srra/index.htm>

Table 4: Roadside Rest Areas¹³

Name	Location	Direction Located	Rest Room	Water	Picnic Tables	Phone	Disabled Access	RV Station	Food Vending	Pet Area
Buckman Springs	3.3 miles east of Pine Valley	E	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Sunbeam	6 miles west of the City of El Centro	E	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sunbeam	6 miles west of the City of El Centro	W	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Sand Hills	20 miles west of Arizona State Line	E & W	Yes	Yes	No	No	Yes	No	No	No



Sun Beam Above,
Sand Hills Right,
Buckman Springs Below



¹³ <http://www.dot.ca.gov/hq/maint/ra/Statewide.htm>

Table 5: System Characteristics

Segment #	1	2	3	4	5	6	7	8	9	10	11	12
Existing Facility												
Facility Type	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway
General Purpose Lanes	6	8	8	8	10	8	8	8	4/6	4	4	4
Lane Miles	15.606	17.368	16.152	9.672	26.980	10.040	21.192	28.48	17.82	12.464	26.484	11.516
Centerline Miles	2.601	2.171	2.019	1.209	2.698	1.255	2.649	3.56	2.97	3.116	6.621	2.879
Median Width	60-99	55-60	14-99	22	22	22-99	22-30	22-30	48-70	98	98	98
Median Characteristics	Divided	Divided	Divided	Divided	Divided	Divided	Divided	Divided	Divided	Divided	Divided	Divided
Auxiliary Lanes	2	3	4	4	3	1	2	4	1	0	0	0
Truck Climbing Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Distressed Pavement	.168	.124	0	0	.804	1.155	1.882	.970	.524	0	5.672	4.535
Max Right of Way Width	260	150	215	195	210-270	210-270	300	320	200-260	220-350	220	220
Concept Facility												
Facility Type	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway
General Purpose Lanes	6	8	8	8	10	8	8	8	6	4	4	4
Lane Miles	15.606	17.368	16.152	9.672	26.980	10.040	21.192	28.48	17.82	12.464	26.484	11.516
Centerline Miles	2.601	2.171	2.019	1.209	2.698	1.255	2.649	3.56	2.97	23.116	6.621	2.879
Auxiliary Lanes												
Post 25 Year Facility												
Facility Type	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway	Freeway
General Purpose Lanes	6	8	8	8	10	8	8	8	6	6	6	4
Lane Miles	15.606	17.368	16.152	9.672	26.980	10.040	21.192	28.48	17.82	12.464	26.484	11.516
Centerline Miles	2.601	2.171	2.019	1.209	2.698	1.255	2.649	3.56	2.97	23.116	6.621	2.879
Auxiliary Lanes										1		
TMS Elements												
TMS Elements (BY) (see page 78 for acronyms)	VDS, FO	VDS, CMS, CCTV, FO	VDS, CCTV, FO	VDS, CCTV, FO	VDS, CMS, CCTV, FO	VDS	VDS	VDS, CMS	VDS	VDS		
TMS Elements (HY)	VDS, FO	VDS, CMS, CCTV, FO	VDS, CCTV, FO	VDS, CCTV, FO	VDS, CMS, CCTV, FO	VDS, CCTV, FO	VDS, CMS, CCTV	VDS, CMS, CCTV, FO	VDS	VDS, CMS	VDS	VDS

Table 5: System Characteristics Continued

Segment #	13	14	15	16	17	18	19	20	21	22	23	24
Existing Facility												
Facility Type	Freeway											
General Purpose Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Lane Miles	26.052	112.16	47.496	43.16	94.848	15.876	11.936	27.356	22.856	49.02	99.952	24.984
Centerline Miles	6.513	28.04	11.874	10.79	23.712	3.969	2.984	6.839	5.714	12.255	24.988	6.246
Median Width	88-99	50-99	60-99	22-99	22-99	22-99	60	60-99	60-99	60-99	36-99	39-99
Median Characteristics	Divided											
Auxiliary Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Truck Climbing Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Distressed Pavement	8.20	5.227	2.501	0	.191	0	0	3	3	4.945	8.445	.991
Max Right of Way Width	220-320	580-660	360	200-400	200-400	200-400	200	210-340	210-340	210-340	200-400	200-400
Concept Facility												
Facility Type	Freeway											
General Purpose Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Lane Miles	26.052	112.16	47.496	43.16	94.848	15.876	11.936	27.356	22.856	49.02	99.952	24.984
Centerline Miles	6.513	28.04	11.874	10.79	23.712	3.969	2.984	6.839	5.714	12.255	24.988	6.246
Auxiliary Lanes												
Post 25 Year Facility												
Facility Type	Freeway											
General Purpose Lanes	4	4	4	4	4	4	4	4	4	4	4	4
Lane Miles	26.052	112.16	47.496	43.16	94.848	15.876	11.936	27.356	22.856	49.02	99.952	24.984
Centerline Miles	6.513	28.04	11.874	10.79	23.712	3.969	2.984	6.839	5.714	12.255	24.988	6.246
Auxiliary Lanes												
TMS Elements												
TMS Elements (BY)	CMS				CMS							
TMS Elements (HY)	CMS				CMS		CMS					

FEDERAL LAND

Outside the urban centers, most of the land surrounding I-8 is administrated through the United States Department of Agriculture (USDA) Forest Service¹⁴ and U.S. Department of the Interior Bureau of Land Management (BLM)¹⁵ and the Bureau of Indian Affairs (BIA)¹⁶. BIA is responsible for the administration and management of 55 million surface acres and 57 million acres of subsurface minerals estates held in trust by the United States for American Indian, Indian tribes, and Alaska Natives throughout the U.S.

Cleveland National Forest¹⁷

Established in 1908, the Cleveland National Forest serves as a wildlife refuge in Southern California. The U.S. Forest Service manages 460,000 acres through three ranger districts: Trabuco Ranger District, mostly the Orange County region, Palomar Ranger District near Escondido and Ramona, and Descanso Ranger District that is adjacent to I-8 east of El Cajon. The Forest is used primarily for recreational activities including hiking, bicycle riding, horse riding, camping, fishing, hunting, sledding, and Off Highway Vehicle (OHV) riding.

Bureau of Land Management

Approximately 1.46 million acres,¹⁸ fifty percent of Imperial County, are largely undeveloped, federally owned and lands managed by the U.S. Department of the Interior Bureau of Land Management (BLM), and U.S. military. Many of the state's wind, solar, geothermal, and biomass resources can be found on BLM managed public lands. The BLM allows access to these lands for renewable energy¹⁹ development and is working with Federal and State agencies to develop The Desert Renewable Energy Conservation Plan (DRECP). The purpose of the DRECP is to streamline the permitting of renewable energy projects while conserving and managing plant and wildlife communities in the desert region. The Plan Area covers all of Imperial County and portions of East County San Diego, along with other desert regions in the state. The DRECP is a collaborative effort being developed under the California Natural Community Conservation Planning Act (NCCPA), the Federal Endangered Species Act (FESA), and the Federal Land Policy and Management Act (FLPMA). A map of the energy projects in Imperial County can be found in Appendix B.

The BLM also manages recreation areas in Imperial County, including OHV activity the following locations:

Imperial Sand Dunes Recreation Area²⁰

The Imperial Sand Dunes are the largest mass of sand dunes in California. This dune system extends for more than 40 miles along the eastern edge of the Imperial Valley agricultural region in a band averaging five miles in width. Rising to heights of over 300 feet above the surrounding desert floor, the dunes are

¹⁴ <http://www.fs.fed.us/>

¹⁵ <http://www.blm.gov/>

¹⁶ <http://www.indianaffairs.gov/>

¹⁷ <http://www.fs.usda.gov/activity/cleveland/>

¹⁸ Imperial County General Plan (1993). <http://www.icpds.com/?pid=571>

¹⁹ <http://www.icpds.com/?pid=2934>

²⁰ <http://www.blm.gov/style/medialib/blm/ca/pdf/elcentro/maps.Par.42738.File.dat/ISDRAfina1082014.pdf>

a well-known landmark to local residents and the thousands of highway travelers who pass by them every year. Between October and May, the Dunes attract tens of thousands of OHV enthusiasts to the area. The sand dunes provide outstanding opportunities for recreation. OHV activity is permitted on more than two-thirds of the sand dunes, or over 118,000 acres. One of the most popular areas, Buttercup Valley, is just south of I-8 near the U.S./Mexico Border.

Plaster City OHV Open Area

Located approximately 17 miles west of El Centro on County Highway S80, this OHV open area provides ample opportunity to test individual driving skill over a variety of terrain. Two staging areas, Plaster City East and Plaster City West, are popular primitive camping and day use areas. Limited use areas and military practice bombing targets are immediately adjacent to the open area.

Superstition Mountain OHV Open Area

This 13,000 acre open area is located north of the Plaster City OHV Open Area and presents an array of challenging OHV riding opportunities from sand dunes to mud hills. Cross-country OHV use is permitted within the boundaries of this area. Limited use areas and military practice bombing targets are immediately adjacent to the open area.

TRIBAL LAND

Caltrans establishes and adheres to government to government relationships when interacting with federally recognized California Native American Tribes (Tribal Governments) in a coordinated, cooperative, and consultative manner. Caltrans acknowledges these tribes as unique and separate governments within the United States, recognizing and respecting important California Native American rights, sites, traditions, and practices.

The District 11 Native American Liaison works directly with tribes in both San Diego and Imperial counties in a knowledgeable and sensitive manner, respecting tribal sovereignty. The Liaison consults with Tribal Governments prior to Caltrans making decisions, taking actions or implementing programs that may impact their communities. I-8 provides primary transportation access to tribal lands along the corridor and communication is vital when projects are implemented on or near tribal lands.

Tribes may enact ordinances which require all employers operating within tribal jurisdiction to provide Indian preference in employment and the application of a Tribal Employment Rights Ordinance (TERO)²¹ tax to fund the administration of the ordinances. Native American gaming is another special consideration which impacts the state highways. Federally-recognized tribes in both San Diego and Imperial counties have entered into compacts with the State of California for the creation and/or expansion of Tribal Gaming facilities on their lands. These developments are approved through the Bureau of Indian Affairs under the Federal Department of the Interior.

Viejas Band of Kumeyaay Indians²²

Currently, some 281 persons call the Viejas Reservation home. The land use is predominately rural residential and agricultural. Located off West Willows Road, Viejas Casino, Resort and Outlet are a major regional draw for tourism and recreation. The Viejas Band's democratic government consists of

²¹ <http://dot.ca.gov/hq/tpp/offices/ocp/nalb/TERO.html>

²² <http://www.kumeyaay.com/viejas/>

two levels. The General Council, which includes all of the Band's 157 adult voting members, elects the Tribal Chairman, Tribal Council, and by law, votes on all land use decisions. Tribal Council Members and the Tribal Chairman, Vice Chairman, Secretary and Treasurer are elected for two-year terms of office. Consisting of six members and the Tribal Chairman, the Tribal Council governs tribal activities and makes law, acting as the Executive, Legislative, and Judicial Branches of government. The Tribal Council also serves as the "Board of Directors" for Viejas Band economic enterprises.

Ewiiapaayp Band of Kumeyaay Indians

The Ewiiapaayp Band of Kumeyaay Indians are based in two parcels that make up the Ewiiapaayp Indian Reservation, a federally recognized Indian Reservation. The larger 4,102 acre parcel is located near Mount Laguna in East County San Diego. The second ten acre parcel, in Alpine, is the location of the Tribal Office. The remaining land is leased to the Southern Indian Health Council, which provides health care for seven Kumeyaay tribes as well as non-Natives living in the area.²³

La Posta Band of Diegueno Mission Indians

The La Posta Band of Diegueno Mission Indians of the La Posta Reservation is a federally recognized tribe of Kumeyaay Indians, who are sometimes known as Mission Indians. The La Posta Reservation is a federal Indian reservation located within the Laguna Mountains in eastern San Diego County, California, near Boulevard, within ten miles north of the U.S./Mexico border. The reservation covers 3,556 acres with a population of approximately 18. The reservation borders the Cleveland National Forest and is accessed only by one unpaved road that is usually fenced off to prevent trespassers. The La Posta Band is headquartered in Boulevard. They are governed by a democratically elected tribal council.

Manzanita Band of the Kumeyaay Nation

The Manzanita Band of the Kumeyaay Nation is located near Boulevard, within ten miles of the U.S./Mexico Border. The reservation covers 3,579 acres of rural land. According to a tribal survey conducted in 1996, Manzanita has a resident population of 91.

Campo Band of Kumeyaay Indians

The Campo Indian Reservation is home to the Campo Band of Diegueno Mission Indians, also known as the Campo Kumeyaay Nation. The reservation covers 16,512 acres of rural land. Wind turbines have been installed on tribal land for alternative energy production, with more planned for the future. Owned and operated by Campo Band of Diegueno Mission Indians, Golden Acorn Casino is located at Crestwood Summit exit and serves as a truck stop and fueling station with a restaurant and convenience store.

Quechan/Fort Yuma Indian Reservation

Bordering the Arizona, California, and Baja California, Mexico, the Fort Yuma Indian Reservation encompasses 45,000 acres. I-8 provides vital access to the Reservation as it connects travels from San Diego and Phoenix to the reservation. According to the most recent data from the Tribal Enrollment Office, the Quechan population totals 2,475 members. Revenue is generated through agricultural and commercial land leasing, the casinos and other business enterprises including convenience stores and

²³ <https://www.ihs.gov/california/index.cfm/health-programs/southern-california/southern-indian-health-council-inc-alpine/>

recreational vehicle parks. Largely an agriculture community, the Tribe leases its 700 acre farm. It also operates a long-term sand and gravel lease which employs 8 to 10 tribal members. Paradise Casino (Yuma) and Quechan Casino Resort (Winterhaven) serve as desirable winter vacation spot for “snowbirds” from November to March. To serve this audience the Tribe manages five trailer and RV parks, a small grocery store, museum, bingo hall, utility company and a fish and game department. Responding to its location on the border between the U.S. and Mexico, the Tribe operates a seasonal parking lot in Andrade, located outside the port-of-entry into Algodones, Baja California, Mexico.

COMMUNITY CHARACTERISTICS AND LAND USE

County of San Diego

San Diego County includes 18 incorporated cities and covers an area of approximately 4,200 square miles 70 miles north to south and 86 miles east to west. The county is bordered by Riverside County and Orange County to the north; Imperial County to the east; the nation of Mexico to the south; and the Pacific Ocean to the west. San Diego County has three land ports of entry (POEs) (San Ysidro, Otay Mesa, and Tecate), with one more proposed (Otay Mesa East), one sea port of entry (Port of San Diego), one international airport (Lindbergh Field) and one recently completed international border crossing airport terminal (Cross Border Xpress). According to the 2010 U.S. Census, San Diego County had a population of 3,095,313 people, making it the second most populous county in California after Los Angeles County. The San Diego Association of Governments (SANDAG) is the Metropolitan Planning Organization (MPO) for San Diego County. SANDAG developed Smart Growth Guidelines as part of their Regional Comprehensive Plan (2006) to provide the framework for developing walkable communities in San Diego County.

I-8 begins at Sunset Cliffs in the City of San Diego, where it transverses several community planning areas before passing through the incorporated Cities of La Mesa and El Cajon. The surrounding area is developed with dense residential, commercial, and industrial uses typical of most urban areas. From Los Coches Road, I-8 continues through the unincorporated portion of East County San Diego, including tribal lands before entering into Imperial County. The land use transitions to a predominantly rural residential, open space mixed and ranch style properties. The rural character continues east to approximately the West Willows Road Interchange exit where the Viejas Band of Kumeyaay Indians lands begin. The freeway continues into the mountainous areas of Cleveland National Forest, passing through the tribal lands of La Posta Band of Diegueno Mission Indians, Campo Band of Diegueno Mission Indians, and Manzanita Band of the Kumeyaay Nation before entering into Imperial County.

I-8 is a regionally significant corridor serving as the primary east-west connection between Coastal and Central San Diego to East County San Diego. In the urban area, I-8 provides vital regional connections to the north-south routes of Interstate 5 (I-5), Interstate 805 (I-805), State Route 163 (SR-163), Interstate 15 (I-15), and State Route 125 (SR-125). This corridor supports the economic vitality of the metropolitan area as a smart growth development and major goods-movement corridor, linking major commercial, industrial and medical centers to the surrounding residential areas.

San Diego River Park²⁴

The City of San Diego adopted the San Diego River Park Master Plan in 2013. The Master Plan provides guidance to an established waterway that is healthy, accessible to the public, and inhabited by wildlife. This includes open space, bicycle and pedestrian pathways, and habitat conservation. The Master Plan runs parallel to I-8 and runs roughly from Fairmount Avenue to Sunset Cliffs Boulevard. It incorporates the Mission Valley San Diego River Trail ²⁵ and the Ocean Beach Bike Trail.

Ocean Beach

The community of Ocean Beach includes 642 acres, the majority of which are developed with low and medium density residential uses. Three primary commercial areas exist along Newport Avenue, Voltaire Street, and Point Loma Avenue, which contain a diverse mix of small businesses. There is no industrial development in Ocean Beach. The Ocean Beach Precise Plan was adopted by the City of San Diego in 1975 and was the oldest community planning document for the City of San Diego. On July 29, 2014, the City Council unanimously adopted the Ocean Beach Community Plan and Local Coastal Program. The plan received California Coastal Commission certification in 2015.

Peninsula

The Peninsula Community Planning area includes 4,409 acres of predominantly highly urbanized community development. Residential neighborhoods include: Ocean Beach Highlands, Point Loma Highlands Loma Alta, Loma Palisades, Loma Portal, Fleetridge, Roseville, Sunset Cliffs, Wooded Area, La Playa, Roseville, and Liberty Station. The community planning area also includes the dense commercial areas of Roseville, Voltaire Street Corridor, the Point Loma Village, and Liberty Station. Other land uses include Point Loma Nazarene University, Sunset Cliffs and Shelter Island recreation centers, and the Cabrillo National Monument. The Peninsula Community Planning Group is currently endeavoring to update the current Community Plan and Local Coastal Program.

Midway/Pacific Highway

The Midway/Pacific Highway Corridor Community (e.g. Midway) encompasses approximately 800 acres of mostly flatland. Midway is comprised of two basic elements: the central Midway area and the narrow, linear-shaped Pacific Highway Corridor. Central Midway has an urbanized commercial core containing numerous shopping centers and institutional facilities. The Pacific Highway Corridor, between Interstate 5 and the San Diego International Airport at Lindbergh Field, contains some of the City's oldest industrial areas. The corridor is defined by large scale buildings and unscreened commercial parking lots in the southern portion, and a group of smaller scale, low lying industrial buildings located between Witherby Street and Washington Street in the northern portion. There are a few multifamily residential complexes located in the western portion of the community, adjacent to the Point Loma area. The planning area is generally characterized by a variety of commercial retail activities, and wide, multi-directional traffic intersections. Midway and Old Town are in the process of updating their current community plan in a combined document. The approval date is schedule for Fall 2016.²⁶

²⁴ <http://www.sandiego.gov/planning/programs/parkplanning/sdriverplan.shtml>

²⁵ http://sandiegoriver.org/docs/Resources_Brochures/MissionValleyRiverTrailBrochure.pdf

²⁶ <http://www.sandiego.gov/planning/community/cpu/oldtownmidway/>

Old Town

The Old Town community of San Diego is 230 acres of primarily State Park land that is a draw for tourism. The City Council in 1966 adopted an Old San Diego Architectural Control District Ordinance. This ordinance established the basic standard that all, "forms, materials, textures and colors shall be in general accord with the appearance of the structures built in Old San Diego prior to 1871."

Linda Vista

Linda Vista is primarily a low to medium density residential community. It is home to Tecolote Canyon a major open space resource and the University of San Diego. Morena Boulevard serves as the commercial district, providing shopping, local services, and restaurants. This area will add residential units through the conversion of some industrial land east of Napa Street. The Morena Boulevard Station Area Planning Study²⁷ proposes land use and mobility changes adjacent to the Mid-Coast trolley stations at Tecolote Road in the Linda Vista community planning area. Linda Vista is also the home of the University of San Diego (USD).

Mission Valley

The Mission Valley planning area contains 2,418 acres and is located near the geographic center of the City of San Diego. This area has two major shopping centers, Fashion and Mission Valley malls, dense residential land use including Civita, and Qualcomm Stadium, home of the San Diego Chargers. The area is planned for continued dense mixed use development. The current plan update is expected to yield a draft document in 2016 with final approval in Spring 2018.

Uptown

The 27,000 Uptown community planning area is located at mesa level south of I-8. The plan area is divided into six subareas: Mission Hills, Middletown, Hillcrest, the medical complex, University Heights, and the Park West neighborhoods. Most of the street system and building lot development was well established prior to the introduction of the automobile. This area is home to both Balboa and Presidio Park. Dense residential land use is predominant with commercial uses on University Avenue and El Cajon Boulevard. The Uptown community plan update, including North Park, has a planned approval of Summer 2016²⁸.

Greater North Park

Greater North Park is approximately 1,466 acres in area and has a population of approximately 40,500 residing in about 22,000 dwelling units. Most of the developable land is devoted to residential use. It is one of the older urbanized communities in San Diego. Commercial uses are primarily on Adams Avenue, University Avenue and El Cajon Boulevard.

²⁷ <http://www.sandag.org/index.asp?projectid=250&fuseaction=projects.detail>

²⁸ <http://www.sandiego.gov/planning/community/profiles/uptown/>

Normal Heights

The Normal Heights Community is made up of three neighborhoods, Adams North, Adams Park, and Cherokee Park. Adams North is developed as a predominately single-family neighborhood, while Adams Park and Cherokee Park include a broader mix of single-family homes, older apartment courts and large apartment developments. Adams Avenue serves as the primary commercial district with bars, restaurants and small commercial businesses.

Kensington-Talmadge

Kensington, named after the London borough, was designed based on its geography and location. This residential neighborhood is seated on a narrow peninsula isolated on three sides by steep slopes. Adams Avenue serves as the commercial center, offering coffee shops, restaurants, a branch library, the Kensington Club, and Ken Theatre. Talmadge, located just east of Kensington, is a residential neighborhood with single family homes and apartment complexes.

Navajo

North of I-8, the Navajo community, encompasses approximately 14 square miles. The community includes the neighborhoods of Grantville, Allied Gardens, Del Cerro, and San Carlos. Grantville is directly adjacent to I-8, with primarily light industrial, commercial and some single family residential land uses. Grantville is also home to two Kaiser Permanente medical centers, Zion and Vandever. The community plan update for the Grantville Specific Plan was approved in June 2015. The update includes phased improvements to the Fairmount Avenue interchange, with near term and long term configurations that were vetted through Caltrans staff.

College Area

The College Area is located south of I-8 and home to San Diego State University (SDSU). The trolley green line runs parallel to I-8 and has an underground station located on the campus of SDSU. The station provides transit access to the densely developed area with a historically limited parking. The surrounding area is primarily a mix of residential single family homes and commercial uses along El Cajon Boulevard. El Cajon Boulevard is a historic commercial district through the College Area and was once the primary transportation route from San Diego to El Cajon before construction of I-8.

City of La Mesa

The City of La Mesa is located just east of the College Area in the City of San Diego. I-8 is the primary connection for regional travel with additional connections from SR-125 and SR-94. Most of the nine square miles within the city limits are single-family homes and transportation right-of-way²⁹. La Mesa also has commercial development, specifically Grossmont Center, and industrial uses. Based on the 2012 La Mesa General Plan, future development will be aimed at intensifying land use. Mixed use and dense development is emerging at and around trolley stations within the City including 70th street, Spring Street, La Mesa Boulevard, Grossmont Transit Center, and Amaya Drive.

²⁹ La Mesa General Plan 2012

City of El Cajon

The City of El Cajon is approximately 9,130 acres, with a total of 12,600 acres in its sphere of influence. Interstate 8 provides the main connection with San Diego and the rest of East County San Diego. Originally agricultural land, El Cajon has developed into urbanized land uses. Draws include a revitalized Main Street, Parkway Plaza Mall, and Gillespie Field airport. Industrial uses and multi-family dwellings are located in the areas around State Route 67 and the Trolley Green and Orange lines. The majority of commercial development is located near Main Street with single family homes predominately on the western and eastern city limits.

Lakeside

Originally part of Rancho El Cajon, Lakeside is an unincorporated community planning area in San Diego County. The 2010 SANDAG estimate for population in Lakeside was 77,442 with a total of 27,457 housing units. Rural development is characteristic of the area. Small scale farming and a high degree of horse ownership is prevalent with Lakeside hosting an annual rodeo.

Alpine

Alpine is an unincorporated community planning area in San Diego County that covers 108 square miles. It is just east of Lakeside and is the last urbanized area before entering the Cleveland National Forest to the east. Interstate 8 bisects the community with most of the commercial uses on the southern side off Tavern Road. Land use is rural in character with light agricultural and residential land uses. The 2010 SANDAG estimate for population in Alpine was 17,609 with a total of 6,551 housing units.

Descanso

Descanso is an unincorporated area of San Diego County. It is bounded by Alpine, Cuyamaca State Park and the Cleveland National Forest. Descanso is a small community of 1,423 based on the 2010 Census³⁰. Mostly rural, the community takes advantage of the nearby recreation areas, and horseback riding is common. Most residents commute to the more urban areas of San Diego County since the fire protection agencies are the primary employers in the area.

Pine Valley

The Pine Valley Sponsor Group Area covers 95,396 acres of unincorporated San Diego County. Pine Valley is a small community of 1,501 based on the 2010 Census³¹.

Jacumba

Jacumba Hot Springs, known as Jacumba, is located on the U.S/Mexico border three miles south of I-8. It was a census-designated place for the first time in the 2010 census, with a population of 561. Jacumba serves as a draw for tourism due to its hot springs, desert, and natural beauty.

³⁰ <http://www.census.gov/2010census/>

³¹ <http://www.census.gov/2010census/>

County of Imperial

Imperial County, including seven incorporated cities, extends over 4,597 square miles. The Southern California Association of Governments (SCAG) is the MPO, and Imperial County Transportation Commission (ICTC) is the Regional Transportation Planning Agency (RTPA) representing Imperial County. Imperial County is bordered by Mexico to the south, Riverside County to the north, San Diego County on the west, and the State of Arizona on the east. Although this region is a desert, with high temperatures and low average rainfall, the economy is heavily based on agriculture due to irrigation, supplied entirely from the Colorado River via the All-American Canal. Imperial County has three land Port of Entries (POEs) (Calexico West, Calexico East, and Andrade) that rely on I-8 to provide east-west connections to San Diego County and Arizona. According to the 2010 census, the population of Imperial County was 174,528. Established in 1907, it was the last county to be established in California. According to the Imperial County General Plan, the County will continue to be a predominantly agricultural area. Approximately one-fifth of the nearly three million acres of the County is irrigated for agriculture and much of I-8 is surrounded by farmlands. This includes lands designated as Prime Farmland, Farmlands of Statewide Importance and of Local Importance.

Fifty percent of Imperial County lands are largely undeveloped and under federal ownership. The developed area where the County's incorporated cities, unincorporated communities, and supporting facilities are located comprises less than one percent of the total land area of the County. With approximately 1,460,000 acres managed by the U.S. Department of the Interior Bureau of Land Management (BLM) and U.S. military, the federal government controls approximately one-half of all county land. The BLM allows open recreational uses on federal land in several areas in the County.

I-8 winds through Anza Borrego State Park as it descends into Imperial County. As the corridor straightens out into the valley, I-8 passes through the communities of Ocotillo, Plaster City and Seeley. Agricultural is the predominant land use in this section. I-8 continues east to the City of El Centro where the land uses are urbanized and include residential, commercial, and industrial uses. Agricultural land use continues east of El Centro to SR-98. East of SR-98 are the Imperial Sand Dunes, sometimes called the Algodones Dunes. They are the largest mass of sand dunes in California. The dune system extends for more than 40 miles along the eastern edge of the Imperial Valley agricultural region in a band averaging five miles in width. Past the dunes, the corridor passes SR-186 and enters the Quechan/Fort Yuma Reservation and Winterhaven. Land uses outside in this area are primarily agricultural. Within the city, single-family residential uses are located to the north and a small RV park is located to the south. I-8 continues into Arizona where it connects to Interstate 10 (I-10) in Casa Grande.

Ocotillo

Ocotillo is a small unincorporated community on the west end of Imperial County, just off I-8. Ocotillo has a population of 266 based on the 2010 Census. Originally established to be a retirement community, it is now home to the Imperial Valley Desert Museum. Based on its location and weather, primary land use planned for this area is solar power and wind power generation.

Plaster City

Plaster City is owned by United States Gypsum Corporation (USG), who operates a gypsum plant and quarry. USG operates the last industrial narrow gauge railway in the U.S. to connect its manufacturing plant to its quarry location about 20 miles away. USG manufactures sheetrock panels used for construction. The USG plant is served by the Union Pacific Railroad (UP) to the north and the San Diego and Arizona Eastern Railway (SD&AE) to the west. Future planned land use for this area is solar power.

Seeley

Seeley is an unincorporated community of Imperial County with a population of 1,739 based on the 2010 Census. Adjacent to Seeley is Naval Air Facility (NAF) El Centro, the winter home of the Blue Angels who perform in March at this location³². NAF El Centro serves as an active military airport and simulation area.

City of El Centro

El Centro was incorporated in 1908 and serves as the urban center and county seat for Imperial County. Based on the 2010 Census, the city's population was recorded as 42,598 with an area over 16,000 acres. Agriculture is the primary land use in El Centro. The El Centro Regional Medical Center is the primary medical facility for Imperial Valley and is located just north of I-8, providing emergency care access to the region. Residential and commercial land uses have been emerging in recent years. In 2005, Imperial Valley Mall opened south of I-8, and further expanded commercial and retail land uses in El Centro. Other planned land uses include solar farms projects.

Winterhaven

Winterhaven is an unincorporated community of Imperial County with a population of 394 based on the 2010 Census. The primary land use is agriculture. Winterhaven is home to the Quechan Tribe of the Fort Yuma Indian Reservation and the Quechan Casino Resort. It is a destination for "snowbirds" who want access to Algodones, Mexico for prescriptions and medical services.

California and Mexico share over 130 miles of international border, with I-8 running parallel and providing east-west movement. International trade is a key contributor to local, State, and national economic growth. Cross border commerce is very important to the continued success of the economies of California and Mexico. The 1994 North American Free Trade Agreement (NAFTA) tremendously boosted cross border trade, economic growth, and jobs. According to the United States (U.S.) Chamber of Commerce³⁵, U.S. trade in goods and services with Canada and Mexico rose from \$337 billion in 1993 to \$1.182 trillion in 2011. Mexico and Canada make up the two largest markets for U.S. exports, purchasing nearly one-third of U.S. merchandise. Trade with Mexico contributes to six million U.S. jobs.

³² <http://www.blueangels.navy.mil/show/>

³³ <http://www.dot.ca.gov/ser/vol1/sec3/physical/ch12noise/chap12noise.htm>

³⁴ <http://www.dot.ca.gov/ser/vol1/sec3/physical/ch11air/chap11.htm>

³⁵ United States Chamber of Commerce, 20 Years, NAFTA Triumphant, Assessing Two Decades in Trade, Growth, and Jobs, 2012.

http://www.uschamber.com/sites/default/files/reports/1112_INTL_NAFTA_20Years.pdf

Mexican exports to the U.S. include 40 percent³⁶ American content, far exceeding any other foreign import³⁷. In 2012, California reached an all-time high total trade value with Mexico of over \$62.3 billion, making Mexico California's largest export market. California's exports to Mexico are driven primarily by computers and electronic products, which account for 31 percent of all California exports to Mexico³⁸.

In southern California, primary goods movement routes for U.S./Mexico trade are from Tijuana to Los Angeles through San Diego, and between Calexico/Mexicali and Los Angeles. In Imperial County, trucks generally head north-south on the Calexico-Coachella Cargo Corridor (C-4), a major goods movement corridor providing movement for interregional, intraregional, and international trips. The C-4 is a regional transportation freight corridor that links the movement of goods from Mexico to Southern California and the rest of the State. The C-4 corridor starts with SR-7 at the Calexico East POE, continues on I-8 near El Centro. After heading north onto SR-111, the C-4 corridor heads west on SR-78, continues on SR-86 then connects with I-10 in the Coachella Valley. Rail freight is also oriented north-south through Imperial County on the Union Pacific/Southern Pacific rail line as discussed below. The restoration of the SD&AE line to connect with the Union Pacific/Southern Pacific line would give the San Diego region good rail access to Mexico's interior. The Union Pacific/Southern Pacific line runs along the entire 2,000 mile border and connects to the Mexican railroad at five locations.

The U.S./Mexican Border contributes to the volume of trucks to the I-8 corridor. In 1993, Caltrans District 11 conducted a truck origin/destination survey at four POEs: San Ysidro, Otay Mesa, Tecate and Calexico. The Calexico POE processed approximately 1,100 trucks per day. About eight percent (90) of these trucks had origins or destinations in Imperial County; eight and one-half percent (100) had origins or destinations in San Diego County; and three and three-tenths percent (40) had origins or destinations in Arizona. Of the approximately 2,300 trucks per day at the San Diego County POEs, 15.4 percent (350) had origins or destinations in San Diego; less than one percent had origins or destinations in Imperial County.³⁹ Any increase in border trade could result in a higher truck volume on I-8, depending on commodity type and market availability.

FREIGHT/GOODS MOVEMENT

Goods movement is an essential component of an integrated transportation system. The health, welfare and prosperity of the region's population depends upon the reliable, safe and efficient transport of goods and services. However, the impacts of noise, air quality, land use, congestion and safety must be addressed. In addition, the transportation system must be managed, operated, maintained and improved by considering and balancing the needs of all users. I-8 serves as a major east-west facility for the movement of freight. I-8 is the major east-west freeway south of the Los Angeles metropolitan region and near key activity centers for the transport, distribution, processing, or consumption of goods. Although most goods are transported by truck within the I-8 corridor, other modes include rail, ports and shipping, air cargo and pipelines.

Imperial County is one of the nation's most productive agricultural areas, with gross revenues for agricultural commodities of over one billion dollars. While Imperial County's mild growing climate

³⁶ Production sharing, sometimes called vertical specialization, occurs when two or more countries are involved in producing a product. With production sharing, especially between the United States and Mexico, the same components will cross the border several times as a product is put together.

³⁷ Wilson Center, Mexico Institute, et al, The State of the Border Report – A Comprehensive Analysis of the U.S.-Mexico Border, May 2013.

³⁸ <http://www.calchamber.com/international/trade/pages/tradestatistics.aspx>

³⁹ Figures are approximate based on a five-day week annual average daily trips.

permits year-round growing, crops are harvested and shipped during seasonal peak periods. The vast bulk of Imperial County agricultural products are shipped to Los Angeles for processing and distribution throughout the country. I-8 is used to bring agricultural products from Imperial County to San Diego County and provides needed agricultural supplies in turn.

The availability of water from the Colorado River and the extended growing season has supported an active agriculture industry in the County. Imperial County has sustained agricultural production ranging in value from \$1.02 billion in 1990 to \$1.96 billion in 2011. In 2011, Imperial County farmers produced 1,736,000 tons of hay, including alfalfa, Bermuda grass, Sudan grass and Klein grass hays, making the region a vital producer of food for the State's vast dairy industry. Imperial Valley is one of California's top five producers of spinach, potatoes, cauliflower, sweet corn, broccoli and onions. The County is also home to California's only cheese processing plant producing Swiss and Muenster cheeses. Also, Imperial County is California's number two producer of aquaculture, and is home to one of the largest catfish farms west of the Mississippi⁴⁰.

Truck

I-8, except for segment 1, is a designated National Network truck route, a federal highway that allows doubles with 28.5-foot trailers, singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle distance, unlimited length for both vehicle combinations, and widths up to 102 inches, along the entire length of the corridor. In addition, the parallel facilities SR-94 and SR-98 are designated California Legal Advisory truck route, a State highway that allows trucks no larger than 14 feet high, 102 inches wide and 40 feet long if a single vehicle, and 65 feet long if a combination vehicle. An overall length exception to 75 feet is given for truck tractor - semitrailer – trailer combinations (doubles) if each trailer is no more than 28 feet 6 inches long) and Terminal Access truck route, a State highway allowing the same size truck as on the National Network but providing access to truck's operating facilities, a facility where freight originates, terminates, or is handled in the transportation process, respectively. I-8 also connects with SR-86, SR-111, SR- 115, SR-7, and SR-186, which are designated Terminal Access truck routes. Trucks that use I-8 to access San Diego County, Imperial Valley County, Arizona, and connecting north-south facilities share the two mixed-flow lanes that exist through most of the freeway corridor. Truck traffic on I-8 originates from several key sources, including; commercial POEs within San Diego County (Otay Mesa and Tecate), San Diego International Airport at Lindbergh Field, the Port of San Diego, growers of agricultural goods in the Imperial County/Mexicali, and commercial POEs within Imperial County (Calexico East).

Airport

San Diego International Airport at Lindbergh Field is a major freight intermodal facility which accesses the I-8 corridor. Trucks haul the air cargo to and from the facility; there is no rail access. Most of the domestic air freight market today is mail or small/lightweight packages with local origins and destinations. Federal Express (FedEx) and United Parcel Service (UPS) both have operations at this location. The airport transported 162,353 tons of cargo and mail in 2013.

⁴⁰ Imperial County Farm Bureau, <http://www.icfb.net/countyag.html>

Rail

The San Diego and Arizona Eastern Railway (SD&AE) is the sole east-west rail line that provides freight movement service between San Diego and Imperial counties. SD&AE is a short-line railroad that operates at night on track used by MTS for light rail service. The "Blue Line" runs south from San Ysidro POE to Old Town San Diego following the Blue Line alignment and using the Green Line and Orange Line alignment east to Santee and El Cajon.

Until fairly recently, the Carrizo Gorge Railway (CZRY) operated 114 miles of freight lines in California and Mexico. The railway owned the rights to operate limited service between the Mexican border at San Ysidro/Tijuana through Mexico to Division (near the Mexican border at Tecate) and then on to Plaster City in the western part of Imperial County.

Effective January 2012, Baja California Railroad (BJRR), by agreement with the CZRY, has operated the Tijuana-Tecate Line in Mexico; the right-of-way is owned by the State of Baja. Major commodities transported by BJRR include petroleum gases, propane, lumber, wood pulp, paper, corn syrup, lard, and yellow corn. The line between Division and Plaster City (Desert Line) is currently leased by the Pacific Imperial Railroad (PIR) and the line is owned by MTS; however, this line is currently out of service due to bridge repairs.⁴¹

Imperial County is served by rail connections to and from Riverside County, Baja California, and Arizona. Commodity flow volumes by rail account for about 3 percent of the total commodity flow volumes in the county. Union Pacific Railroad (UPRR) owns and operates the rail line coming south from Riverside County (Sunset Line route), as well as the line running north from the Calexico border crossing, extending north to El Centro, and connecting with the UPRR Sunset Line at Niland. UPRR also owns and operates the east-west line between Plaster City and El Centro. A spur serves the mining operations north of Plaster City.

Pipeline

Liquid Petroleum (LP) products are carried through Imperial County via the Santa Fe Pacific Pipe Line. It is mostly located within the Union Pacific/Southern Pacific right of way. Southeast of Ogilby, the line turns east and travels to Yuma. Parallel to I-8, a branch line distributes gas to the storage facility south of the City of Imperial, and an additional line serves the Naval Air Facility near Seeley. Natural gas is delivered by the Southern California Gas Company via twin lines. Like the LP line, the main line runs north-south serving communities from Niland to Calexico; and east-west branch lines within the I-8 corridor serve Holtville, Seeley, the Naval Air Facility and Plaster City. In San Diego, the San Diego River Valve fuel line runs parallel to I-8 and between I-805 to I-15.

⁴¹ Federal Register 160:49863, August 17, 2012.

Table 6: I-8 Freight/Goods Movement

Facility Type/Freight Generator	Location	Mode	Name	Major Commodity/ Industry	Comments/Issues
Land Port of Entry	Calexico	Rail ⁴² , Auto, Pedestrian	Calexico West Port of Entry (POE)	Agriculture	- Non-motorized users connectivity - Congestion - Border wait time delays -Lack of funding of POE expansion project
Land Port of Entry	Calexico	Truck, Auto, Pedestrian, Aggregate Conveyor Belt	Calexico East Port of Entry (POE)	Electronics, Manufactured Products, Agriculture	- Non-motorized users connectivity - Congestion - Border wait time delays -Lack of funding of POE expansion project
Land Port of Entry	Otay Mesa	Truck, Auto, Pedestrian	Otay Mesa Port of Entry (POE)	Various	-Otay Mesa East POE
Land Port of Entry	Tecate	Truck Auto, Pedestrian	Tecate Port of Entry (POE)	Various	
Sea Port of Entry	San Diego	Ship, Rail, Truck	Port of San Diego	Automobiles, Wind Turbines, Agriculture, Military, Aggregate	
Distribution Centers	Riverside	Truck	Various	Various	-East-West movements from I-15 connector
Intermodal Freight Facility	Imperial County	Truck, Rail	Mesquite Regional Landfill	Waste	The Mesquite Regional Landfill will be Southern California's first operating landfill that is permitted to receive waste by rail (project)
Rail Yard	Plaster City	Rail	Plaster City Rail Yard	Construction products	
Rail Line	Imperial County	Rail	Union Pacific Railroad (UPRR) (Class I) ⁴³	Commodity, bulk, and mixed cargo	
Rail Line	Imperial County	Rail	Pacific Imperial Railroad (PIR) (Short Line) ⁴⁴	Construction products, Barley	- Upgrades to desert line. - Restore service between San Diego and Imperial Counties.
Air Cargo Airport	Calexico	Airplane	Calexico International Airport (CXL)	Corporate Business	CXL facilitates access of corporate businesses throughout the United States to the Maquiladora Industry in Mexicali, Mexico.
Highway	Imperial County	Truck	SR-7 (Terminal Access Route to the National Network)	Electronics, Manufactured Goods, Agriculture	-Bottleneck at Calexico East Port of Entry

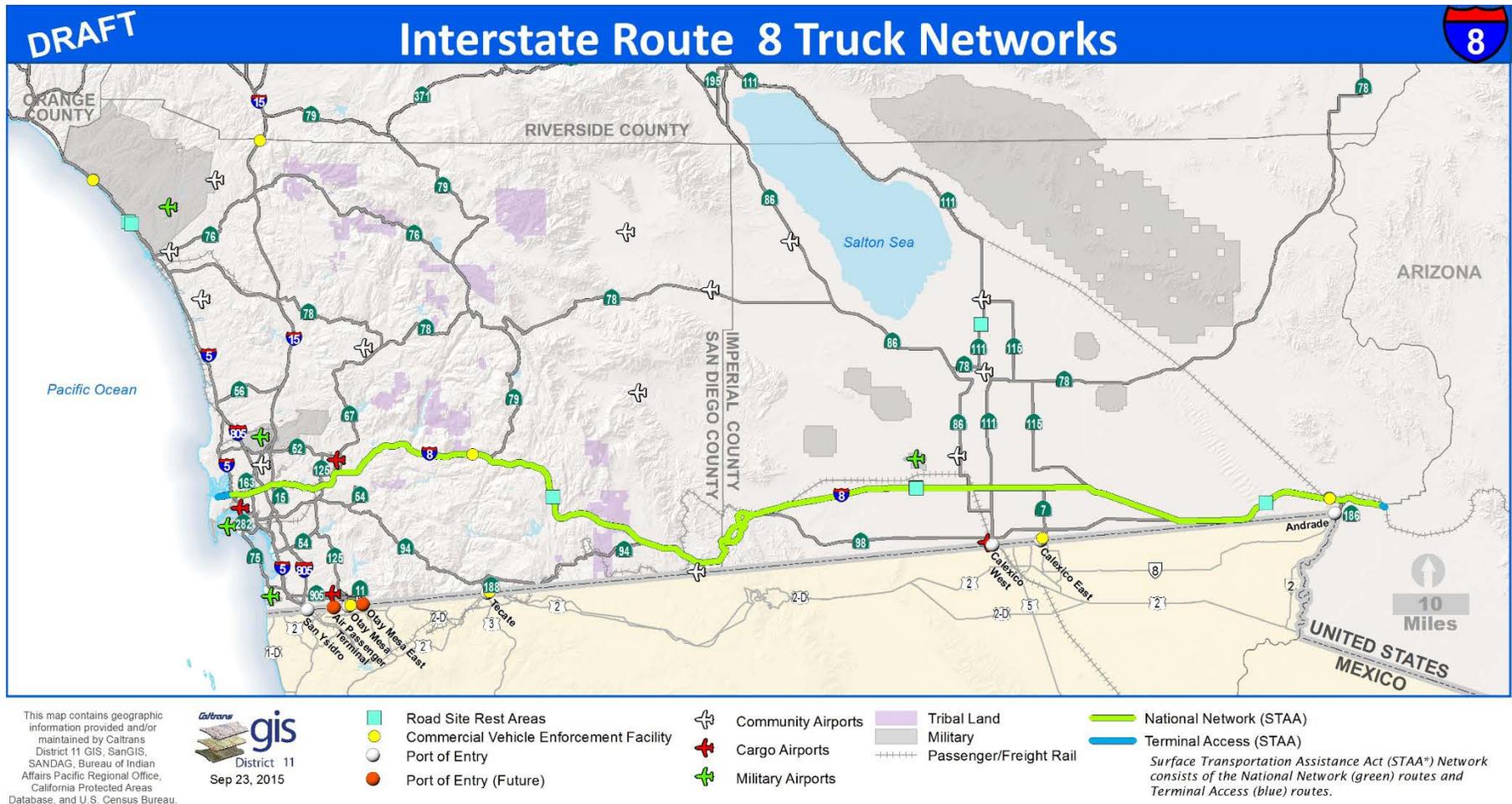
⁴² Rail tracks are physically located in the Calexico West POE. However, data is reported for the Calexico East POE.

⁴³ UPRR serves the Imperial Valley region near Plaster City, moving commodity, bulk, and mixed cargo eastward to Chicago, Kansas City, New Orleans and Saint Louis on the former Southern Pacific Sunset Route, a primary California freight rail corridor.

⁴⁴ Pacific Imperial Railroad (PIR) operates more than 100 miles of freight lines in California and Mexico. PIR connects to UP and BNSF at Plaster City (Imperial County) and at San Ysidro and Tecate Ports of Entry. Forty-four miles are in Mexico between Tijuana and Tecate, Baja California (operated by the State of Baja California.) Liquefied petroleum gas (LPG,) construction products, and barley are the main commodities.

<i>Freight Generator</i>	<i>Imperial County</i>	<i>Truck</i>	<i>Imperial County</i>	<i>Agriculture</i>	<i>One of the most productive farming regions in California with an annual crop production of over \$1 billion. Agriculture is the largest industry in the Imperial Valley and accounts for 48% of all employment.</i>
<i>Freight Generator</i>	<i>Imperial County/ City of Calexico</i>	<i>Truck</i>	<i>Brokerage houses at Calexico</i>	<i>International trade</i>	<i>-Trucks cross through the Calexico East POE. Truck traffic is generated by drivers trying to reach brokerage houses located in downtown Calexico.</i>
<i>Air Cargo Airport</i>	<i>City of San Diego</i>	<i>Airplane</i>	<i>San Diego International Airport (Lindbergh Field)</i>		<i>-Major freight intermodal facility</i>
<i>Mine</i>	<i>San Diego County/Lakeside</i>	<i>Truck</i>	<i>East County Sand Mine</i>	<i>Aggregate</i>	<i>-</i>
<i>Mine</i>	<i>San Diego County/El Cajon</i>	<i>Truck</i>	<i>Hester's Granite</i>	<i>Aggregate</i>	<i>-</i>
<i>Mine</i>	<i>Imperial County/Plaster City</i>	<i>Truck</i>	<i>USG/Plaster City</i>	<i>Gypsum</i>	<i>-Private rail from mine to factory</i>

Map #4: Interstate 8 Route Truck Network



MULTIMODAL TRANSPORTATION

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.

AIRPORT FACILITIES

There are five airports within five miles of I-8 corridor through in San Diego and Imperial Counties, four general aviation (GA) airports, and one Navy airfield. The airspace in the Imperial County is heavily congested due to navy training, and at times glider flying activities.

Gillespie Field

Gillespie Field is San Diego County’s busiest general aviation (GA) airport. It generates over \$400 million dollars a year to the local economy, provides roughly 3,200 jobs, and generates enough income to pay for all other County GA airports expenses. The airport has a large amount of undeveloped land inside its boundaries, and the East County Economic Development Council wants to build a transportation and business economic development hub on some of its 757 acres. The airport has multiple access points to four major freeways SR-52, I-8, SR-67, and SR-125. Its functional class is Regional-business/Corporate, and it’s also a FAA national reliever airport. Aviation services include: air traffic control tower, aircraft fuel sales, disaster/emergency services, aero medical emergency flights, sport flying, aircraft rental and sales, search and rescue, fire and law enforcement, major aircraft repair facilities, flight training, oxygen, charter service, on airport restaurant, and an aviation museum. There are 732 aircraft, 28 helicopters,

and 5 gliders based at the airport. There were 199,388 operations for the 12 month period ending December 31, 2014. The airport is served by transit.

Montgomery Field

Montgomery Field is one of San Diego County's other busiest GA airports. Its located 4 miles from Marine Corps Air Station Miramar. Its state functional class is Regional/Business/Corporate, and it's also a FAA regional reliever. Aviation services include: fire and law enforcement, search and rescue, tourism, major aircraft repair facilities, disaster/emergency services, flight training, rental car facility, aircraft rental/sales, both piston and jet fuel sales, oxygen, medical flight services, sport flying, specialty flight operations, charter, and on airport restaurant. The East County Economic Development Council is targeting some of the airport's 549 acres for further economic development as a transportation and business hub to take advantage of freight entering from Otay Mesa POE. 491 aircraft, 4 helicopters, and 1 glider are based at the airport, and there were 183,363 operations for the 12 month period ending December 31, 2012.

NAF El Centro

Naval Air Facility (NAF) El Centro in Imperial County is one of the Navy's busiest aerial training facilities, and the winter home of the aerial demonstration team, the Blue Angels. The base is 4 ½ mi from Imperial County Airport. The annual spring air show typically draws approximately 35,000 people to the event.

Jacumba Airport

Jacumba is one of San Diego County's smallest GA airports. Its functional class is limited use. The airport has no services, but glider flight activity is heavy on the weekends. There are no based aircraft, and annual operations for the 12 month period ending December 31, 2014 were 554.

Imperial County Airport

Imperial County Airport's functional class is commercial service non-primary. The airport is actually 55 feet below sea level. Airport services include both piston and jet fuel sales, air taxi and cargo, disaster/emergency services, and rental car facilities. There were 5,491 enplanements in 2012, 43 based aircraft, 4 helicopters, and the annual operations for the 12 month period ending December 31, 2012 were 14,586.

BICYCLE FACILITIES

Segments of Interstate 8 that allow the operation of bicycles		
From	To	Length in Miles
East Willows Rd.	Junction SR-79, Japatul Rd.	3.5
San Diego/ Imperial County Line	Imperial Highway	12.1
Gordon's Well Rd.	Ogilby Road	10.3
Sidewinder Rd.	Junction SR-186	2.0

San Diego County⁴⁵

Bicycles are not permitted on Interstate 8 in the urban center. The San Diego River Bikeway⁴⁶ is parallel to I-8 on the south side of the river between Sunset Cliffs Boulevard and Hotel Circle Place. The River bikeway also extends from Fashion Valley Road to Qualcomm Way and is planned to eventually extend seamlessly from the Pacific Ocean to the City of Santee. The regionally classified I-8 Bicycle Corridor is an on-street facility that begins in Santee and follows Old Highway 80 for much of the route’s length to the bikeway’s terminus at the San Diego County Line, at In-Ko-Pah Road. As part of the I-8 Corridor, bicycles are permitted on the outside shoulders of I-8 between East Willows Road and Japatul Valley Road, and also between In-Ko-Pah Road and the San Diego/Imperial County Line. There are numerous bicycle lanes and bicycle routes on surface streets adjacent to or parallel with I-8 in San Diego County.

SANDAG, as part of its *TransNet* tax measure, a total of two percent of the total annual revenues available will be allocated to the Bicycle, Pedestrian and Neighborhood Safety Program. This program provides funding for bikeway facilities and connectivity improvements, pedestrian and walkable community projects, bicycle and pedestrian safety projects and programs, and traffic calming projects. The San Diego River Bikeway Qualcomm Stadium segment has been identified for *TransNet* funding and improvements are currently scheduled for completion by 2017⁴⁷.

⁴⁵ <http://www.icommutesd.com/bike/bikemap.aspx>

⁴⁶ http://www.sandiego.gov/planning/programs/parkplanning/pdf/sdriverparkpdf/sdrp_master_plan_full.pdf

⁴⁷ <http://www.keepsandiegomoving.com/RegionalBikeProjects/SDRiverTrail.aspx>

Imperial County⁴⁸

According to the Imperial County Bicycle Master Plan, the existing bicycle network in Imperial County is fragmented and lacks supportive end of trip facilities. However, opportunities are ample for strengthening these crucial elements of the bicycle system. The County of Imperial is predominantly an agricultural community consisting of flat terrain. Dry and temperate weather conditions prevail throughout the year, with the exception of the extremely hot summer months of May through September. The County transportation network offers miles of paved roadways with relatively level terrain, limited cross traffic, low traffic volumes, and wide expanses of open land that are ideal for bicycling.



The 2003 Imperial County Bicycle Master Plan and 2011 Update recommend the implementation of a 252-mile system of bicycle lanes, routes, and pathways that link schools, shopping, employment centers, and existing and planned residential developments. Providing designated routes for cycling strengthens the network and also serves as recognition of a growing cycling community by increasing motorist awareness of bicyclists and the legal requirement to share the roadway with bicycle riders.

Imperial County has a number of highways that provide vital transportation connections to communities and neighboring regions. These connections are as critical for bicyclists as they are for automobile drivers because these state routes often provide the most direct and logical connections between destinations. The Imperial County Bicycle

Master Plan Update (2011) includes bikeway recommendations for a total of nearly 103 miles of shoulder Class III facilities on State Highways (see appendix "D"). Caltrans will have to coordinate with Imperial County on the development of these facilities. Class III bikeways on highways that generally have high traffic volume and speeds should be designed with a minimum of a six-foot shoulder to give bicyclists sufficient room to comfortably travel. There are significant challenges to bicycling along the I-8 corridor between SR-98 and Yuma, AZ. This is an important interregional bicycling corridor and pavement conditions on Old Hwy. 80, the designated bicycle route adjacent to I-8, are degraded and in need of rehabilitation. Caltrans should make efforts to improve bicycling along this segment wherever possible through grant funding, analyzing the entire segment for the feasibility of allowing bicycling on the shoulders of I-8, or other opportunities that may be available.

The Bicycle Master Plan also proposes an Imperial Valley Bikeway system comprised of 12 bicycle routes designed to serve various user groups, provide equitable access to all areas of the County, and offer loop systems for recreational riders that wish to cycle long distances and return to the point of origin.

⁴⁸ <http://www.co.imperial.ca.us/publicwork/PDFdocuments/PublicReview/ImperialCountyBMPFinalPlan050712.pdf>.

Table 7: Interstate 8 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		Sunset Cliffs to I-5	Yes		Freeway	No	65	Yes	Ocean Beach Bike Trail	Class I Bike Path
2-4		I-5 to I-15	Yes		Freeway	No	65	Partial	San Diego River Bike Path	Class I Bike Path/ Class II/Class III
5-12							65		Highway 80	Class II
13		East Willows Rd. to Junction SR-79, Japatul Rd	No		Freeway		70			
16		San Diego/ Imperial County Line to Imperial Highway	No		Freeway		65			
17-22			Yes		Freeway		70		Evan Hewes Highway or SR-98	Class II and Class III
23		Gordon's Well Rd. to Ogilby Road	No		Freeway		70			
23		Sidewinder Rd. to Junction SR-186	No		Freeway		70			
24		Junction SR-186			Freeway					Class III

The Southern California Association of Governments (SCAG) also recommends a class III bikeway along SR-111 from Riverside County to the City of Calipatria in their Regional Transportation Plan/Sustainable Communities Strategy (2012-2035).

49

TABLE 9 SCAG Regional Bikeway Network Route Lengths by County and Class Type

County	Class	Existing Network	Proposed Network	SCAG Corridors	Total
Imperial	Class 1	2.9	63.4	-	66.3
	Class 2	4.4	294.8	202.3	501.4
	Class 3	38.1	16.3	51.8	106.2
	Total	45.4	374.4	254.1	673.9

NACTO

In April of 2014, Caltrans officially endorsed National Association of City Transportation Officials' (NACTO) guidelines that include innovations such as buffered bike lanes and improved pedestrian walkways. All streets within cities and towns may use the new guidelines. In addition to endorsing the new guidelines for local streets and roads, these guidelines can be referenced for city streets that are part of the State Highway System (SHS), however local agencies must obtain Caltrans approval for projects that are proposed in Caltrans right-of-way. Caltrans is also evaluating the guidelines for future updates to the Highway Design Manual, the standard for building on the state's highway system. Endorsement of the NACTO guidelines is part of an ongoing effort to integrate a multimodal and flexible approach to transportation planning and design.

City of San Diego Bike Sharing Program⁵⁰

The City of San Diego has partnered with DecoBike⁵¹ to implement a bicycle sharing program for the urban center of the city. Also known as a "bike share" program, this service makes bicycles available for shared use to individuals on an automated, short term basis. The goal is to provide affordable access to bicycles for short-distance trips in urban areas as an alternative to motorized public transportation or private automobiles. Bike sharing can also connect the first and last mile between public transit hubs and help reduce parking and traffic congestion. Bike share programs also address some disadvantages to bicycle ownership, including loss from theft or vandalism, lack of parking or storage, and maintenance.

The current goal is to provide 180 stations and 1,800 bikes within the City of San Diego by 2016. Bicycles are available at bike sharing stations around the city and can be returned to any station. Access to bicycles is available with either a membership or pay per use method. DecoBike stations are fully automated and operate 24 hours a day, 7 days a week. All current station locations are designated on the DecoBike website's map feature and at individual stations as well. A mobile application will become available once the program is up and running.

⁴⁹ http://rtpsc.scag.ca.gov/Documents/2012/final/SR/2012fRTP_ActiveTransportation.pdf

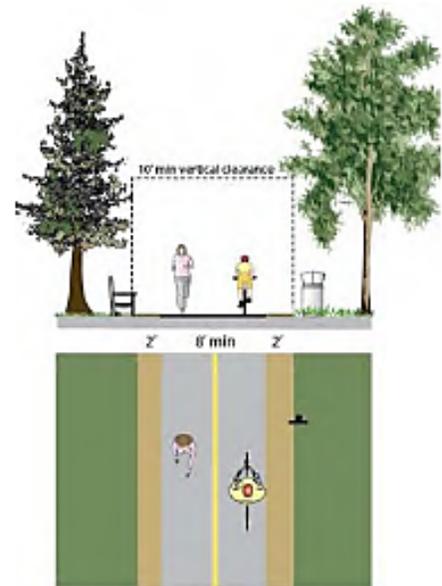
⁵⁰ <http://www.sandiego.gov/tsw/programs/bikesharing.shtml>

⁵¹ <http://www.decobike.com/sandiego/map-location>

Exhibit #1: Bike Classification

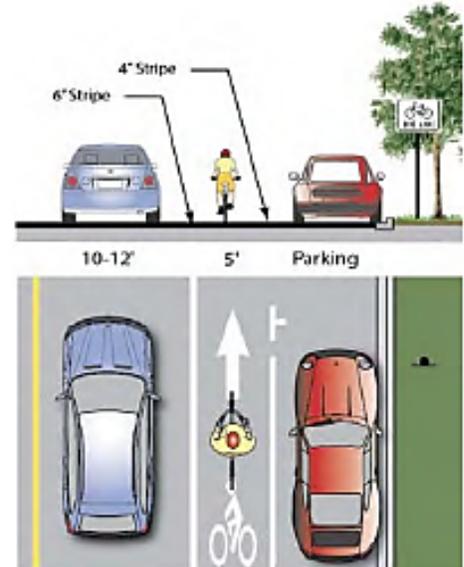
Class I – Bike Path

Bike paths are bikeways that are physically separated from vehicular traffic. Also termed shared-use paths, bike paths accommodate bicycle, pedestrian, and other non-motorized travel. Paths can be constructed in roadway right-of-way or independent right-of-way. Bike paths provide critical connections in the region where roadways are absent or are not conducive to bicycle travel.



Class II - Bike Lanes

Bike lanes are defined by pavement markings and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Within the regional corridor system, bike lanes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues. Such treatments include innovative signage, intersection treatments, and bicycle loop detectors.



Class III - Bike Routes

Bike routes are located on shared roadways that accommodate vehicles and bicycles in the same travel lane. Established by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. Within the regional corridor system, bike routes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues.



PEDESTRIAN FACILITIES

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 and persons using other wheeled devices such as scooters and skateboards. Suitable sidewalks, intersections and crossings are essential elements for non-motorized travel, as are dedicated parallel facilities including paths and trails.

Most of the original freeway overcrossings and undercrossings constructed in the 1960's were not designed with sensitivity to pedestrian and bicycle access and connect to roads without sidewalks. As dense development occurs along the corridor, existing pedestrian facilities need to be reevaluated for current and future pedestrian demand. In the urban core of San Diego, pedestrian crossings are located at intervals of 0.5 to 1.0 mile along the freeway but tend to be dark, or poorly-lit places that most pedestrians avoid. Other crossings only have narrow sidewalks on one side of the bridges. Farther east and in Imperial County, most crossings provide no sidewalks. In such cases, the paved shoulder serves as the only pedestrian facility. In the urban areas, parallel pedestrian facilities are available, but for rural areas in San Diego and Imperial Counties, parallel pedestrian facilities can be several miles away.



The San Diego River Park Master Plan addresses pedestrian pathways running parallel to I-8 from Fairmount Ave to Sunset Cliffs. The plan proposes guidance for improvement along this portion of the corridor. Although originally intended for recreational use, the San Diego River Trail provides active transportation commute options for many people. In Imperial County, several projects are proposed to improve interchanges and crossings for pedestrians. These improvements will be completed in accord with ADA requirements and will improve non-motorized facilities at those location. (See Table 8 for more information).

I-8 Corridor Study Active Transportation Analysis and Improvement Strategy⁵²

As part of the I-8 Corridor Study, the segment from Sunset Cliffs to College Avenue has been analyzed for existing, proposed, and potential Active Transportation improvements. Information was gathered from the City of San Diego and the SANDAG Bicycle Master Plans. High priority projects that are the most needed and beneficial based on bicyclist and pedestrians' metrics have been identified. These projects are the basis of the implementation plan being developed as part of the I-8 Corridor Study effort. Some of the deficiencies identified are connections to the existing River Trail, sidewalk gaps such as in Hotel Circle, and disconnected street network. Wayfinding and connection to transit solutions are also being analyzed.

⁵² <http://www.sandag.org/index.asp?classid=13&subclassid=10&projectid=484&fuseaction=projects.detail>

Table 8: Interstate 8 Pedestrian Facilities

Segment	Segment ID	Post mile	Location Description	Ped. Access Prohibited	Sidewalk Present	Facility Description	Junction		
							Location	Role	Type
1		0.00-0.239	Sunset Cliffs to I-5	Yes	No	Interstate Freeway	Sunset Cliff & end 8 west (PM.536)	Major	OB Bike path intersects with 8 westbound designated, separate path, sidewalk on both sides of sunset cliff bridge continues only on the west side of street
				Yes	No	Interstate Freeway	Sports Arena (PM1.234)	Major	
				Yes	No	Interstate Freeway	Pacific HWY (PM.12)	Major	Sidewalk on both sides, not well maintained, narrow, dirty, dark underpass
2		0.239-2.41	I-5 to SR-163	Yes	No	Interstate Freeway	Morena Blvd (PM.36)	Major	Underpass, two side, multiple on/off ramps, bike path connection
				Yes	No	Interstate Freeway	Presidio Park/Taylor St (PM.5-.864)	Minor	
				Yes	No	Interstate Freeway	Hotel Circle at Taylor St. (PM.93)	Major	Narrow, one sided(west), multiple on/off ramps
				Yes	No	Interstate Freeway	Hotel Circle (PM2.229)	Major	Narrow, one sided(east), dark, trash present, on/off ramp intersections
3		2.41-4.429	SR-163 to I-805	Yes	No	Interstate Freeway	Mission Center Rd. (PM3.038)	Major	

				Yes	No	Interstate Freeway	Texas St./Qualcomm Way (PM3.9)	Major	One sided(west), on/off ramp ped crossing
4	4.429-5.638	I-805 to I-15		Yes	No	Interstate Freeway	Mission City PKWY (PM4.86)	Major	Small overpass, one sided(east) sidewalk, ends right after overpass, picks up on west side of street no crosswalk
				Yes	No	Interstate Freeway	Camino Del Rio (PM5.517)	Major	No ped access, freeway connector, one way
5	5.638-8.336	I-15 to College Ave.		Yes	No	Interstate Freeway	Fairmount Ave (PM6.3)	Major	Designated separate bike/ped path, partially elevated, east side only. Very dark, dirty underpass sidewalk/bike path
6	8.336-9.591	College Ave. to Lake Murray Rd.		Yes	No	Interstate Freeway	College Ave. (PM8.336)	Major	Narrow sidewalk east side only, no designated bike lane, small shoulder area, on/off ramps to cross
				Yes	No	Interstate Freeway	Lake Murray Rd./ 70 th St (PM9.591)	Major	Narrow sidewalk, west side only, overpass
7	9.591-12.240	Lake Murray Rd. to SR-125		Yes	No	Interstate Freeway	Fletcher PKWY (PM10.57)	Major	No ped/bike access, narrow overpass with shoulder and confusing/multiple on/off ramps on south side of I-8
				Yes	No	Interstate Freeway	Baltimore Drive (PM10.782)	Major	Sidewalk on west side of overpass, bike lane
				Yes	No	Interstate Freeway	Spring Street (PM10.967)	Major	No ped/bike access across overpass, narrow, no sidewalk, tiny shoulder
				Yes	No	Interstate Freeway	Jackson Drive (PM11.764)	Major	Narrow sidewalk and bike lane on east side of st. dark dirty underpass
				Yes	No	Interstate Freeway	Grossmont Center Drive/ La Mesa Blvd (PM12.168)	Major	Sidewalk on both sides of st. well lit underpass, no crosswalks and no designated bike lanes
				Yes	No	Interstate Freeway	Dallas Street	Major	Overpass crosses 125 north of I-8, sidewalks both sides. No bike lane

8		12.24-15.8	SR-125 to SR-67	Yes	No	Interstate Freeway	Amaya Drive	Major	Starts as on/off ramps/overpass for the 125, north of I-8, continues east, sidewalk starts on south side then on both sides at Fletcher Pkwy intersection
				Yes	No	Interstate Freeway	Wakarusa Street	Minor	Center Dr becomes Wakarusa St at 125 overpass, then ends at Murray Dr. sidewalks on both sides, doesn't cross I-8.
				Yes	No	Interstate Freeway	Severin Drive (PM12.649)	Major	Sidewalks on both sides, no crosswalks. Multiple on/off ramp entrances
				Yes	No	Interstate Freeway	Grossmont Blvd (PM13.044)	Major	Newer construction sidewalks(both sides), no crosswalks or bike lanes, not well connected to sidewalks once across overpass on either side
				Yes	No	Interstate Freeway	El Cajon Blvd (PM13.658)	Major	One sidewalk, underpass, dark, separate from traffic by chain link fence and concrete pillars, slightly elevated from street level
				Yes	No	Interstate Freeway	W. Main St (PM14.594)	Major	Narrow Sidewalk on both sides, dark underpass, no designated crosswalks or bike lanes, multiple on/off ramps
				Yes	No	Interstate Freeway	Marshall Ave. (PM14.945)	Major	Sidewalk on both sides, underpass, bike lanes
				Yes	No	Interstate Freeway	Johnson Ave. (PM15.3)	Major	One sidewalk (east side), dark, graffiti underpass, separated from traffic by chain link fence
				Yes	No	Interstate Freeway	Magnolia Ave. (PM15.707)	Major	Underpass, one sidewalk (west), uneven pavement, dirt only in some places, crosswalks, confusing, multiple on/off ramps,
9		15.8-18.727	SR-67 to Greenfield Dr.	Yes	No	Interstate Freeway	Ballantyne Street (PM16.054)	Major	Small st, narrow sidewalks both sides, dark underpass, no bike lanes
				Yes	No	Interstate Freeway	Mollison Ave. (PM16.467)	Major	Small st, narrow sidewalks both sides, underpass, no bike lanes, no crosswalks
				Yes	No	Interstate Freeway	N. 1 st Street (PM16.841)	Minor	Small residential st, sidewalks on both sides, no bike lanes, underpass
				Yes	No	Interstate Freeway	N. 2 nd Street (PM17.351)	Major	Wider st, sidewalks on both sides, bright underpass, no designated bike lane, multiple on/off ramps, crosswalks present
				Yes	No	Interstate Freeway	Main Street (PM17.829)	Major	Sidewalks on both sides, bright underpass, no designated bike lane

				Yes	No	Interstate Freeway	Broadway (PM18.410)	Major	Dirt path along both sides continues as dirt path along road after the underpass, bright underpass, no designated bike lane, wide but not busy street under I-8 then narrows
				Yes	No	Interstate Freeway	Greenfield Drive (PM18.727)	Major	Sidewalk on one side, bright underpass, wide sidewalk, no designated bike lane, multiple on/off ramps
10	18.727-21.843	Greenfield Dr. to Lake Jennings Park Rd.		Yes	No	Interstate Freeway	Los Coches Rd (PM20.041)	Minor	Sidewalk on one side dirt path on other separated from traffic by guardrail, no designated crosswalks or bike lanes, bright underpass
				Yes	No	Interstate Freeway	Lake Jennings Park Rd (PM21.815)	Minor	No sidewalks, dirt paths on both sides of road, bright underpass, wide one lane street, no crosswalks or bike lanes, multiple on/off ramps
11	21.843-28.464	Lake Jennings Park Rd. to Tavern Rd.		Yes	No	Interstate Freeway	Olde HWY 80/Flinn Springs (PM23.640)	Minor	Bike lanes and dirt path present on both sides, no sidewalk, crosswalks, underpass narrow two lane road
				Yes	No	Interstate Freeway	Dunbar Lane (PM25.713)	Minor	Narrow dirt path along both sides of road, no designated bike lane, underpass
				Yes	No	Interstate Freeway	Peutz Valley Rd (PM26.730)	Minor	Inhospitable to pedestrians, no sidewalk, shoulder, designated bike lane, narrow two lane road with bus stop
				Yes	No	Interstate Freeway	Tavern Rd. (PM28.464)	Minor	Inhospitable to pedestrians, no sidewalk, shoulder, designated bike lane, narrow two lane overpass, sidewalks before and after overpass but not on
12	28.464-31.343	Tavern Rd. to Willows Rd.		Yes	No	Interstate Freeway	W. Victoria Drive (PM29.185)	Minor	Paved sidewalk on one side, uneven before and after overpass
				Yes	No	Interstate Freeway	E. Victoria Drive (PM30.172)	Minor	No designated sidewalk, narrow dirt path on one side of road, bike lanes, narrow underpass
				Yes	No	Interstate Freeway	W. Willows Rd. (PM31.343)	Minor	Very narrow overpass, no sidewalk, shoulder, or bike lane
13	31.343-37.856	Willows Rd. to SR-79		Yes	No	Interstate Freeway	E. Willows Rd (PM34.326)	Minor	No designated sidewalks or bike lanes, wide shoulder on overpass, multiple on/off ramps
				Yes	No	Interstate Freeway	Japatul Valley Rd/SR-79 (PM37.856)	Minor	No designated sidewalks or bike lanes, wide paved/unpaved shoulder along underpass, multiple on/off ramps, park and ride present here
14	37.856-65.896	SR-79 to SR-94		Yes	No	Interstate Freeway	Las Bancas-Horsethief Rd/Forest Rt 16s04 (PM39.621)	Minor	Dirt road, is part of the national forest hwy system within Cleveland National Forest is meant for pedestrian and some vehicle traffic, crosses under the I-8

				Yes	No	Interstate Freeway	Corte Madera Rd (PM43.087)	Minor	Narrow road, no sidewalks or bike lanes, underpass, closed to public vehicle access just south of I-8, runs into national forest
				Yes	No	Interstate Freeway	Pine Valley RD (PM43.544)	Minor	No sidewalks or bike lanes, has wide shoulders along underpass, rd terminates to south of I-8 at national forest trail head with hiking and off road vehicle access
				Yes	No	Interstate Freeway	Sunrise HWY (PM44.931)	Minor	No sidewalks or bike lanes, shoulders on overpass, then road narrows drastically, multiple on/off ramps
				Yes	No	Interstate Freeway	Un Gallo Rd. (PM45.809)	Minor	no pedestrian facilities, paved unmarked road, terminates north of I-8 at gate to national forest
				Yes	No	Interstate Freeway	Buckman Springs Rd. (PM48.842)	Minor	No sidewalks or bike lanes, wide street underpass, with vehicle rest area, multiple on/off ramps
				Yes	No	Interstate Freeway	Kitchen Creek Rd. (PM51.995)	Minor	No sidewalks or bike lanes, unpaved shoulder, underpass, on/off ramps
				Yes	No	Interstate Freeway	La Posta Rd./Thing Valley Rd. (PM56.776)	Minor	No sidewalks or bike lanes, narrows and becomes dirt road north of I-8
				Yes	No	Interstate Freeway	Crestwood Rd. (PM61.147)	Minor	No sidewalks or bike lanes, paved/unpaved shoulder, on/off ramps
				Yes	No	Interstate Freeway	Williams Rd. (PM62.272)	Minor	Unpaved road, no sidewalks or bike lanes, narrow underpass, service rd for energy company/windmills
				Yes	No	Interstate Freeway	Live Oak Trail (PM63.334)	Minor	Paved road, no sidewalks or bike lanes, small shoulder underpass
				Yes	No	Interstate Freeway	Ribbonwood Rd./SR-94 (PM65.876)	Minor	No sidewalks or bike lanes, wide two lane underpass, on/off ramps
15	65.896-77.770	SR-94 to Imperial County Border		Yes	No	Interstate Freeway	McCain Valley Rd. (PM67.828)	Minor	Narrow two lane road, no shoulder, bike lanes or sidewalks, underpass
				Yes	No	Interstate Freeway	W. Carrizo Gorge Rd. (PM72.623)	Minor	unpaved, narrow dirt road, underpass, no on/off ramps
				Yes	No	Interstate Freeway	E. Carrizo Gorge Rd. (PM73.974)	Minor	Wide two lane underpass, no designated sidewalks or crosswalks, on/off ramps,

				Yes	No	Interstate Freeway	Mica Gem (PM76.235)	Minor	Unpaved, unmarked, narrow dirt road, underpass
				Yes	No	Interstate Freeway	In-Ko-Pah Park Rd. (PM77.609)	Minor	Two lane, underpass, no designated sidewalk or bike lanes, on/off ramps
16	0.000-10.279	Imperial County Border to SR-98		Yes	No	Interstate Freeway	Mountain Springs Rd. (PM3.091)	Minor	Paved, narrow underpass, no designated sidewalk or bike lanes, on/off ramps
17	10.279-33.991	SR-98 to Forrester Rd.		Yes	No	Interstate Freeway	Imperial HWY (PM11.924)	Minor	Two lane road, paved, underpass with shoulder, on/off ramps
				Yes	No	Interstate Freeway	Dunaway Rd. (PM23.480)	Minor	Narrow overpass with shoulder, no sidewalk/ bike lanes, on/off ramps
				Yes	No	Interstate Freeway	Jeffrey Rd. (PM25.782)	Minor	Narrow overpass, no sidewalk, bike lanes or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Westside Rd. (PM27.435)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Derrick Rd. (PM28.940)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Drew Rd. (PM29.933)	Minor	Overpass with shoulder, pavement in bad condition leading up to bridge on both sides, on/off ramps, no sidewalks or bike lanes
				Yes	No	Interstate Freeway	Silsbee Rd. (PM32.489)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
18	33.991-37.960	Forrester Rd. to SR-86		Yes	No	Interstate Freeway	Forrester Rd. (PM33.991)	Major	Overpass with shoulders, no sidewalks or bike lanes, on/off ramps
				Yes	No	Interstate Freeway	Austin Rd. (PM35.483)	Minor	Paved underpass, dirt shoulders, pavement in bad condition
				Yes	No	Interstate Freeway	La Brucherie Rd. (PM36.457)	Minor	Narrow overpass, sidewalk on one side separated from road by concrete and fence
				Yes	No	Interstate Freeway	Imperial Ave. (PM36.973)	Major	Freeway overpass/on ramp, not meant for pedestrians, small shoulder present

				Yes	No	Interstate Freeway	8 th St. (PM37.456)	Major	Narrow overpass, sidewalk on one side, separated from road by concrete and fence
19	37.960-40.944	SR-86 to SR-111		Yes	No	Interstate Freeway	4 th St. (PM37.972)	Minor	Wide underpass, sidewalks and crosswalks present on both sides, newly installed and paved, on/off ramps, no designated bike lanes
				Yes	No	Interstate Freeway	Dogwood Rd. (PM38.964)	Major	Narrow overpass with sketchy shoulders
20	40.944-47.783	SR-111 to SR-7		Yes	No	Interstate Freeway	SR-111 (PM40.944)	Major	Wide underpass, shoulders, no pedestrian facilities, SR not meant for ped use, freeway interchange, on/off ramps
				Yes	No	Interstate Freeway	Bowker Rd. (PM42.539)	Minor	Overpass, wide shoulders, no sidewalks or bike lanes
				Yes	No	Interstate Freeway	Meloland Rd. (PM44.035)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Barbara Worth Rd. (PM45.047)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Anderholt Rd. (PM46.054)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Mets Rd. (PM47.045)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
21	47.783-53.497	SR-7 to SR-115		Yes	No	Interstate Freeway	Orchard Rd. (PM47.783)	Minor	Wide overpass with shoulders, no pedestrian facilities, multiple on/off ramps, not meant for ped use
				Yes	No	Interstate Freeway	Towland Rd. (PM48.783)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
				Yes	No	Interstate Freeway	Bonds Corner Rd. (PM50.492)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, on/off ramps
				Yes	No	Interstate Freeway	Miller Rd. (PM52.495)	Minor	Narrow overpass, no sidewalk, bike lanes, or shoulder, mostly for ag field access
22	53.497-65.752	SR-115 to SR-98		Yes	No	Interstate Freeway	SR-115 (PM53.497)	Major	Freeway interchange, two lane overpass with shoulders, no sidewalks or bike lanes, on/off ramps

				Yes	No	Interstate Freeway	Graeser Rd. (PM54.48)	Minor	Underpass, Dirt road
				Yes	No	Interstate Freeway	Holdridge Rd. (PM54.5)	Minor	Paved underpass, narrow, no sidewalks or bike lanes
23	65.752-90.740	SR-98 to SR-186		Yes	No	Interstate Freeway	SR-98 (PM65.752)	Major	Overpass, on/off ramps, shoulder, no sidewalk or bike lanes
				Yes	No	Interstate Freeway	Brock Research Center Rd. (PM68.827)	Minor	Narrow overpass, no sidewalks, bike lanes or shoulder, on/off ramps, mostly for access to reservoir
				Yes	No	Interstate Freeway	Gordon Wells/ American Canal Rd. (PM73.477)	Major	Narrow overpass, no sidewalks or shoulder, on/off ramps
				Yes	No	Interstate Freeway	Sand Hills/Grays Wells Rd. (PM80.824)	Major	Narrow overpass with shoulder, no sidewalks or bike lanes, on/off ramps
				Yes	No	Interstate Freeway	Ogilby Rd. (PM83.821)	Minor	Narrow overpass, no shoulder or sidewalk, on/off ramps
				Yes	No	Interstate Freeway	Sidewinder Rd. (PM88.701)	Major	Narrow overpass, no shoulder or sidewalk, on/off ramps
24	90.740-96.986	SR-186 to Arizona State Line		Yes	No	Interstate Freeway	SR-186/Araz Rd. (PM90.740)	Major	Overpass with shoulder, no sidewalk or bike lanes, on/off ramps
				Yes	No	Interstate Freeway	Araz Rd. (PM91.065)	Minor	Dirt road underpass, runs along American Canal on Fort Yuma Indian Reservation
				Yes	No	Interstate Freeway	Seminole Rd. (PM91.731)	Minor	Narrow overpass, no shoulder or sidewalks, becomes dirt road south of I-8
				Yes	No	Interstate Freeway	Winterhaven Dr. (PM94.979)	Major	Overpass with shoulders, no sidewalks, on/off ramps
				Yes	No	Interstate Freeway	E. Winterhaven Dr. (PM96.546)	Major	Wide overpass, shoulder on one side, sidewalk on other side (doesn't go all the way across), no designate bike lanes, on/off ramps

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) programs are designed to reduce or shift demand for transportation by commuters through various means, such as the use of public transportation, carpooling, vanpooling, bicycling, walking, and telework. Additionally, TDM strategies can be used to manage congestion during peak periods. In San Diego County, SANDAG has established the iCommute⁵³ program to provide resources for those interested in TDM options. The program's goal is to manage and reduce traffic congestion, as well as reduce greenhouse gas emissions and other environmental pollutants that result from commuters driving alone each day. Some of the services provided are free online ridematching for commuters to find and organize carpools, a regional vanpool program that includes a guaranteed ride home, bicycle encouragement program to incentivize employers to educate, promote and encourage bicycling as a viable transportation choice, and SchoolPool to help parents find opportunities to connect with other parents to transport their kids to school. The iCommute website also provides free resources to employers to help establish custom TDM programs that fit employee and business needs. Currently, Imperial County does not have a TDM program, though SCAG has identified opportunities in its RTP that was adopted in 2012.

CAR AND RIDE SHARING

In addition to local taxicabs, which are operated by multiple companies and regulated by MTS, Car and Ride Sharing are emerging industries in San Diego County that cover most of the urban area along Interstate 8. Emerging dynamic ride-sharing services known as Transportation Network Companies (TNCs) are currently operating within the I-8 corridor. TNCs feature private drivers and smartphone-based booking and payment systems. Using smartphone apps Uber and Lyft are two TNCs that are growing rapidly in popularity in the San Diego region allowing riders to find drivers, make payments electronically, and track service. This service is meant to be a high-tech, low-cost alternative to taxicab services. However, these services have not yet been regulated by local authorities and therefore may face uncertain futures. (The California Public Utilities Commission has allowed TNCs to operate in the State of California given that they meet specific requirements to ensure public safety of patrons. Several other metropolitan areas have banned Uber and Lyft pending the adoption of new safety and insurance regulations.)

Car Sharing is an affordable alternative to car ownership for individuals living in the urban center of San Diego. Membership and usage fees cover all vehicle-related expenses, including insurance, parking, and emergency roadside service. Vehicles can be found through smartphone apps and through the internet. Currently, car2go⁵⁴ provides over 300 all-electric smart cars in many parts of the cities of San Diego and Chula Vista, and around San Diego State University. Zipcar⁵⁵ provides around 55 vehicles that can be used throughout the San Diego region.

⁵³ <http://www.icommutesd.com>

⁵⁴ <https://www.car2go.com>

⁵⁵ <http://www.zipcar.com/>

PARK AND RIDE

Park and Ride lots provide an important transportation option for commuters. By providing a place to meet other travelers to share rides or a place to park in order to take a trip on transit, stress on the transportation network is reduced which results in lower GHG emissions and reduced congestion on our roadways. Caltrans monitors Park and Rides to ensure they are safe, comfortable locations for motorists to park their vehicles. This includes assessing paving, lighting, striping and signage, security, landscaping, access to and the provision of transit facilities, traveler amenities, and access to electric vehicle chargers. Each Park and Ride location is distinct and requires its' own specific improvement assessment. In San Diego County, there are currently eight Park and Ride lots along I-8. There are currently no existing or planned park and ride lots in Imperial County.

Due to the successful nature of the majority of the District's Park and Rides and the lack of available parking in many of them, the opportunity to expand existing Park and Ride lots should be investigated and new Park and Ride lots should be encouraged. Park and Ride lots within the District could be expanded to increase parking supply, if funding becomes available. Additionally, the local partners across the region should be encouraged to foster partnerships with land owners who have surplus parking in order to establish additional Park and Ride lots.

Table 9: Park and Ride Locations

OWNER	PARKING SPACES	SEGMENT	ADDRESS	CITY	ZIP
City of San Diego	25	2	4300 TAYLOR STREET	SAN DIEGO	92110
Caltrans	65	8	8725 MURRAY DRIVE	LA MESA	91942
Caltrans	20	8	1441 E. WASHINGTON AVENUE	EL CAJON	92019
Caltrans	17	8	7838 JAPATUL VALLEY ROAD	DESCANSO	91901
Caltrans	60	9	13702 CAMINO CANADA	SAN DIEGO COUNTY	92021
Caltrans	106	10	9001 BLOSSOM VALLEY ROAD	LAKEVIEW COMMUNITY	92021
Caltrans	18	11	5480 BANCROFT DRIVE	LA MESA	91941
Caltrans	25	18	9307 MURRAY DRIVE	LA MESA	91942

TRANSIT FACILITIES

San Diego County Transit

In San Diego County, the Metropolitan Transit System (MTS)⁵⁶ provides fixed route services throughout much of the county, with North County Transit District (NCTD) serving the northern region. 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. 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.

The San Diego Trolley Green Line provides Light Rail Transit (LRT) service that parallels the I-8 corridor from the Old Town Transit Center connecting to Fashion Valley Transit Center and SDSU Transit Station and continuing to the El Cajon Transit Center. The Orange Line provides parallel service from the Spring Street Station to the El Cajon Transit Center. Though no transit utilizes I-8 directly in the Mission Valley, the area is well served by MTS Bus Service. Rural Bus Route 888 provides twice a day service between Jacumba and the El Cajon Transit Center. Route 888 travels on I-8 between Buckman Springs and East Main Street in El Cajon. Free bus/shuttle service is provided to casinos by the tribes including Viejas, Sycuan, and Golden Acorn.

⁵⁶ <http://www.sdmts.com/>

Imperial County Transit

The Imperial County Transportation Commission (ICTC) provides fixed route services throughout the county. Limited service reduces access to jobs outside of weekday, daytime hours. Both fixed route and demand response services are provided throughout much of the county, providing transportation for the general public, including seniors and disabled people. Local, circulator, express, and deviated fixed route services are operated between points throughout the Imperial Valley under contract for the county



by First Transit, Inc., and branded as Imperial Valley Transit (IVT)⁵⁷. Demand responsive service (Dial-a-Ride) is subsidized by ICTC and operated by private services in Brawley, Calexico, El Centro, Imperial, and the West Shores area. Both the Brawley and West Shores Dial-a-Ride services are available to the general public, while the others are limited to senior/disabled passengers. ADA complementary paratransit service, branded IVT Access (formerly AIM Transit), is provided throughout the fixed route service area. IVT Access is also available to the general public for an added fee when space allows. Additionally, certain disabled passengers are eligible for Med-Express, which operates four days per week between pickup points in Imperial County and medical facilities in San Diego County.

The Yuma County Intergovernmental Public Transportation Authority (YCIPTA) provides Yuma County Area Transit (YCAT) fixed route, vanpool and YCAT OnCall demand responsive bus service. This service includes service into Winterhaven, El Centro, and the Quechan Casino Resort on the Fort Yuma Indian Reservation. The Turquoise Route 10 provides service from Yuma to El Centro via I-8 with stops at Paradise casino and Winterhaven. The Blue Route 5 provides service from Yuma to Andrade with stops at Paradise Casino, Quechan Casino Resort, and Winterhaven. These routes are funded in part by the Quechan Tribe and ICTC and are operated by YCIPTA.

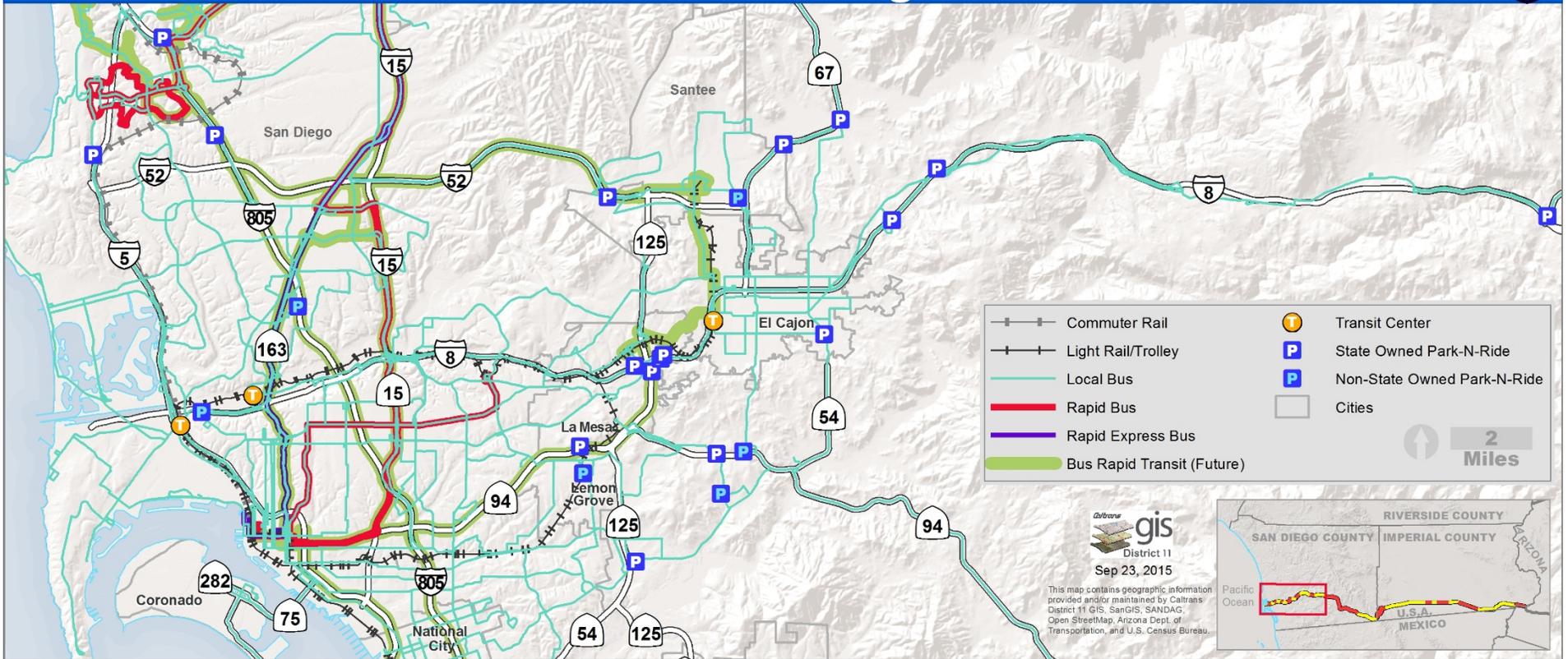
⁵⁷ <http://www.ivtransit.com/>

Table 10: Interstate 8 Transit Facilities

Segment	Location Description	County Route Beginning Post Mile	County Route End Post Mile	Parallel Transit Routes
1	Sunset Cliffs to Interstate 5	SD_L000.000	SD_R000.239	MTS 35
2	Interstate 5 to State Route 163	SD_R000.239	SD_002.410	MTS Green Line - 88
3	State Route 163 to Interstate 805	SD_002.410	SD_004.429	MTS Green Line - 88, 6, 18 (Mission Valley) 15, 1 (El Cajon Boulevard)
4	Interstate 805 to Interstate 15	SD_004.429	SD_005.638	MTS Green Line - 18 (MV) 15, 1 (ECB)
5	Interstate 15 to College Ave	SD_005.638	SD_008.336	MTS Green Line - 14 (MV) 15, 1 (ECB)
6	College Ave to Lake Murray Blvd	SD_008.336	SD_009.591	MTS Green Line - 14 (MV) 1 (ECB)
7	Lake Murray Blvd to State Route 125	SD_009.591	SD_012.240	MTS Green, Orange Lines - 1 (ECB)
8	State Route 125 to State Route 67	SD_012.240	SD_015.800	MTS Green, Orange Lines - 864/864x, 888 plus Multiple Downtown El Cajon routes
9	State Route 67 to Greenfield Drive	SD_015.800	SD_R018.727	MTS 864/864x, 888 plus Multiple Downtown El Cajon routes
10	Greenfield Drive to Lake Jennings Park Road	SD_R018.727	SD_R021843	MTS 864/864x, 888
11	Lake Jennings Park Road to Tavern Road	SD_R021.843	SD_R028.464	MTS 864, 888
12	Tavern Road to Willows Road	SD_R028.464	SD_R031.343	MTS 864, 888
13	Willows Road to State Route 79	SD_R031.343	SD_R037.856	MTS 888
14	State Route 79 to State Route 94	SD_R037.856	SD_R065.896	MTS 888 (parallel route from R49 to R67)
15	State Route 94 to Imperial County Border	SD_R065.896	SD_R077.770	MTS 888 (parallel route from R67 to R74)
16	Imperial County Border to State Route 98	IMP_R000.000	IMP_R010.279	None
17	State Route 98 to Forrester Road	IMP_R010.279	IMP_R033.991	IVT Dial-a-Ride
18	Forrester Road to State Route 86	IMP_R033.991	IMP_R037.960	IVT Dial-a-Ride
19	State Route 86 to State Route 111	IMP_R037.960	IMP_R040.944	IVT 3 (parallel route from R37 to R48) Multiple El Centro routes - YCAT 10
20	State Route 111 to State Route 7	IMP_R040.944	IMP_R047.783	IVT 3 (parallel route from R37 to R48) - YCAT 10, IVT Dial-a-Ride
21	State Route 7 to State Route 115	IMP_R047.783	IMP_R053.497	YCAT 10, IVT Dial-a-Ride
22	State Route 115 to State Route 98	IMP_R053.497	IMP_R065.752	YCAT 10
23	State Route 98 to State Route 186	IMP_R065.752	IMP_R090.740	YCAT 10
24	State Route 186 to the Arizona State Line	IMP_R090.740	IMP_R096.986	YCAT 10, YCAT 5 Shuttle Bus

DRAFT

Interstate 8 San Diego Transit



ENVIRONMENTAL CONSIDERATIONS FOR INTERSTATE 8 IN IMPERIAL AND SAN DIEGO COUNTIES

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. The environmental factors have been categorized based on a scale of high-medium-low probability of environmental resource issues established by district staff. Environmental factors included in this section are as follows:

Recreational and Protected Land (Section 4(f))

I-8 traverses numerous park and recreation facilities, as well as lands protected by Section 4(f) of the Department of Transportation Act. In San Diego County these include, the Ocean Beach Bike Path, Famosa Slough, The Cleveland National Forest, the southern portion of the Anza-Borrego State Park, multiple golf courses, and numerous other sports and recreational facilities, including designated open space. The Pine Valley Creek Bridge is an individual highway system element that is specifically identified for 4(f) protection by FHWA. There are limited park and recreation facilities, bordering I-8 in Imperial County protected by Section 4(f) of the Department of Transportation Act, these would include, the Imperial Sand Dunes Recreation Area, and the Royal Dunes Park.

Farmlands

Farmlands exist along I-8 in the eastern portion of San Diego County. Agriculture is the main industry in Imperial County. Over 26 miles of the route through Imperial County borders farmlands. This includes lands designated as Prime Farmland, Farmlands of Statewide Importance, and Farmlands of Local Importance. Conversion of prime farmland should be considered as these lands are developed and/or highway facilities are expanded. The Williamson Act, or the California Land Conservation Act of 1965, is a California law that provides relief of property tax to owners of farmland and open-space land in exchange for a ten-year agreement that the land will not be developed or otherwise converted to another use. Imperial County filed non-renewal on all Williamson Act contracts, effective January 2011, covering 117,246 acres; however, pursuant to GC Section 51246 the contracts remain in full force and effect until the contracts terminate. Any existing Williamson Act contracts along I-8 would need to be considered during transportation planning studies.

Environmental Justice

There are significant minority and low income populations located within close proximity of I-8, most of which reside in Imperial County. Due to the agricultural nature of the surrounding area, seasonal agriculture workers are also found within the area. Efforts should be made to include minority and low income populations during public outreach activities to allow for their participation in transportation planning studies within the corridor.

Cultural

The surviving traces of the historic and prehistoric past are non-renewable resources. The resources are easily degraded or destroyed by highway projects unless an appropriate effort is made to identify, evaluate, and protect them. Responsible consideration of cultural values in the course of project planning and implementation helps avoid conflict and builds support for Caltrans transportation objectives.

Paleontological

Paleontology, exclusive of the study of fossil humans, is a natural science closely associated with geology and biology. In geologically diverse California, vertebrate, invertebrate, and plant fossils are usually found in sedimentary and meta-sedimentary deposits. Caltrans and local project sponsors, as part of the project development and delivery process, are obligated to conduct paleontological studies in response to federal, state, and local laws, regulations, and ordinances. When addressed proactively, paleontological resources are not likely to restrict project options or slow project delivery.

Visual/Aesthetics

I-8 is eligible for the State Scenic Highway System from I-5 to the western junction of SR-98. In Imperial and San Diego County, it is important that future development adheres to the objectives of the existing local and county plans.

National Pollutant Discharge Elimination System (NPDES)/Water Quality

Caltrans has a comprehensive program for preventing water pollution during construction activities on the state highway system. Caltrans has developed a number of resources to assist staff and construction contractors achieve this goal. Federal environmental regulations based on the Clean Water Act (CWA) have evolved to require the control of pollutants from Municipal Separate Storm Sewer Systems (MS4s), construction sites, and industrial activities. MS4s include state operated roadways. Discharges from such sources were brought under the NPDES permit process by the 1987 CWA amendments and the subsequent 1990 promulgation of storm water regulations by the U.S. Environmental Protection Agency (EPA). The overall goal of the Stormwater Program is to integrate appropriate stormwater control activities into ongoing activities, thus making control of stormwater pollution a part of Caltrans normal business practices.

Geology/Soils/Seismic

San Diego and Imperial County are bisected by active seismic faults that could generate dangerous earthquakes and other geologic activity.

Flood Plain

In San Diego County, I-8 is located within the floodplain of the San Diego River from its westward start to just past the I-15 portions and is within 100 year and 500 year flood zones. Forester Creek borders a portion of the interstate in the City of El Cajon and is within a 500 year flood zone. While Imperial County is considered a desert region, it is subject to heavy rains which can cause flash flooding. The route crosses numerous canals, washes, and drainage ditches which can be the subject to flooding during these rainstorms. I-8 in Imperial County also crosses the New River and the Colorado River which may also be subject to flooding during these rain events.

Climate Change

In California, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles) make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion. Climate change considerations should be integrated throughout the transportation decision-making process from planning through project development and delivery.

Hazardous Waste

I-8 in San Diego County, from its western beginning through the City of Lakeside is known to have aerielly deposited lead (ADL) in soils. Handling of hazardous levels of ADL contaminated soils may require special handling in accordance with the ADL Variance issued by the Department of Toxic Substance Control. Special handling may include placement under pavement or clean soil, or disposal at a California Class 1 disposal site. Other types of waste materials that are typically of concern in transportation projects include, treated wood waste, asbestos containing material, and lead-based paint.

Noise

The Federal Highway Administration (FHWA) and Caltrans have defined traffic noise impacts as those impacts which occur when the predicted traffic noise level approached or exceeds the noise abatement criteria or when the predicted traffic noise levels substantially exceed the existing noise levels. Caltrans defines substantial noise increase when the predicted noise levels with the project exceed existing noise levels by 12 dBA, Leq(h). Identification of noise receptors that would be impacted by transportation projects must take place during project planning and development.

Waters and Wetlands

I-8 in both San Diego and Imperial County crosses a number of water bodies and washes that are considered wetlands and waters of the United States. Any work within these areas would require permits from the California Department of Fish and Wildlife (CDFW) and possibly the U.S. Army Corps of Engineers (ACOE) and the Regional Water Quality Control Board (RWQCB).

Special Status Species

Special status species within the I-8 corridor include the federally listed (Endangered) Quino Checkerspot butterfly (*Euphydryas editha quino*), arroyo toad (*Anaxyrus californicus*), and least Bell's vireo (*Vireo bellii pusillus*). Also within the corridor is the federally listed (Threatened) coastal California gnatcatcher (*Polioptila californica*) in San Diego County, and the federally endangered Yuma clapper rail (*Rallus longirostris yumanensis*) in Imperial County. The area is also identified as a critical habitat for Peninsular bighorn sheep (*Ovis canadensis nelsoni*) as well as other federally protected habitats and vegetation. There are also numerous state listed species located along the I-8 from San Diego to Imperial County that need to be taken into consideration when making transportation improvements along the corridor. Migratory birds are also commonly found in the habitats that surround the I-8 in both San Diego and Imperial County.



Quino Checkerspot Butterfly
(*Euphydryas editha quino*)



Arroyo Toad
(*Anaxyrus californicus*)

Photo Credits: USFW



Least Bell's Vireo
(*Vireo bellii pusillus*)



Coastal California Gnatcatcher
(*Polioptila californica*)



Yuma clapper rail
(Rallus longirostris yumanensis)



Peninsular bighorn sheep
(Ovis canadensis nelsoni)

Habitat Connectivity

Conserved lands occur both to the north and south throughout the I-8 corridor. Maintaining habitat connectivity between these conserved lands needs to be taken into consideration when making transportation improvements along the corridor.

Air Quality Conformity

Transportation conformity is required under the U.S. Clean Air Act (CAA) to ensure that federally supported highway and transit project activities conform to the purpose of the State Implementation Plan (SIP). Conformity for the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant National Ambient Air Quality Standard (NAAQS.) Conformity applies to “non-attainment” and “maintenance” areas for the following transportation-related criteria pollutants: ozone (O₃), particulate matter (PM_{2.5} and PM₁₀) carbon monoxide (CO), and nitrogen dioxide (NO₂.)

Ozone (O₃)

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.

Imperial County attained the 1997 8-hour ozone standard of 0.08 ppm in 2008. However, the U.S. Environmental Protection Agency (EPA) recently promulgated the 2008 ozone standard of 0.075 ppm. On May 21, 2012 the U.S. Environment Protection Agency (EPA) classified Imperial County as Marginal Nonattainment with an attainment year of 2015. As of July 20, 2013 the 1997 ozone standard was revoked and replaced with the 2008 ozone standard.

Particulate Matter (PM₁₀)

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 PM₁₀. Imperial County is classified as Nonattainment/Serious for PM₁₀ as of August 3, 2004. The two main reasons for PM₁₀ excesses are emission transport from Mexicali, Mexico (especially in the Calexico area), and occasional high wind activity. The Maintenance Plan for PM₁₀ 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 attainment for the Annual and the 2006 PM^{2.5} standard. Imperial County is classified as Attainment except in a small area of the county including Calexico which is classified as Nonattainment for PM_{2.5}.

Carbon Monoxide (CO) and Nitrogen Dioxide (NO₂)

San Diego County is classified as attainment for the CO, Primary 1-Hour SO₂, and NO₂. Imperial County is in attainment for CO and NO₂.

CORRIDOR PERFORMANCE

The Corridor Performance of I-8 was developed using data from Caltrans Traffic information, SANDAG and SCAG Model resources, and planning staff knowledge. Since I-8 is a Freeway with separated alignment, the information in the table addresses the east and the west volumes separately. The morning and evening peak hour volumes are both also addressed. Total vehicle traffic was addressed in the first part of the table with truck traffic being addressed in the second section.

Segment 1 begins at Sunset Cliffs Boulevard/Nimitz Boulevard, the signalized intersection acts as a ramp meter for the freeway entrance, whereas the west bound terminates in a signal with a stop sign for northbound exiting traffic. This segment is highly congested, performing at LOS E and F for peak hour trips. Eastbound traffic is affected by a bottleneck at the I-5 junction, with only one lane continuing eastbound with lanes merging southbound. No eastbound to northbound connector currently exists, limiting movements. Segment 2 is congested and heavily impacted from several weaving and merging movements from both the I-5/I-8 and I-8/SR-163 Junctions. Segment 3 has similar issues including holding volumes from I-805 that must enter I-8 to access Mission Valley.

Volumes and congestion are consistent for segments 4 through 8 for peak hour commuter traffic. Though heavy in both directions, the morning westbound and evening eastbound are the primary commute movements. These segments show worsening LOS in the Horizon Year 2040, relative to the Base Year 2012 traffic volumes. Segment 7 shows the highest growth rate in the Corridor with no identified future improvements. Traffic volumes lessen and LOS improves in segments 9 through 12 even with the reduced 4 lane alignment, though weaving and merging issues persist at SR-125/SR-94, and SR-67. With decreased commuter trips, truck percentages increase through the mountain region of segments 13 through 15. This reflects the interregional freight purpose of I-8, along these segments of the route.

The peak hour of travel in Imperial County is mid-day. This is related to the agricultural and interregional aspects of this section of the corridor. Though segments 19 and 20 serve at "C" or better LOS, they represent the highest congestion in Imperial County for I-8. This is also the urban core, representing the Cities of El Centro and Imperial with Brawley to the north. This represents the interregional and cross border connection from Calexico north from SR-7 and SR-111. Segments 16, 17, and 21 through 24 have relatively low traffic volumes with highest percentage of truck volumes of 13.9% to 30%.

Table12: I-8 Corridor Performance

Segment #	1		2		3		4		5		6	
	E	W	E	W	E	W	E	W	E	W	E	W
	Sunset Cliffs to Interstate 5		Interstate 5 to State Route 163		State Route 163 to Interstate 805		Interstate 805 to Interstate 15		Interstate 15 to College Ave		College Ave to Lake Murray Blvd	
Basic System Operations												
AADT (BY) 2012 5 Day	92,883	89,699	98,083	98,917	116,504	117,496	115,411	116,370	108,866	105,675	94,891	92,109
AADT (HY) 2040	106,667	103,010	112,639	113,596	132,647	128,459	128,893	137,214	131,226	137,214	116,213	117,259
AADT: Growth Rate/Year	0.53%	0.53%	0.53%	0.53%	0.41%	0.41%	0.53%	0.53%	0.72%	0.72%	0.89%	0.89%
Peak Hour Volumes (BY)	AM 5,614 PM 7,280	AM 5,740 PM 6,225	AM 5,873 PM 7,778	AM 6,397 PM 6,854	AM 6,976 PM 9,239	AM 7,563 PM 8,142	AM 6,552 PM 9,436	AM 8,600 PM 7,565	AM 6,238 PM 9,058	AM 8,111 PM 6,597	AM 5,437 PM 7,895	AM 7,070 PM 5,750
Peak Hour Volumes (HY)	AM 6,447 PM 8,360	AM 6,592 PM 7,149	AM 6,745 PM 8,932	AM 7,312 PM 7,871	AM 7,943 PM10,519	AM 8,269 PM 8,902	AM 7,317 PM10,538	AM10,140 PM 8,920	AM 7,519 PM10,918	AM 9,701 PM 7,890	AM 6,659 PM 9,669	AM 9,000 PM 7,320
LOS Method	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM
Segment LOS (BY)	AM E PM F	AM E PM F	AM D PM E	AM D PM D	AM D PM F	AM E PM F	AM D PM F	AM F PM E	AM C PM E	AM D PM C	AM C PM E	AM D PM D
Segment LOS (HY)	AM F PM F	AM F PM F	AM D PM F	AM E PM E	AM E PM F	AM F PM F	AM E PM F	AM F PM F	AM D PM F	AM E PM D	AM D PM F	AM F PM E
VMT (BY)	241,589	233,307	212,938	214,749	235,222	237,224	139,532	140,691	293,720	285,111	119,088	92,109
VMT (HY)	277,441	267,929	244,539	246,617	267,814	259,359	155,832	165,892	354,048	341,014	145,847	147,160
Peak Hour Traffic Data												
Peak Period Length	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours
Peak Hour Time of Day	AM 8-9 PM 3-4	AM 7-8 PM 5-6	AM 8-9 PM 4-5	AM 7-8 PM 5-6	AM 8-9 PM 4-5	AM 7-8 PM 5-6	AM 11-12 PM 3-4	AM 7-8 PM 5-6	AM 11-12 PM 4-5	AM 7-8 PM 3-4	AM 11-12 PM 4-5	AM 7-8 PM 3-4
Peak Hour VMT (BY)	AM14,602 PM18,935	AM14,930 PM16,191	AM12,750 PM16,886	AM13,823 PM14,880	AM14,054 PM18,654	AM15,270 PM15,439	AM7,921 PM11,408	AM10,397 PM9,146	AM16,830 PM24,439	AM21,884 PM17,799	AM6,823 PM9,908	AM8,873 PM7,216
Peak Hour VMT (HY)	AM16,769 PM21,744	AM17,146 PM18,595	AM14,643 PM19,391	AM15,874 PM17,088	AM16,037 PM21,238	AM16,695 PM17,973	AM8,846 PM12,740	AM12,259 PM10,784	AM20,286 PM29,457	AM26,173 PM21,287	AM8,357 PM12,135	AM11,295 PM9,187
Peak Hour V/C (BY)	AM 0.936 PM 1.213	AM 0.957 PM 1.038	AM 0.734 PM 0.972	AM 0.796 PM 0.857	AM 0.872 PM 1.155	AM 0.945 PM 1.018	AM 0.819 PM 1.118	AM 1.075 PM 0.946	AM 0.624 PM 0.959	AM 0.811 PM 0.659	AM 0.68 PM 0.987	AM 0.884 PM 0.719
Peak Hour V/C (HY)	AM 1.075 PM 1.393	AM 1.099 PM 1.192	AM 0.843 PM 1.12	AM 0.914 PM 0.984	AM 0.993 PM 1.315	AM 1.034 PM 1.113	AM 0.915 PM 1.317	AM 1.268 PM 1.115	AM 0.752 PM 1.082	AM 0.970 PM 0.789	AM 0.832 PM 1.209	AM 1.125 PM 0.915

Segment #	1	2	3	4	5	6
Truck Traffic						
(AADTT) (BY)	5,112	5,516	7,488	8,112	7,938	6,919
(AADTT) (HY)	5,871	6,335	8,355	9,314	9,532	8,638
Total Trucks (% of AADT) (BY)	2.8	2.8	3.2	3.5	3.7	3.7
Total Trucks (% of AADT)(HY)	2.8	2.8	3.2	3.5	3.7	3.7
5+ Axle (AADTT)(BY)	736	524	869	1,622	1,905	1,661
5+ Axle (AADTT)(HY)	845	6335	969	1,863	2,288	2,073
5+ Axle Trucks (as % of AADT)(BY)	14.4	602	11.6	20	24	24
5+ Axle Trucks (as % of AADT)(HY)	14.4	9.5	11.6	20	24	24
AADT-Average Annual Daily Trip BY-Base Year HY-Horizon Year LOS-Level of Service VMT-Vehicle Miles Traveled V/C-Vehicle/Capacity AADTT- Average Annual Daily Truck Traffic						

Segment #	7		8		9		10		11		12	
	E	W	E	W	E	W	E	W	E	W	E	W
	Lake Murray Blvd to State Route 125		State Route 125 to State Route 67		State Route 67 to Greenfield Drive		Greenfield Drive to Lake Jennings Park Road		Lake Jennings Park Road to Tavern Road		Tavern Road to W Willows Road	
Basic System Operations												
AADT (BY) 2012 5 Day	99,435	104,065	106,025	111,330	56,774	59,226	47,559	44,285	32,302	33,698	27,191	26,907
AADT (HY) 2040	121,716	127,384	137,579	130,294	63,530	67,334	53,000	51,300	36,000	37,500	30,500	30,100
AADT: Growth Rate/Year	0.8%	0.8%	0.83%	0.83%	0.44%	0.51%	0.48%	0.48%	0.41%	0.41%	0.43%	0.43%
Peak Hour Volumes (BY)	AM 5,762 PM 8,340	AM 6,984 PM 6,975	AM 5,960 PM 8,599	AM 6,459 PM 7,618	AM 3,309 PM 4,757	AM 4,054 PM 3,911	AM 2,713 PM 3,587	AM 3,125 PM 2,861	AM 1,883 PM 2,707	AM 2,307 PM 2,225	AM 1,696 PM 1,921	AM 1,561 PM 2,211
Peak Hour Volumes (HY)	AM 7,053 PM10,209	AM 8,549 PM 8,538	AM 7,734 PM11,128	AM 7,559 PM 8,916	AM 3,702 PM 5,323	AM 4,609 PM 4,446	AM 3,023 PM 3,997	AM 3,620 PM 3,314	AM 2,099 PM 3,017	AM 2,567 PM 2,476	AM 1,902 PM 2,155	AM 1,746 PM 2,473
LOS Method	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM
Segment LOS (BY)	AM D PM F	AM F PM D	AM D PM F	AM D PM E	AM B PM C	AM C PM C	AM C PM E	AM D PM D	AM B PM C	AM C PM C	AM B PM C	AM B PM C
Segment LOS (HY)	AM D PM F	AM F PM F	AM E PM F	AM E PM F	AM C PM D	AM C PM C	AM D PM E	AM E PM D	AM C PM D	AM C PM C	AM C PM C	AM B PM C
VMT (BY)	263,403	275,668	377,449	396,335	168,619	175,901	148,194	137,992	213,872	223,115	78,283	77,465
VMT (HY)	322,426	337,440	489,781	463,847	188,684	199,982	165,148	159,851	238,356	248,288	87,810	86,658
Peak Hour Traffic Data												
Peak Period Length	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours
Peak Hour Time of Day	AM 11-12 PM 4-5	AM 7-8 PM 3-4	AM 11-12 PM 3-4	AM 7-8 PM 3-4	AM 11-12 PM 4-5	AM 7-8 PM 3-4	AM 11-12 PM 4-5	AM 7-8 PM 3-4	AM 7-8 PM 3-4	AM 11-12 PM 4-5	AM 10-11 PM 4-5	AM 11-12 PM 3-4
Peak Hour VMT (BY)	AM15,264 PM22,093	AM18,501 PM18,477	AM21,218 PM30,612	AM22,994 PM27,120	AM 9,828 PM14,128	AM12,040 PM11,616	AM 8,454 PM11,177	AM 9,738 PM 8,915	AM12,467 PM17,923	AM15,275 PM14,732	AM 4,883 PM 5,531	AM 4,494 PM 6,365
Peak Hour VMT (HY)	AM18,683 PM27,044	AM22,646 PM22,617	AM27,533 PM39,616	AM26,910 PM31,741	AM10,995 PM15,809	AM13,659 PM13,205	AM 9,420 PM12,455	AM11,280 PM10,326	AM13,897 PM19,976	AM16,996 PM16,394	AM 5,476 PM 6,204	AM 5,027 PM 7,120
Peak Hour V/C (BY)	AM 0.720 PM 1.043	AM 0.873 PM 0.872	AM 0.745 PM 1.075	AM 0.807 PM 0.952	AM 0.46 PM 0.661	AM 0.563 PM 0.543	AM 0.678 PM 0.897	AM 0.781 PM 0.715	AM 0.471 PM 0.677	AM 0.577 PM 0.556	AM 0.424 PM 0.480	AM 0.390 PM 0.553
Peak Hour V/C (HY)	AM 0.882 PM 1.276	AM 1.069 PM 1.067	AM 0.967 PM 1.391	AM 0.945 PM 1.114	AM 0.514 PM 0.739	AM 0.640 PM 0.618	AM 0.756 PM 0.999	AM 0.905 PM 0.829	AM 0.525 PM 0.754	AM 0.642 PM 0.619	AM 0.476 PM 0.539	AM 0.437 PM 0.618

Segment #	7	8	9	10	11	12
Truck Traffic						
(AADTT) (BY)	8,954	10,216	10,510	11,021	7,920	6,492
(AADTT) (HY)	10,960	12,590	11,856	12,516	8,820	7,172
Total Trucks (% of AADT) (BY)	4.4	4.7	9.06	12	12	12
Total Trucks (% of AADT)(HY)	4.4	4.7	9.06	12	12	12
5+ Axle (AADTT)(BY)	2,059	2,901	1,381	5,709	4,103	3,363
5+ Axle (AADTT)(HY)	2,521	3,576	1,558	6,483	4,569	3,767
5+ Axle Trucks (as % of AADT)(BY)	23	28.4	13.14	51.8	51.8	51.8
5+ Axle Trucks (as % of AADT)(HY)	23	28.4	13.14	51.8	51.8	51.8
AADT-Average Annual Daily Trip BY-Base Year HY-Horizon Year LOS-Level of Service VMT-Vehicle Miles Traveled V/C-Vehicle/Capacity AADTT- Average Annual Daily Truck Traffic						

Segment #	13		14		15		16		17		18	
	E	W	E	W	E	W	E	W	E	W	E	W
	Willows Road to State Route 79		State Route 79 to State Route 94		State Route 94 to Imperial County Border		Imperial County Border to State Route 98		State Route 98 to Forrester Road		Forrester Road to State Route 86	
Basic System Operations												
AADT (BY) 2012 5 Day	12,437	12,163	8,950	8,650	7,075	7,001	6,968	6,949	8,311	8,289	8,567	8,750
AADT (HY) 2040	19,402	18,974	14,714	14,220	13,250	12,240	12,626	12,592	15,758	15,716	15,763	16,100
AADT: Growth Rate/Year	2%	2%	2.3%	2.3%	2.9%	2.9%	2.9%	2.9%	3.2%	3.2%	3%	3%
Peak Hour Volumes (BY)	AM 777 PM 902	AM 780 PM 942	AM 603 PM 616	AM 576 PM 681	AM 481 PM 472	AM 489 PM 568	AM 472 PM 477	AM 482 PM 551	AM 563 PM 567	AM 575 PM 657	AM 569 PM 638	AM 548 PM 665
Peak Hour Volumes (HY)	AM 1,212 PM 1,407	AM 1,217 PM 1,469	AM 991 PM 1,013	AM 947 PM 1,120	AM 901 PM 884	AM 855 PM 993	AM 855 PM 864	AM 873 PM 998	AM 1,067 PM 1,075	AM 1,090 PM 1,246	AM 1,047 PM 1,174	AM 1,008 PM 1,224
LOS Method	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM
Segment LOS (BY)	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A
Segment LOS (HY)	AM B PM B	AM B PM B	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM B	AM A PM A	AM A PM B
VMT (BY)	81,002	79,218	250,958	242,546	84,009	83,130	75,185	74,980	197,070	196,549	34,002	34,729
VMT (HY)	126,365	123,578	412,581	398,729	157,331	145,338	136,235	135,868	373,654	372,658	62,563	63,901
Peak Hour Traffic Data												
Peak Period Length	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours
Peak Hour Time of Day	AM 10-11 PM 4-5	AM 11-12 PM 3-4	AM 10-11 PM 4-5	AM 11-12 PM 3-4	AM 10-11 PM 3-4	AM 11-12 PM 2-3	AM 11-12 PM 3-4	AM 11-12 PM 2-3	AM 11-12 PM 3-4	AM 11-12 PM 1-2	AM 11-12 PM 3-4	AM 11-12 PM 1-2
Peak Hour VMT (BY)	AM 5,061 PM 5,875	AM 5,080 PM 6,135	AM16,908 PM17,273	AM16,151 PM19,095	AM 5,711 PM 5,605	AM 5,806 PM 6,744	AM 5,093 PM 5,147	AM 5,201 PM 5,945	AM13,350 PM13,445	AM13,634 PM15,579	AM 2,258 PM 2,532	AM 2,175 PM 2 639
Peak Hour VMT (HY)	AM 7,894 PM 9,164	AM 7,926 PM 9,568	AM27,788 PM28,405	AM26,554 PM31,405	AM10,698 PM10,497	AM10,152 PM11,791	AM 9,225 PM 9,323	AM 9,420 PM10,768	AM25,301 PM25,490	AM25,846 PM29,545	AM 4,156 PM 4,660	AM 4,001 PM 4,858
Peak Hour V/C (BY)	AM 0.194 PM 0.226	AM 0.195 PM 0.236	AM 0.151 PM 0.154	AM 0.144 PM 0.170	AM 0.120 PM 0.118	AM 0.122 PM 0.142	AM 0.118 PM 0.119	AM 0.121 PM 0.138	AM .0141 PM 0.142	AM 0.144 PM 0.164	AM 0.142 PM 0.159	AM 0.137 PM 0.166
Peak Hour V/C (HY)	AM 0.303 PM 0.352	AM 0.304 PM 0.367	AM 0.248 PM 0.253	AM 0.237 PM 0.28	AM 0.225 PM 0.221	AM 0.214 PM 0.248	AM 0.214 PM 0.216	AM 0.218 PM 0.249	AM 0.267 PM 0.269	AM 0.273 PM 0.312	AM 0.262 PM 0.294	AM 0.252 PM 0.306

Segment #	13	14	15	16	17	18
Truck Traffic						
(AADTT) (BY)	3,346	2,492	1,993	1,934	2,696	1,853
(AADTT) (HY)	5,219	4,097	3,609	3,505	5,111	3,409
Total Trucks (% of AADT) (BY)	13.6	14.16	14.16	13.9	16.24	10.7
Total Trucks (% of AADT)(HY)	13.6	14.16	14.16	13.9	16.24	10.7
5+ Axle (AADTT)(BY)	1,900	1,429	1,143	1,108	1,722	1,114
5+ Axle (AADTT)(HY)	2,964	2,349	2,070	2,010	3,266	2,049
5+ Axle Trucks (as % of AADT)(BY)	56.8	57.34	57.34	57.34	63.89	60.1
5+ Axle Trucks (as % of AADT)(HY)	56.8	57.34	57.34	57.34	63.89	60.1
AADT-Average Annual Daily Trip BY-Base Year HY-Horizon Year LOS-Level of Service VMT-Vehicle Miles Traveled V/C-Vehicle/Capacity AADTT- Average Annual Daily Truck Traffic						

Segment #	19		20		21		22		23		24	
	E	W	E	W	E	W	E	W	E	W	E	W
	State Route 86 to State Route 111		State Route 111 to State Route 7		State Route 7 to State Route 115		State Route 115 to State Route 98		State Route 98 to State Route 186		State Route 186 to the Arizona State Line	
Basic System Operations												
AADT (BY) 2012 5 Day	16,158	15,089	8,481	7,919	5,734	6,049	6,862	7,238	10,561	11,139	10,208	9,990
AADT (HY) 2040	30,635	28,609	15,750	15,710	10,230	10,791	11,858	12,507	19,432	20,496	17,639	17,263
AADT: Growth Rate/Year	3.2%	3.2%	3.28%	3.28%	2.8%	2.8%	2.6%	2.6%	3%	3%	2.6%	2.6%
Peak Hour Volumes (BY)	AM 944 PM 1,262	AM 938 PM 1,038	AM 495 PM 662	AM 492 PM 545	AM 418 PM 447	AM 408 PM 454	AM 500 PM 535	AM 488 PM 543	AM 769 PM 823	AM 751 PM 836	AM 669 PM 757	AM 686 PM 711
Peak Hour Volumes (HY)	AM 1,790 PM 2,393	AM 1,778 PM 1,968	AM 1,060 PM 1,070	AM 1,085 PM 1,240	AM 746 PM 797	AM 728 PM 810	AM 864 PM 925	AM 843 PM 938	AM 1,415 PM 1,514	AM 1,382 PM 1,538	AM 1,156 PM 1,308	AM 1,185 PM 1,229
LOS Method	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM	HCM
Segment LOS (BY)	AM A PM B	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM A PM A
Segment LOS (HY)	AM B PM C	AM B PM C	AM A PM A	AM A PM B	AM A PM A	AM A PM A	AM A PM A	AM A PM A	AM B PM B	AM B PM B	AM A PM B	AM B PM B
VMT (BY)	48,215	45,026	58,002	54,158	32,764	34,564	84,094	88,702	263,898	278,341	63,759	62,398
VMT (HY)	91,415	85,369	107,714	107,441	58,454	61,660	145,320	153,273	485,567	512,154	110,173	107,824
Peak Hour Traffic Data												
Peak Period Length	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours	AM 3 Hours PM 4 Hours
Peak Hour Time of Day	AM 11-12 PM 4-5	AM 11-12 PM 1-2	AM 11-12 PM 5-6	AM 7-8 PM 2-3	AM 11-12 PM 12-1	AM 11-12 PM 1-2	AM 11-12 PM 12-1	AM 11-12 PM 1-2	AM 11-12 PM 2-3	AM 11-12 PM 12-1	AM 11-12 PM 2-3	AM 11-12 PM 12-1
Peak Hour VMT (BY)	AM 2,817 PM 3,766	AM 2,799 PM 3,097	AM 3,385 PM 4,527	AM 3,365 PM 3,727	AM 2,388 PM 2,554	AM 2,331 PM 2,594	AM 6,128 PM 6,556	AM 5,980 PM 6,654	AM 19,216 PM 20,565	AM 18,766 PM 20,890	AM 4,179 PM 4,728	AM 4,285 PM 4,441
Peak Hour VMT (HY)	AM 5,341 PM 7,141	AM 5,306 PM 5,873	AM 7,249 PM 7,318	AM 7,420 PM 8,480	AM 4,263 PM 4,554	AM 4,160 PM 4,628	AM 10,588 PM 11,336	AM 10,331 PM 11,495	AM 35,358 PM 37,832	AM 34,533 PM 38,432	AM 7,220 PM 8,170	AM 7,401 PM 7,567
Peak Hour V/C (BY)	AM 0.236 PM 0.316	AM 0.235 PM 0.259	AM 0.124 PM 0.166	AM 0.123 PM 0.136	AM 0.105 PM 0.112	AM 0.102 PM 0.114	AM 0.125 PM 0.134	AM 0.122 PM 0.136	AM 0.192 PM 0.206	AM 0.188 PM 0.206	AM 0.167 PM 0.189	AM 0.171 PM 0.178
Peak Hour V/C (HY)	AM 0.448 PM 0.598	AM 0.445 PM 0.492	AM 0.265 PM 0.268	AM 0.271 PM 0.31	AM 0.187 PM 0.199	AM 0.182 PM 0.203	AM 0.216 PM 0.231	AM 0.211 PM 0.234	AM 0.354 PM 0.379	AM 0.346 PM 0.385	AM 0.289 PM 0.327	AM 0.296 PM 0.307

Segment #	19	20	21	22	23	24
Truck Traffic						
(AADTT) (BY)	7,187	4,920	3,535	3,737	5,208	3,228
(AADTT) (HY)	13,626	9,438	6,306	6,457	9,583	5,577
Total Trucks (% of AADT) (BY)	23	30	30	26.5	24	15.98
Total Trucks (% of AADT)(HY)	23	30	30	26.5	24	15.98
5+ Axle (AADTT)(BY)	4,686	3,208	2,305	2,436	3,396	1,552
5+ Axle (AADTT)(HY)	8,884	6,154	4,112	4,210	6,248	2,681
5+ Axle Trucks (as % of AADT)(BY)	65.2	65.2	65.2	65.2	65.2	48.07
5+ Axle Trucks (as % of AADT)(HY)	65.2	65.2	65.2	65.2	65.2	48.07
AADT-Average Annual Daily Trip BY-Base Year HY-Horizon Year LOS-Level of Service VMT-Vehicle Miles Traveled V/C-Vehicle/Capacity AADTT- Average Annual Daily Truck Traffic						

CORRIDOR CONCEPT

CONCEPT

I-8 is a major transportation corridor and critical economic east/west connection in Imperial County, providing commuter, recreational, agricultural and freight goods movement trips. Interchange improvements and maintenance of existing facilities are the main strategies for this portion of the freeway based on funding and congestion needs.

In San Diego County, specifically from Ocean Beach through El Cajon, I-8 is a major east/west corridor through a highly dense urban area. Mobility and safe access for all travelers, bicyclists, pedestrians, and transit users is the main concept for this section of the route. Limited right-of-way and lack of adequate arterials requires focus on operational improvement, system management and multimodal efficiency.

SAN DIEGO-IMPERIAL COUNTY I-8 CORRIDOR STRATEGIC PLAN

The Imperial County Transportation Commission (ICTC) formerly, The Imperial Valley Association of Governments (IVAG), SANDAG, and Caltrans District 11, developed the *San Diego-Imperial County I-8 Corridor Strategic Plan, 2009* as the first phase of a planning effort to improve mobility for people and goods along the I-8 corridor between Imperial and San Diego Counties. The goals of the Plan included improving interregional collaboration, maintaining and improving mobility for people and goods, enhancing the quality of life in Imperial and San Diego Counties, improving the economic vitality, and minimizing negative impacts of growth and transportation improvements on the environment. The most significant recommendations from the plan are to maintain the right of way along the corridor, promote ridesharing and job development, and continue collaboration between SANDAG, ICTC, and Caltrans.

I-8 CORRIDOR STUDY⁵⁸

SANDAG, in partnership with Caltrans, MTS, and the City of San Diego, has undertaken the I-8 Corridor Study. The I-8 Corridor Study is needed to comprehensively address multimodal transportation issues on this regionally and inter-regionally significant corridor. There are numerous proposed large scale developments adjacent to the I-8 Corridor including the expansion efforts at San Diego State University. These developments will generate large volumes of traffic to an already congested corridor. The study will focus on the portion of I-8 from the beginning of the route near the Ocean Beach community to 70th Street east of the College Area. There are numerous deficiencies in the I-8 corridor that will be addressed including transit service, the surface street system adjacent to I-8, inadequate and nonstandard freeway access ramps, insufficient interchange capacity, and lack of operational features in several areas such as auxiliary lanes and ramp metering. Other issues that need to be studied and developed are Bus Rapid Transit (BRT) access, Intelligent Transportation System (ITS) infrastructure including loops, cameras, changeable message sign locations, and local street network improvements and coordination. The implementation strategy developed will address TDM needs, for opportunities active transportation improvements, and freeway operational improvements.

⁵⁸ <http://www.sandag.org/index.asp?classid=13&subclassid=10&projectid=484&fuseaction=projects.detail>

CONCEPT RATIONALE

Caltrans District 11 works closely with our local partners to plan and manage the transportation system in Imperial and San Diego Counties. Caltrans works cooperatively with the Metropolitan Planning Organizations (MPO) in our region in developing their Regional Transportation Plans (RTP) and long range transportation planning documents. Caltrans also plans for the continued maintenance and operation of existing State Highway System facilities. Through these efforts, interchange improvements have been identified to address connectivity and increased demand from local agency General Plan Circulation Elements and Community Plan Updates. Continued operational and maintenance improvements are essential since large scale capital improvement projects are cost prohibitive and planned for post 20-25 year range.

PLANNED AND PROGRAMMED PROJECTS AND STRATEGIES TO ACHIEVE CONCEPTS

The Southern California Association of Governments (SCAG) is the MPO for Imperial County, along with the Ventura, Los Angeles, Riverside, Orange and San Bernardino Counties. SCAG develops a Regional Transportation Plan every four years, as required by federal and state law. The ICTC *Imperial County Long Range Transportation Plan (LRTP)-2013 Update* was developed with coordination from Caltrans District 11 staff to develop an Imperial County focused planning effort to supplement the SCAG RTP. Interchange improvements at Dogwood Avenue are scheduled to be completed by Fall 2016. The LRTP-2013 Update recommends capacity enhancing projects in the urban core of Imperial County. This includes interchange improvements at Imperial Avenue in the Near Term (2012-2015) with additional improvements in the Mid Term (2015-2025). Imperial Avenue is planned to be widened into a six lane primary arterial. Additional Mid Term improvements include widening of Forrester Road and improvements at Austin Road and Bowker Road. The only Long Term improvement is at the Eighth Street overcrossing.

SANDAG, the MPO for San Diego County, partners with Caltrans to plan and build transportation improvements in the region. Future projects referenced are based on the San Diego Forward: The Regional Plan (SD Forward) adopted in October 9, 2015. Priorities identified in the newly adopted RTP can be referenced at www.sdforward.com.

Based on the limited right of way and other factors, the portion of I-8 in the City of San Diego is planned to have operational improvements that include auxiliary lanes and interchange improvements at key locations. The goal of these improvements is to improve traffic flow and ease weaving and merging conflicts in the dense urban core. I-8 is planned to be widened from four to six general lane in El Cajon from 2nd Street to Los Coches Road. This improvement is the last widening slated for this corridor based on the reduction of traffic volumes in East County San Diego. These improvements are all planned for the long term, year 2050 in the RTP constrained scenario. With increased high density development being planned, near term solutions need to be developed to address congestion along the urban section of this corridor.

State legislation requires Caltrans to develop a Ten-Year State Highway Operation and Protection Plan (SHOPP). The Plan identifies rehabilitation needs, schedules for meeting those needs, strategies for cost control, and program efficiencies. Additionally, State legislation requires the development of a four-year

State Highway Operation and Protection Program (SHOPP.) SHOPP projects are limited to capital improvements related to maintenance, safety, and rehabilitation of State highway and bridges. The SHOPP program reflects the first four years of the Ten-Year State Highway Operation and Protection Plan. District 11 developed the latest SHOPP needs plan in 2013.

Table 13: Planned and Programmed Projects and Strategies from ICTC 2013 Long Range Plan

Seg.	Description	Planned or Programmed	Location	Purpose	Implementation Phase
18	Reconstruct interchange	Programmed	I-8 and Imperial Avenue	System Expansion	NEAR-TERM (2012-2015)
17 18	Improve interchange for future arterial widening	Planned Constrained	I-8 and Forrester Road	System Expansion	MID-TERM (2015-2025)
18	Reconstruction I-8 interchange at Imperial Avenue from a two to four lane diamond type overcrossing, realign and reconstruction of on and off-ramps and provide access to Imperial Avenue south of I-8	Planned Constrained	I-8 and Imperial Avenue	System Expansion	MID-TERM (2015-2025)
23 24	Improve interchange Widen and improve ramps	Planned Constrained	I-8 and SR-186	System Expansion	MID-TERM (2015-2025)
18	Construct Full Interchange	Planned Unconstrained	I-8 and Austin Road	System Expansion	MID-TERM (2015-2025)
20	Improve Interchange	Planned	I-8 and Bowker Road	System Expansion	MID-TERM (2015-2025)
18 19	Widen and improve I-8 to six-lane freeway	Planned	From Forrester Road to SR-111	System Expansion	MID-TERM (2015-2025)
18	Widen and improve overcrossing	Planned Unconstrained	Eighth Street and I-8	System Expansion	LONG-TERM (2025-2035)

Table 14: Planned Projects from SANDAG SD Forward Revenue Constrained Projects

Seg.	Description	Planned or Programmed	Location	Purpose	Implementation Phase
8 9	Add Operational Lanes to 6 Freeway Lanes/ 8 Freeway Lanes (6F/8F+Operational)	Planned	SR-125 to 2nd Street	System Expansion	2050
9 10	Add 2 Freeway Lanes (6F)	Planned	2nd Street to Los Coches Road	System Expansion	2050

Table 15: Planned Projects from SANDAG SD Forward Revenue Constrained Operational & Auxiliary Lane Projects

Seg.	Description	Planned or Programmed	Location	Purpose	Implementation Phase
2	Remove EB onramp, Reconfigure WB offramp	Planned	I-8 and Taylor Street	System Management	2050
2	Remove Interchange but keep bridge overcrossing for local circulation	Planned	I-8 East of Taylor Street	System Management	2050
2	Add New interchange at Via Las Cumbres	Planned	I-8 East of Taylor Street	System Expansion	2050
2	Add Auxiliary lanes for new Via Las Cumbres Interchange	Planned	I-8 and Hotel Circle	System Management	2050
2	Remove Interchange but keep bridge undercrossing for local circulation	Planned	I-8 and Hotel Circle /Bachman Place	System Management	2050
3	Add new interchange at Fashion Valley Road with arterial realignment. WB on/WB off only.	Planned	I-8 and Mission Center Road	System Expansion	2050
3	Add Interchange and arterial reconfiguration	Planned	Mission Center Road onramp to Texas Street offramp	System Expansion	2050
3	Add EB Auxiliary lane	Planned	Mission Center Road to Texas Street	System Management	2050
3	Add WB Auxiliary Lane	Planned	Texas Street on-ramp to Mission Center Road offramp	System Management	2050
3	Add WB Auxiliary lane	Planned	I-8 and Texas Street /Qualcomm Way	System Management	2050
5	Add New WB off ramp & reconfiguration	Planned	Fairmount Road: from I-8 to Mission Gorge Road	System Management	2050
5 6	Add one lane in each direction on bridge	Planned	I-8 and College Avenue	System Expansion	2040
6 7	Add Additional lane on College Avenue NB near I-8 ramps	Planned	WB I-8 and Lake Murray Boulevard	System Management	2040
7	Add signal to Convert 3 way stop	Planned	I-8 and 70th Street	System Management	2040
7	Add/Widen 70th Street to 6 lanes	Planned	Fletcher Parkway onramp to 70th Street offramp	System Expansion	2040
7 8	Add WB Auxiliary lane	Planned	SB SR-125 to WB I-8	System Management	2040
8	Add/Widen freeway to freeway connector from 1 to 2 lanes	Planned	I-8 EB offramp to El Cajon Boulevard/Chase Avenue	System Expansion	2040
9	Add/Widen Chase Avenue ramp to 2 lanes	Planned	Mollison Avenue onramp to 2nd Street offramp	System Expansion	2040
9 10	Add EB Auxiliary lane	Planned	Greenfield Drive onramp to Los Coches Road offramp	System Management	2040

Table 16: Planned and Programmed Projects from 2013 10 Year SHOPP List

Seg.	Description	Planned or Programmed	Location	Purpose	Implementation Phase
1 2	Widen/restripe WB I-8 from Taylor to NB I-5 connector ramp, upgrade OH sign panels	Programmed	WB I-8 from Morena Boulevard to Hotel Circle	System Management	NEAR-TERM
1 2	Add Pavement Rehabilitation	Planned	Nimitz Boulevard to west of Presidio Park	System Preservation	NEAR-TERM
1- 10	Add upgraded MBGR, end treatments, crash cushions, dike	Planned	Nimitz Boulevard to Lake Jennings Park Road	System Management	NEAR-TERM
3	Add WB auxiliary lane	Planned	Texas Street to Mission Center Road	System Management	NEAR-TERM
5 6	Add Fiber Optics, CCTV and Detector Stations (Loops) to replace regular supply line	Planned	On I-8 from Fairmont Road to Lake Murray Boulevard	System Management	NEAR-TERM
5	Add new segment for Alvarado Canyon Road	Planned	At WB exit ramp to Mission Gorge Road	System Management	NEAR-TERM
5	Add upgraded median guardrail to concrete	Planned	Waring Road UC to west of College Avenue UC	System Management	NEAR-TERM
7	Add Pavement Rehabilitation	Planned	Lake Murray Boulevard to west of Jackson Drive OC	System Preservation	NEAR-TERM
6 7	Replace Bridge	Planned	At Lake Murray Boulevard	System Preservation	NEAR-TERM
7	Add WB auxiliary lane	Planned	Fletcher Parkway to 70th Street	System Management	NEAR-TERM
7 8	Add Fiber Optics, CCTV and Detector Stations (Loops) to replace regular supply line	Planned	On I-8 from Lake Murray Boulevard to West Main Street	System Management	NEAR-TERM
8- 10	Add Slab Replacement and cleanup	Planned	Johnson Avenue UC to Flinn Springs Road UC	System Preservation	NEAR-TERM
9	Add EB auxiliary lane	Planned	Mollison Avenue to 2nd Street	System Management	NEAR-TERM
9 10	Add EB auxiliary lane	Planned	Greenfield Drive to Los Coches Road	System Management	NEAR-TERM
12	Roadway Rehabilitation	Planned	East of Harbison Canyon Road to east of Viejas Creek Bridge.	System Preservation	NEAR-TERM
13	Add drainage improvements.	Planned	SR-79 to 1.6 miles east of SR-79.	System Preservation	NEAR-TERM
18	Add WB auxiliary (deceleration) lane	Planned	Exit ramp to Imperial Avenue	System Management	NEAR-TERM
20- 22	Add Lane Replacement - Pavement Rehabilitation	Planned	Mets Road OC to East Highline Canal	System Preservation	NEAR-TERM

14	Upgrade SRRA waste & drinking water systems to comply with water quality standards	Planned	Buckman Springs SRRA	System Management	NEAR-TERM
22	Add Pavement Rehabilitation	Planned	0.5 mile west of East Highline Canal to 3.75 Miles west of the I-8/SR-98 Junction	System Preservation	NEAR-TERM
14	Add Drainage System Restoration	Planned	7 miles east of Boulder Oaks from La Posta Creek Bridge to 1.1 miles west of Crestwood Road Undercrossing	System Preservation	NEAR-TERM
14-17	Roadway Rehabilitation	Planned	Between Pine Valley and Ocotillo, from east of Crestwood Road to the Imperial County line. Rehabilitate roadway.	System Preservation	NEAR-TERM
17-22	Add Lane Replacement - Pavement Rehabilitation	Planned	From 0.3 miles East of Junction SR-98 to 1.5 miles East of Gordon's Well OC	System Preservation	NEAR-TERM
22-24	Add Lane Replacement - Pavement Rehabilitation	Planned	From 1.5 mile East of Gordon's Well OC to 2.7 miles East of All American Canal	System Preservation	NEAR-TERM
24	Add Lane Replacement - Pavement Rehabilitation	Planned	Pilot Wash to 1.0 mile East of Winterhaven Drive OC	System Preservation	NEAR-TERM
19-20	Add Pavement Rehabilitation	Planned	1.0 mile West of the I-8/SR-111 Junction to Mets Road OC	System Preservation	NEAR-TERM
1-13	Add/Upgrade Curb Ramps	Planned	Ocean Beach to Alpine	System Management	NEAR-TERM
1-24	Add Bridge Preservation	Planned	Various Locations	System Preservation	NEAR-TERM
1-24	Add Seismic Retrofit	Planned	Various Locations	System Preservation	NEAR-TERM

Table 17: Planned and Programmed Projects for City of San Diego from the SANDAG RTP

Seg.	Description	Planned or Programmed	Location	Purpose	Implementation Phase
1	Add Mission Bay Drive Bridge replacement and widen WB Off ramp at Sports Arena Boulevard	Programmed	Mission Bay Drive and Sports Arena Boulevard	System Expansion	NEAR-TERM
5 6	Add Interchange Improvements	Planned	College Avenue	System Expansion	NEAR-TERM

To achieve the concept stated above for I-8, in addition to planned capital capacity increasing projects, system operations and management concepts need to be further developed for the corridor. Among the projects and strategies that need to be included are Transportation Demand Management (TDM) strategies, Intelligent Transportation Systems (ITS), and Transportation System Management (TSM).

Intelligent Transportation System (ITS)

The transportation community has been developing and operating computer-based transportation management systems since the early 1970s. At that time, many of the core building blocks of today's systems were introduced including closed circuit television (CCTV) cameras for traffic surveillance, changeable message signs (CMS), traffic adaptive signal operation, transit priority treatment, highway advisory radio (HAR) and ramp metering (RM). Since these systems were typically not interconnected or coordinated and were operated with individual computer systems, separate operational guidelines were established for each system. While computer technology rapidly changed during the 1980s and more sophisticated control and monitoring capabilities were devised, the systems and technologies remained separated. It wasn't until the 1990s that the transportation community embarked on a journey to integrate systems and incorporate evolving technologies like the Internet and personal communications devices to leverage the effectiveness of their tools.

Rapid transition toward an Intelligent Transportation System (ITS) architecture occurred during the 1990's with advances in the field of information technology. More importantly, Caltrans laid the foundation with Director's Policy DP-08 (1992) in which the concept of freeway system management was further encouraged. This concept underlies the policy of managing the freeway as a system to achieve capacity usage. Instead of building more freeways, the goal is to maximize un-used capacity. In quick succession, Deputy Directive DD-70 (1992, revised in 2002) was issued to implement what became known as a Transportation Management System (TMS). The directive contains the definitional concepts of operations and delegation of authority to carry out freeway system management. Typical TMS Field Elements include:

- Ramp Meters (RM)
- Vehicle Detection Stations (VDS)
- Changeable Message Signs (CMS)
- Closed Circuit Television (CCTV)
- Fiber Optic Network (FO)
- Traffic Signals
- Extinguishable Message Signs (EMS)
- Highway Advisory Radio (HAR)
- Speed Feedback Signs (SFS)
- Reversible Lanes and Express Lanes
- Transportation Management Center (TMC)
- Advanced Transportation Management Systems (ATMS)
- Traffic Census Stations
- Other Regional Systems

District 11 began work on the San Diego's first ITS Strategic Plan in cooperation with SANDAG in early 1995 and completed the plan in 1996. This ITS Strategic Plan assessed the San Diego region's capabilities and the expansion of such capabilities once a freeway management system was developed. In addition,

a new Transportation Management Center opened in 1996 in Kearny Mesa, which was constructed to replace an older TMC at the District Office.

Today Caltrans faces a new set of standards contained in the National ITS Architecture, which is a controlling factor for all federal funding. There are new standards for each of the following: ITS strategic planning, logical architecture, physical architecture, theory of operations, and implementation strategy.

Given the changing technological environment, SANDAG and Caltrans District 11 re-evaluated the 1996 ITS strategic plan. In July 2011, a new District 11 ITS Master Plan was developed. The plan analyzes and provides an assessment of the existing ITS architecture, and provides a cost assessment for maintaining and operating the existing/future ITS architecture in District 11. The plan also provides a vision for the expansion and improvements to the existing District 11 ITS infrastructure including field elements and their corresponding communication and back-office systems.

Ramp Metering

Ramp metering is a traffic management strategy that uses a system of traffic signals at freeway entrances and connector ramps to regulate the volume of traffic and spacing of vehicles entering a freeway corridor in order to maximize the efficiency of the freeway, and thereby minimize the total delay in the transportation corridor. Ramp metering attempts to ensure the total traffic volume entering a freeway segment, plus the entering ramp traffic, remains below the capacity of that freeway segment. Ramp metering has the potential to prevent freeway congestion, or delay its onset and reduce its severity, by controlling the rate of vehicle entry onto a freeway, especially by eliminating the entry of large groups of vehicles, known as “platoons”, which arrive at the ramp. The result is increased freeway throughput, increased freeway operating speeds, and improved overall freeway operation. Ramp metering also initiates smoother and safer merging operations which improve safety by reducing rear-end and sideswipe collisions.

According to Caltrans Deputy Directive No. 35 R-1, each Caltrans District that currently operates, or expects to operate ramp meters within the next ten years shall prepare a district Ramp Metering Development Plan (RMDP). The RMDP contains a list of each ramp metering location currently in operation or planned for operation within the next ten years throughout California. District 11 currently has 290 existing ramp meters and 144 planned ramp meters for a total of 440 projected ramp meters for the ten-year period covered by the RMDP. For ramp metering to be implemented in the Mission Valley section of the corridor, interchange and ramp improvements will be required to address the potential queuing.

For specific locations of operational and planned ramp meters on I-8, please see the District 11 section of the December 2011 RMDP at the link below:

http://www.dot.ca.gov/hq/traffops/systemops/ramp_meter/RMDP.pdf

APPENDICES

APPENDIX A – GLOSSARY OF TERMS AND ACRONYMS

TERMS

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
SCAG	Southern California 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”.

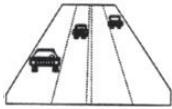
Horizon Year – The year that the future (20-25 years) data is based on.

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.

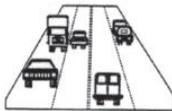
IRRS - Interregional Road System - Consists of State Routes located outside the boundaries of urbanized areas exceeding a population of over 50,000. In some cases, routes have been continued through urban areas to provide connections for continuations of the IRRS routes. Routes in urbanized areas are 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:



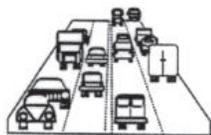
LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.



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 consist of 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 as 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 remainder 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 railroads 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), and 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 lane 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.

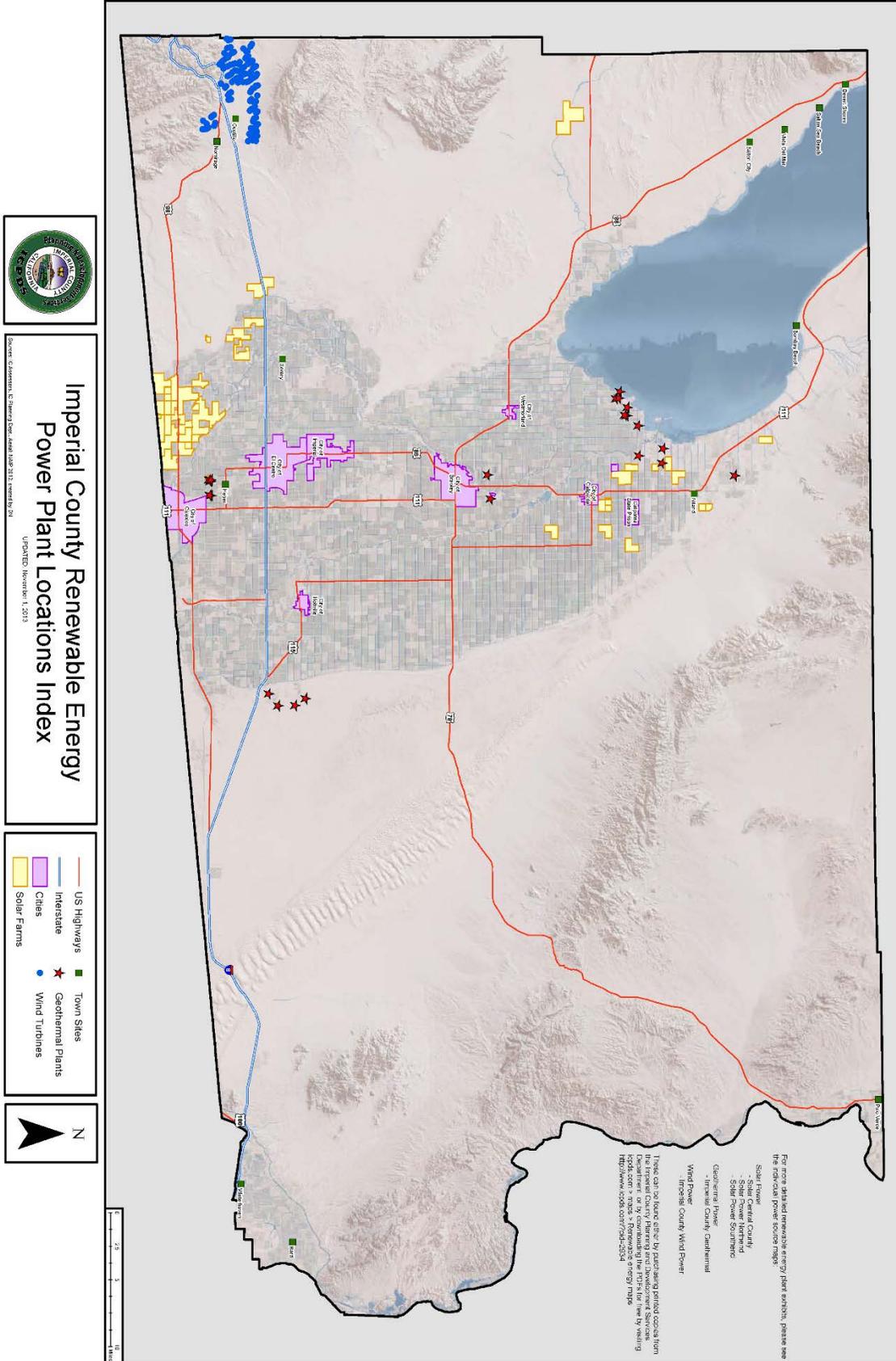
Truck Designation - The California "Truck Network" Route List provides the state route segments and their truck access designations (such as National Network, Terminal Access, California Legal, Advisory, or Restricted) with each segment's beginning and ending Post miles, and beginning and ending cross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



APPENDIX C – ADDITIONAL CORRIDOR DATA FROM I-8 CORRIDOR STUDY

Table Error! No text of specified style in document.-1: 2050 No-Build Freeway Mainline Segment Conditions – AM Peak Hour

INTERSTATE 8					
Direction	Segment	Type	Peak Hour Volume	Density ^a	LOS
Eastbound	Sunset Cliffs Blvd to Sports Arena Blvd SB On-Ramp	Basic	2,576	20	C
	Sports Arena Blvd On-Ramps to I-5 SB Off-Ramp	Weave	2,576		F
	I-5 SB Off Ramp to I-5 SB On-Ramp	Basic	3,546	32	D
	I-5 SB On Ramp to Camino Del Rio West On-Ramp	Basic	5,406	23	C
	Camino Del Rio West On-Ramp	Merge	5,406	19	B
	I-5 NB On-Ramp to Taylor St Off-Ramp	Weave	5,578		F
	Taylor St Off-Ramp to Taylor St On-Ramp	Basic	8,147	40	E
	Taylor St On-Ramp	Merge	8,147	31	D
	Taylor St On-Ramp to Hotel Cir S Off-Ramp	Basic	8,236	39	E
	Hotel Cir South Off-Ramp	Diverge	8,236	40	E
	Hotel Cir South On-Ramp to SR-163 SB Off-Ramp	Weave	7,550		F
	SR-163 NB Off-Ramp	Diverge	7,277	41	E
	Mission Center Rd Off-Ramp	Diverge	4,485	23	C
	Mission Center Rd Off-Ramp to SR-163 NB On-Ramp	Basic	4,570	19	C
	SR-163 NB On-Ramp	Merge	4,570	28	C
	Mission Center Rd On-Ramp	Merge	6,171	19	B
	Qualcomm Way Off-Ramp	Diverge	6,916	32	D
	Qualcomm Way Off-Ramp to I-805 Off-Ramp	Basic	5,559	19	C
	I-805 Off-Ramp	Diverge	5,559	26	C
	I-805 Off-Ramp to Qualcomm Way On-Ramp	Basic	4,367	17	B
	Qualcomm Way On-Ramp	Merge	4,367	24	C
	Qualcomm Way On-Ramp to I-805 On Ramp	Basic	4,778	20	C
	I-805 On-Ramp to I-15 NB Off-Ramp	Weave	4,778		F
	I-15 NB Off-Ramp to I-15 SB On-Ramp	Basic	4,564	18	B
	I-15 SB On-Ramp to Fairmount Ave SB On-Ramp	Basic	6,548	17	B
	Fairmount Ave SB On-Ramp	Merge	6,548	28	C
	Fairmount Ave NB On-Ramp to Waring Rd Off-Ramp	Weave	6,879	30	D
	Waring Rd Off-Ramp to Waring Rd On-Ramp	Basic	6,833	22	C
	Waring Rd On-Ramp	Merge	6,833	22	C
	Waring Rd On-Ramp to College Ave Off-Ramp	Basic	7,376	24	C
College Ave Off-Ramp	Diverge	7,376	31	D	
College Ave Off-Ramp to College Ave On-Ramp	Basic	5,859	18	C	
College Ave On-Ramp	Merge	5,859	19	B	

a- Density is measured in pc/hr/ln. If density is not shown, volume exceeded capacity.

Bold values indicate intersections operating at LOS E or F

Table 5-8: 2050 No-Build Freeway Mainline Segment Conditions – AM Peak Hour (Cont'd.)

INTERSTATE 8					
Direction	Segment	Type	Peak Hour Volume	Density ^a	LOS
Westbound	College Ave Off-Ramp	Diverge	11,504	44	F
	College Ave Off-Ramp to College Ave On-Ramp	Basic	10,635	42	E
	College Ave On-Ramp	Merge	10,635	58	F
	College Ave On-Ramp to Waring Rd Off-Ramp	Basic	12,162	58	F
	Waring Rd Off-Ramp	Diverge	12,162	44	F
	Waring Rd Off-Ramp to Waring Rd On-Ramp	Basic	11,581	51	F
	Waring Rd On-Ramp to Fairmount Ave Off-Ramp	Basic	13,214	45	F
	Fairmount Ave Off-Ramp	Diverge	13,214	65	F
	Fairmount Ave Off-Ramp to I-15 NB Off-Ramp	Basic	11,664	35	E
	I-15 NB Off-Ramp	Diverge	11,664	42	E
	I-15 SB Off-Ramp	Diverge	9,365	46	F
	I-15 SB Off Ramp to I-15 On-Ramp	Basic	8,515	42	E
	I-15 On-Ramp to I-805 Off-Ramp	Weave	8,515		F
	Qualcomm Way Off-Ramp	Diverge	9,603	49	F
	Qualcomm Way Off-Ramp to I-805 On-Ramp	Basic	8,651	43	E
	I-805 On-Ramp to Mission Center Rd Off-Ramp	Weave	8,651		F
	Mission Center Rd Off-Ramp to Mission Center Rd On-Ramp	Basic	10,150	72	F
	Mission Center Rd On-Ramp to SR-163 NB Off-Ramp	Weave	10,150		F
	SR-163 SB Off-Ramp	Diverge	8,384	37	E
	SR-163 SB Off-Ramp to SR-163 SB On-Ramp	Basic	6,939	54	F
	SR-163 On-Ramps	Merge	9,639	42	E
	SR-163 NB On-Ramp to Fashion Valley Rd On-Ramp	Basic	10,918	44	E
	Fashion Valley Rd On-Ramp	Merge	10,918	55	F
	Fashion Valley Rd On-Ramp to Taylor St Off-Ramp	Basic	11,101	46	F
	Taylor St Off-Ramp	Diverge	11,101	47	F
	Taylor St Off-Ramp to Taylor St On-Ramp	Basic	9,021	50	F
	Taylor St On-Ramp	Merge	9,021	54	F
	Morena Blvd Off-Ramp	Diverge	10,671	43	E
	I-5 SB Off-Ramp	Diverge	9,302	52	E
	I-5 NB Off-Ramp	Diverge	5,036	36	E
I-5 NB Off-Ramp to I-5 On-Ramp	Basic	2,625	22	C	
I-5 On-Ramp to Mission Bay Dr Off-Ramp	Basic	3,801	16	B	
Mission Bay Dr Off-Ramp	Diverge	3,801	19	B	
Mission Bay Dr Off-Ramp to Sunset Cliffs Blvd	Basic	3,202	26	D	

a- Density is measured in pc/hr/ln. If density is not shown, volume exceeded capacity.

Bold values indicate intersections operating at LOS E or F.

Table Error! No text of specified style in document.-2: 2050 No-Build Freeway Mainline Segment Conditions – PM Peak Hour

INTERSTATE 8					
Direction	Segment	Type	Volume	Density ^a	LOS
Eastbound	Sunset Cliffs Blvd to Sports Arena Blvd SB On-Ramp	Basic	2,015	16	B
	Sports Arena Blvd On- Ramps to I-5 SB Off-Ramp	Weave	2,015	26	C
	I-5 SB Off Ramp to I-5 SB On-Ramp	Basic	3,338	29	D
	I-5 SB On Ramp to Camino Del Rio West On-Ramp	Basic	6,243	27	D
	Camino Del Rio West On-Ramp	Merge	6,243	30	D
	I-5 NB On-Ramp to Taylor St Off-Ramp	Weave	7,461		F
	Taylor St Off-Ramp to Taylor St On-Ramp	Basic	9,551	59	F
	Taylor St On-Ramp	Merge	9,551	45	F
	Taylor St On-Ramp to Hotel Cir S Off-Ramp	Basic	10,725	82	F
	Hotel Cir South Off-Ramp	Diverge	10,725	50	F
	Hotel Cir South On-Ramp to SR-163 SB Off-Ramp	Weave	10,188		F
	SR-163 NB Off-Ramp	Diverge	10,512	54	E
	Mission Center Rd Off-Ramp	Diverge	7,352	36	E
	Mission Center Rd Off-Ramp to SR-163 NB On-Ramp	Basic	7,541	35	D
	SR-163 NB On-Ramp	Merge	7,541	40	E
	Mission Center Rd On-Ramp	Merge	6,171	32	D
	Qualcomm Way Off-Ramp	Diverge	11,211	47	F
	Qualcomm Way Off-Ramp to I-805 Off-Ramp	Basic	9,714	37	E
	I-805 Off-Ramp	Diverge	9,714	52	E
	I-805 Off-Ramp to Qualcomm Way On-Ramp	Basic	7,068	30	D
	Qualcomm Way On-Ramp	Merge	7,068	36	E
	Qualcomm Way On-Ramp to I-805 On Ramp	Basic	8,422	43	E
	I-805 On-Ramp to I-15 NB Off-Ramp	Weave	8,422		F
	I-15 NB Off-Ramp to I-15 SB On-Ramp	Basic	7,912	36	E
	I-15 SB On-Ramp to Fairmount Ave SB On-Ramp	Basic	10,913	32	D
	Fairmount Ave SB On-Ramp	Merge	10,913	47	E
	Fairmount Ave NB On-Ramp to Waring Rd Off-Ramp	Weave	11,756		F
	Waring Rd Off-Ramp to Waring Rd On-Ramp	Basic	10,558	41	E
	Waring Rd On-Ramp	Merge	10,558	32	F
	Waring Rd On-Ramp to College Ave Off-Ramp	Basic	10,985	45	E
College Ave Off-Ramp	Diverge	10,985	45	E	
College Ave Off-Ramp to College Ave On-Ramp	Basic	9,146	32	D	
College Ave On-Ramp	Merge	9,146	31	D	

a- Density is measured in pc/hr/ln. If density is not shown, volume exceeded capacity.

Bold values indicate intersections operating at LOS E or F.

Table 5-9: 2050 No-Build Freeway Mainline Segment Conditions – PM Peak Hour (Cont'd.)

INTERSTATE 8					
Direction	Segment	Type	Volume	Density ^a	LOS
Westbound	College Ave Off-Ramp	Diverge	7,361	32	D
	College Ave Off-Ramp to College Ave On-Ramp	Basic	6,477	20	C
	College Ave On-Ramp	Merge	6,477	30	D
	College Ave On-Ramp to Waring Rd Off-Ramp	Basic	8,413	28	D
	Waring Rd Off-Ramp	Diverge	8,413	32	D
	Waring Rd Off-Ramp to Waring Rd On-Ramp	Basic	7,944	26	C
	Waring Rd On-Ramp to Fairmount Ave Off-Ramp	Basic	8,865	24	C
	Fairmount Ave Off-Ramp	Diverge	8,865	46	E
	Fairmount Ave Off-Ramp to I-15 NB Off-Ramp	Basic	7,720	20	C
	I-15 NB Off-Ramp	Diverge	7,720	37	E
	I-15 SB Off-Ramp	Diverge	6,387	33	D
	I-15 SB Off Ramp to I-15 On-Ramp	Basic	5,702	23	C
	I-15 On-Ramp to I-805 Off-Ramp	Weave	5,702	27	F
	Qualcomm Way Off-Ramp	Diverge	7,077	38	E
	Qualcomm Way Off-Ramp to I-805 On-Ramp	Basic	6,224	25	C
	I-805 On-Ramp to Mission Center Rd Off-Ramp	Weave	6,224		F
	Mission Center Rd Off-Ramp to Mission Center Rd On-Ramp	Basic	8,26v7	41	E
	Mission Center Rd On-Ramp to SR-163 NB Off-Ramp	Weave	8,267	45	E
	SR-163 SB Off-Ramp	Diverge	7,569	43	E
	SR-163 SB Off-Ramp to SR-163 SB On-Ramp	Basic	5,757	36	E
	SR-163 On-Ramps	Merge	8,852	24	C
	SR-163 NB On-Ramp to Fashion Valley Rd On-Ramp	Basic	9,931	37	E
	Fashion Valley Rd On-Ramp	Merge	9,931	34	F
	Fashion Valley Rd On-Ramp to Taylor St Off-Ramp	Basic	10,407	40	E
	Taylor St Off-Ramp	Diverge	10,407	42	E
	Taylor St Off-Ramp to Taylor St On-Ramp	Basic	8,891	48	F
	Taylor St On-Ramp	Merge	8,891	37	E
	Morena Blvd Off-Ramp	Diverge	10,415	41	E
	I-5 SB Off-Ramp	Diverge	9,477	54	E
	I-5 NB Off-Ramp	Diverge	5,565	40	E
I-5 NB Off-Ramp to I-5 On-Ramp	Basic	3,575	32	D	
I-5 On-Ramp to Mission Bay Dr Off-Ramp	Basic	5,517	23	C	
Mission Bay Dr Off-Ramp	Diverge	5,517	33	D	
Mission Bay Dr Off-Ramp to Sunset Cliffs Blvd	Basic	3,842	35	D	

a- Density is measured in pc/hr/ln. If density is not shown, volume exceeded capacity.

Bold values indicate intersections operating at LOS E or F.

APPENDIX D – MAP

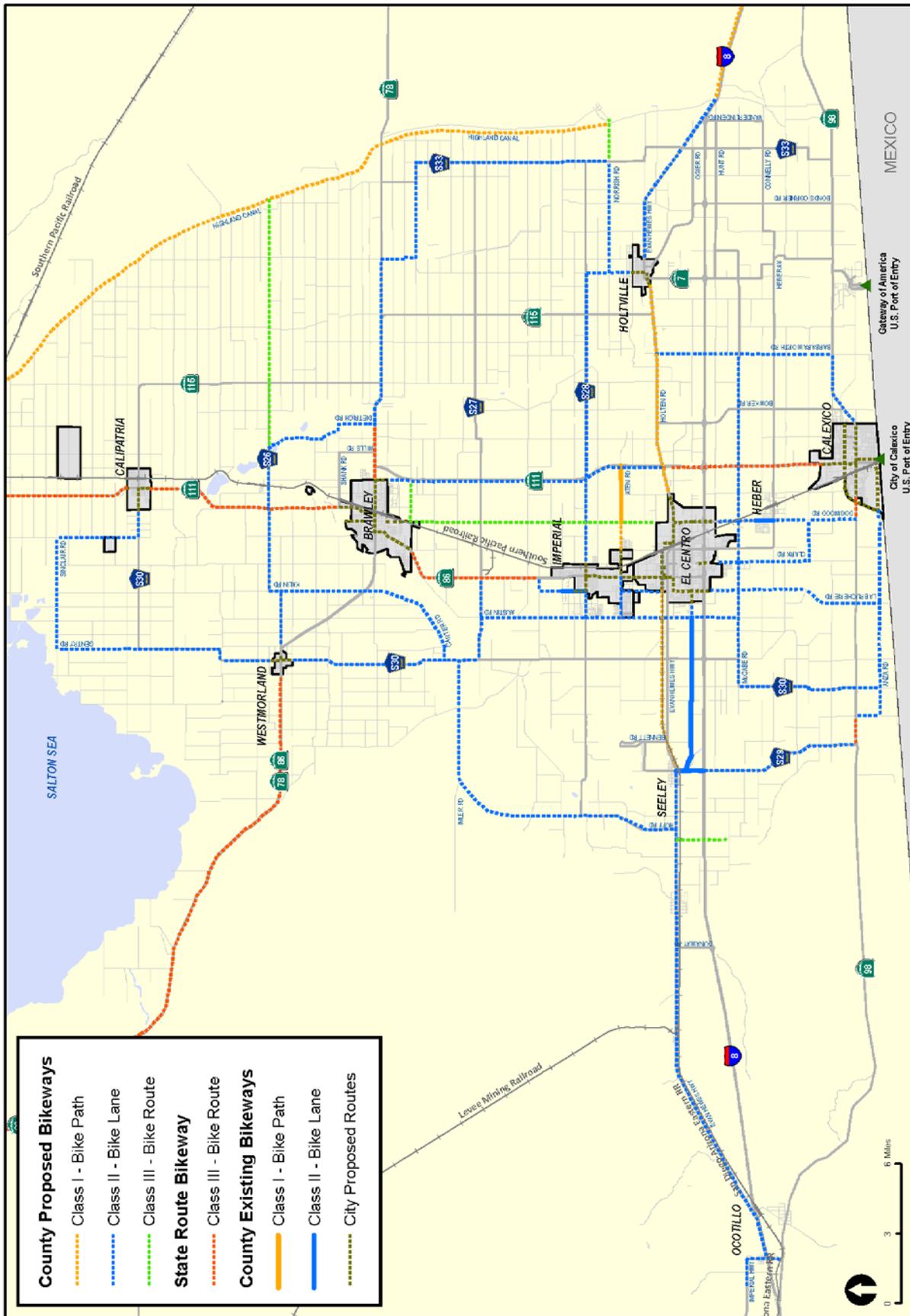


Figure 5-1: Existing and Proposed Bicycle Network

County of Imperial Bicycle Master Plan Update

Source: County of Imperial (2011)

Date: 3/31/2011