

California-Baja California Border Master Plan

Plan Maestro Fronterizo
California-Baja California



Final Report
Informe Final

SEPTEMBER 2008
SEPTIEMBRE 2008

SEPTEMBER 2008
SEPTIEMBRE 2008

California-Baja California Border Master Plan

Plan Maestro Fronterizo California-Baja California

*Final Report
Informe Final*

Submitted to

Caltrans, District 11
4050 Taylor Street
San Diego, CA 92110

Submitted by

SANDAG Service Bureau
401 B Street, Suite 800
San Diego, CA 92101-4231
Phone 619.699.1900
Fax 619.699.1905
www.sandag.org/servicebureau

The California-Baja California Border Master Plan was commissioned by the U.S./Mexico Joint Working Committee to the California Department of Transportation (Caltrans) and the Secretariat of Infrastructure and Urban Development of Baja California (Secretaría de Desarrollo Urbano del Estado de Baja California or SIDUE) for the California-Baja California border region.

El Plan Maestro Fronterizo California-Baja California fue comisionado por el Comité Conjunto de Trabajo de los Estados Unidos y México a Caltrans y a SIDUE para la región fronteriza de California-Baja California.



TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
Introduction	ES-1
Study Purpose and Objectives	ES-1
Study Area	ES-2
Decision-Making Structure.....	ES-3
Study Approach	ES-4
Summary of Findings and Recommendations.....	ES-4
POE and Transportation Facilities Projects – Evaluation Criteria and Rankings	ES-6
Suggestions for Consideration in Future California-Baja California Border Master Planning Activities.....	ES-14
Conclusion	ES-15
RESUMEN EJECUTIVO.....	RE-1
Introducción	RE-1
Propósito y Objetivos del Estudio.....	RE-1
Zona de Estudio.....	RE-2
Estructura de Toma de Decisiones.....	RE-3
Enfoque del Estudio.....	RE-4
Resumen de Resultados y Recomendaciones.....	RE-4
Sugerencias a Considerar en Actividades Futuras de Planeación Fronteriza California- Baja California	RE-15
Conclusiones	RE-16
CHAPTER 1: INTRODUCTION.....	1
Purpose of Study	1
Scope of Work	1
Decision-Making Structure.....	3
Approach for Completing the Tasks	4
Organization of the Report.....	4
CHAPTER 2: STATE OF THE PRACTICE FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITY PLANNING	7
Definition of Study Area	7
Study Horizon Year.....	7
Current Planning Practices	7
Transportation Planning Processes	8

TABLE OF CONTENTS (CONT'D)

CHAPTER 2: STATE OF THE PRACTICE FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITY PLANNING (CONT'D)	
POE Planning.....	9
Project Prioritization	10
Funding Transportation and POE Projects	11
Public Participation and Interagency Coordination	13
Planning Document Updates and Horizons.....	14
Interagency Participation in Planning Processes.....	16
Integration of Plans	16
Summary and Conclusions.....	17
CHAPTER 3: CURRENT AND PROJECTED DEMOGRAPHIC AND ECONOMIC PROFILE.....	19
California Demographic and Socio-Economic Characteristics	19
Population	19
Employment	20
Income	20
Land Use.....	21
Baja California Demographic and Socio-Economic Characteristics.....	22
Population	22
Employment	23
Income	24
Land Use.....	25
Demographic and Socio-Economic Characteristics Combined California-Baja California Area of Influence	26
Population	26
Employment	28
Summary and Conclusions.....	29
CHAPTER 4: CURRENT AND PROJECTED PORT OF ENTRY CONDITIONS AND RELATED TRANSPORTATION FACILITIES	31
Introduction	31
California POE Facilities	31
Northbound Average Wait Times.....	33
Staffing	35
Current and Projected Northbound Crossborder Travel Demand	36
Baja California POE Facilities.....	47
Southbound Average Wait Times	48

TABLE OF CONTENTS (CONT'D)

CHAPTER 4: CURRENT AND PROJECTED PORT OF ENTRY CONDITIONS AND RELATED TRANSPORTATION FACILITIES (CONT'D)

Staffing	48
Current Southbound Crossborder Travel Demand	48
Evaluation of Transportation Facilities	50
Summary of Findings	50
Transportation Facilities Serving POEs	52
Short-Term Transportation and POE Projects	61
Short-Term Projects	62

CHAPTER 5: EVALUATION CRITERIA FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITIES.....

Criteria Development	75
POE Projects: Evaluation Criteria	76
Transportation Projects: Evaluation Criteria	79
Summary and Conclusions	81

CHAPTER 6: ANALYSIS AND PRIORITIZATION OF MID- AND LONG-TERM TRANSPORTATION AND PORT OF ENTRY PROJECTS

Introduction	83
Otay Mesa East-Mesa de Otay II POE	84
Proposed POE Projects for the Otay Mesa East-Mesa de Otay II POE.....	84
Proposed Transportation Projects for the Otay Mesa East-Mesa de Otay II POE	84
Assessment of Projects	87
San Ysidro-Puerta México POE	88
Proposed POE Projects for the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE ...	89
Proposed Transportation Projects for the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE.....	90
Assessment of Projects	92
Calexico-Mexicali POE	94
Proposed POE Projects for the Calexico-Mexicali POE	94
Proposed Transportation Projects for the Calexico-Mexicali POE	95
Assessment of Projects	97
Otay Mesa-Mesa de Otay POE	99
Proposed POE Projects for the Otay Mesa-Mesa de Otay POE.....	99
Proposed Transportation Projects for the Otay Mesa-Mesa de Otay POE	100
Assessment of Projects	102

TABLE OF CONTENTS (CONT'D)

CHAPTER 6: ANALYSIS AND PRIORITIZATION OF MID- AND LONG-TERM TRANSPORTATION AND PORT OF ENTRY PROJECTS (CONT'D)

Tecate-Tecate POE	103
Proposed POE Projects for the Tecate-Tecate POE	104
Proposed Transportation Projects for the Tecate-Tecate POE	104
Assessment of Projects	106
Calexico East-Mexicali II POE	106
Proposed POE Projects for the Calexico East-Mexicali II POE	107
Proposed Transportation Projects for the Calexico East-Mexicali II POE	107
Assessment of Projects	108
Andrade-Los Algodones POE	109
Proposed POE Projects for the Andrade-Los Algodones POE	109
Proposed Transportation Projects for the Andrade-Los Algodones POE	110
Assessment of Projects	110
Summary and Conclusions	110

CHAPTER 7: RECOMMENDATIONS FOR A BINATIONAL MASTER PLANNING PROCESS 125

Introduction	125
California-Baja California Border Master Plan: Recommendations for a Binational Master Planning Process	125
Understanding the POE and Transportation Planning Processes	126
Significance of the California-Baja California Border Master Plan Process	126
Institutionalizing the California-Baja California Border Master Plan Process	127
Suggestions for Consideration in Future California-Baja California Border Master Planning Activities	129
Study Administration	130
Data Needs	130

APPENDICES (bound under separate cover)

A	Project Specific Documentation
B	Agency Planning Processes
C	Transportation Facilities and Short-term Projects
D	Evaluation Criteria and Mid- and Long-term Projects
E	Comments and Responses
G	Glossary

LIST OF TABLES

CHAPTER 2: STATE OF THE PRACTICE FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITY PLANNING

2-1	Planning Documents	15
-----	--------------------------	----

CHAPTER 3: CURRENT AND PROJECTED DEMOGRAPHIC AND ECONOMIC PROFILE

3-1	Total Population, 2000-2030 – California and San Diego and Imperial Counties	20
3-2	Employment, 2005-2030 – California and San Diego and Imperial Counties	20
3-3	Land Use, 2005-2030 – San Diego and Imperial Counties	21
3-4	Total Population, 2000-2030 – Baja California Municipalities.....	23
3-5	Employment, 2000-2030 – Baja California Municipalities.....	23
3-6	Regional Product, 2005-2030 – Baja California Municipalities	24
3-7	Land Use, 2005-2030 – Baja California Municipalities	25

CHAPTER 4: CURRENT AND PROJECTED PORT OF ENTRY CONDITIONS AND RELATED TRANSPORTATION FACILITIES

4-1	Current and Projected Number of Northbound Lanes, 2005-2030 – California POEs	32
4-2	Average Daily Northbound Wait Times, 2005 – California-Baja California POEs	33
4-3	Weekday Vehicle Wait Times – Northbound Travel (August 21-28, 2007)	34
4-4	2007 Total Estimated Economic Impacts Due to Border Wait Times and Constrained Border Infrastructure by Geographic Area	35
4-5	Northbound Passenger and Commercial Vehicle Border Crossing Estimates by POE, 2005 and 2030 – CPB, SANDAG, SIDUE, and Caltrans.....	41
4-6	Northbound Pedestrian Border Crossing Estimates by POE, 2005 and 2030 – CPB, SANDAG, and SIDUE.....	42
4-7	Northbound Pedestrian Crossings, Fiscal Years 1994 - 2005 – California-Baja California POEs	43
4-8	Northbound Rail Crossings and Rail Cars, 2000-2030 – California-Baja California POEs	44
4-9	Current and Projected Number of Southbound Lanes, 2005-2030 – Baja California-Baja California POEs.....	47
4-10	Southbound Passenger Vehicle Crossings, 2005 – California-Baja California POEs	48
4-11	Southbound Truck Crossings, 2005 – California-Baja California POEs	49

CHAPTER 5: EVALUATION CRITERIA FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITIES

5-1	POE Evaluation Criteria	77
5-2	POE Project Evaluation Criteria	78
5-3	Roadway and Interchange Evaluation Criteria by Type.....	79
5-4	Rail Evaluation Criteria by Type.....	80

LIST OF TABLES (CONT'D)

CHAPTER 6: ANALYSIS AND PRIORITIZATION OF MID- AND LONG-TERM TRANSPORTATION AND PORT OF ENTRY PROJECTS

6-1	POE Projects – Otay Mesa East-Mesa de Otay II POE.....	84
6-2	Roadway Projects – Otay Mesa East-Mesa de Otay II POE	85
6-3	Interchange Projects – Otay Mesa East-Mesa de Otay II POE	87
6-4	POE Projects – San Ysidro-Puerta México/Virginia Avenue/El Chaparral POE	89
6-5	Roadway Projects – San Ysidro-Puerta México/El Chaparral POE	90
6-6	Interchange Projects – San Ysidro-Puerta México/Virginia Avenue/El Chaparral POE	91
6-7	Rail Projects – San Ysidro-Puerta México /El Chaparral POE	92
6-8	POE Projects – Calexico-Mexicali POE	94
6-9	Roadway Projects – Calexico-Mexicali POE	95
6-10	Interchange Projects – Calexico-Mexicali POE	96
6-11	Rail Projects – Calexico-Mexicali POE	97
6-12	POE Projects – Otay Mesa-Mesa de Otay POE	99
6-13	Roadway Projects – Otay Mesa-Mesa de Otay POE	100
6-14	Interchange Projects – Otay Mesa-Mesa de Otay POE	101
6-15	Rail Projects – Otay Mesa-Mesa de Otay POE	102
6-16	POE Projects – Tecate-Tecate POE	104
6-17	Roadway Projects – Tecate-Tecate POE	105
6-18	Interchange Projects – Tecate-Tecate POE	105
6-19	Rail Projects – Tecate-Tecate POE	105
6-20	POE Projects – Calexico East-Mexicali II POE.....	107
6-21	Roadway Projects – Calexico East-Mexicali II POE	107
6-22	POE Projects – Andrade-Los Algodones POE	109

LIST OF FIGURES

EXECUTIVE SUMMARY

ES-1 San Diego County – Municipality of Tijuana Projects (2007-2030)	ES-16
ES-2 San Diego County – Municipality of Tijuana Projects (2007-2030) – Inset Map	ES-17
ES-3 Tecate Projects (2007-2030).....	ES-18
ES-4 Desert Rail Line Projects (2007-2030).....	ES-19
ES-5 San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2030).....	ES-20
ES-6 Imperial County – Municipality of Mexicali Projects (2007-2030)	ES-25
ES-7 Andrade - Algodones Projects (2007-2030).....	ES-26
ES-8 Imperial County – Municipality of Mexicali Projects (2007-2030)	ES-27

RESUMEN EJECUTIVO

RE-1 Proyectos del Condado de San Diego – Municipio de Tijuana (2007-2030).....	RE-17
RE-2 Proyectos del Condado de San Diego – Municipio de Tijuana (2007-2030) – Mapa Enfocado	RE-18
RE-3 Proyectos de Tecate (2007-2030).....	RE-19
RE-4 Proyectos de Ferrocarril – Ruta del Desierto (2007-2030)	RE-20
RE-5 Lista de Proyectos del Condado de San Diego – Municipios de Tijuana y Tecate (2007-2030).....	RE-21
RE-6 Proyectos del Condado de Imperial – Municipio de Mexicali (2007-2030).....	RE-26
RE-7 Proyectos Andrade - Algodones (2007-2030).....	RE-27
RE-8 Lista de Proyectos del Condado de Imperial – Municipio de Mexicali (2007-2030)	RE-28

CHAPTER 2: STATE OF THE PRACTICE FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITY PLANNING

2-1 California-Baja California Border Master Plan Study Area	18
--	----

CHAPTER 3: CURRENT AND PROJECTED DEMOGRAPHIC AND ECONOMIC PROFILE

3-1 Distribution of Population, 2005-2030 – San Diego and Imperial Counties and Baja California Municipalities	26
3-2 Annual Average Population Growth Rates, 2005-2030 – San Diego and Imperial Counties and Baja California Municipalities	27
3-3 Distribution of Employment, 2005-2030 – San Diego and Imperial Counties and Baja California Municipalities	28
3-4 Annual Average Employment Growth Rates, 2005-2030 – San Diego and Imperial Counties and Baja California Municipalities	29

LIST OF FIGURES (CONT'D)

CHAPTER 4: CURRENT AND PROJECTED PORT OF ENTRY CONDITIONS AND RELATED TRANSPORTATION FACILITIES

4-1	Northbound Passenger Vehicle Crossings, 2000-2030 – California-Baja California POEs	36
4-2	Northbound Pedestrian Crossings, 2005-2030 – California-Baja California POEs	38
4-3	Northbound Truck Crossings, 2000-2030 – California-Baja California POEs	39
4-4	Northbound Value of Goods by Truck, 2000-2005 – California-Baja California POEs.....	45
4-5	Northbound Volume of Goods by Truck, 2000-2005 – California-Baja California POEs.....	46
4-6	San Diego County – Municipality of Tijuana Projects (2007-2012)	65
4-7	San Diego County – Municipality of Tijuana Projects (2007-2012) – Inset Map	66
4-8	Tecate Projects (2007-2012).....	67
4-9	San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2012).....	68
4-10	Imperial County – Municipality of Mexicali Projects (2007-2012)	71
4-11	Andrade - Algodones Projects (2007-2012).....	72
4-12	Imperial County – Municipality of Mexicali Project Lists (2007-2012).....	73

CHAPTER 6: ANALYSIS AND PRIORITIZATION OF MID- AND LONG-TERM TRANSPORTATION AND PORT OF ENTRY PROJECTS

6-1	San Diego County – Municipality of Tijuana Projects (2013-2030)	113
6-2	San Diego County – Municipality of Tijuana Projects (2013-2030) – Inset Map	114
6-3	Tecate Projects (2013-2030).....	115
6-4	Desert Line Projects (2013-2030)	116
6-5	San Diego County – Municipalities of Tijuana and Tecate Project Lists (2013-2030).....	117
6-6	Imperial County – Municipality of Mexicali Projects (2013-2030)	121
6-7	Andrade - Algodones Projects (2013-2030).....	122
6-8	Imperial County – Municipality of Mexicali Project Lists (2013-2030).....	123

EXECUTIVE SUMMARY

INTRODUCTION

Crossborder travel at the six land ports of entry (POEs) in the California-Baja California region has grown significantly over the years. The San Diego County-Tijuana/Tecate region is home to the San Ysidro-Puerta México, the Otay Mesa-Mesa de Otay, and the Tecate-Tecate POEs while the Imperial County-Mexicali region hosts the Calexico-Mexicali, Calexico East-Mexicali II, and Andrade-Los Algodones POEs. Travel demand is expected to increase at all POEs in the region between 2005 and 2030. Total population in the California-Baja California study area was estimated at more than six million in 2005 and is projected to grow to almost 9.5 million by 2030.¹ Growth in population and economic activity will increase crossborder travel demand and continue to add pressure to the POE facilities and connecting roads.

Given the current and projected travel demand at the existing POEs, improving the capacity and operations of the current infrastructure is critical to decrease traffic congestion and delays, facilitate international trade, and improve the quality of life for residents in the border region. Federal, state, regional, and local agencies responsible for planning and implementation of POEs and related transportation facilities in the California-Baja California region agree that a master planning process is needed to evaluate and integrate POE and transportation infrastructure development on a coordinated basis.

STUDY PURPOSE AND OBJECTIVES

The California-Baja California Border Master Plan is a binational comprehensive approach to coordinate planning and delivery of projects at land POEs and transportation infrastructure serving those POEs in the California-Baja California region. The California Department of Transportation (Caltrans), in partnership with the Secretariat of Infrastructure and Urban Development of Baja California (Secretaría de Infraestructura y Desarrollo Urbano del Estado de Baja California or SIDUE) and the U.S./Mexico Joint Working Committee (JWC), retained the San Diego Association of Governments (SANDAG) Service Bureau to assist in the development of this Plan.

The California-Baja California Border Master Plan was envisioned by the JWC as a pilot project between border states. Based on the outcomes of this pilot binational planning process, the California-Baja California approach could be expanded to other border states and customized to address their needs, resulting in a master planning process for the entire U.S.-Mexico border.

¹ Source: Secretariat of Infrastructure and Urban Development (SIDUE); San Diego Association of Governments (SANDAG); and Southern California Association of Governments (SCAG); compiled by SANDAG Service Bureau.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

The primary objectives of the California-Baja California Border Master Plan are:

- **State of the Practice:** Increase the understanding of POE and transportation planning on both sides of the border and create a plan for prioritizing and advancing POE and related transportation projects.
- **POE and Transportation Facilities Projects – Evaluation Criteria and Rankings:** Develop criteria for prioritizing projects related to existing and new POEs, as well as transportation facilities leading to the California-Baja California POEs; rank mid- and long-term projects and services (e.g., roads, public transit, and railways).
- **Institutionalizing the California-Baja California Master Plan Process:** Establish a process to institutionalize dialogue among federal, state, regional, and local stakeholders in the United States and Mexico to identify future POE and connecting transportation infrastructure needs and coordinate projects.

Ideally the approach and methodologies identified in the California-Baja California Border Master Plan will be incorporated into the respective planning and programming processes of the individual participating agencies at the federal, state, regional, and local levels in the United States and Mexico.

STUDY AREA

The San Diego County-Tijuana region is home to three POEs—San Ysidro-Puerta México, Otay Mesa-Mesa de Otay, and Tecate-Tecate. In addition, the Otay Mesa East-Mesa de Otay II POE is a new passenger and commercial port that has been proposed to facilitate crossborder travel demand in the region. The Imperial County-Mexicali region also includes three POEs—Calexico-Mexicali, Calexico East-Mexicali II, and Andrade-Los Algodones.

The California-Baja California Border Master Plan study area includes an “Area of Influence” and a “Focused Study Area.” The “Area of Influence” is the geographic area 60 miles, or 100 km., north and south of the California-Baja California International Border. In California, it includes the counties of San Diego and Imperial. In Baja California, it includes the municipalities of Tijuana, Tecate, Playas de Rosarito, parts of Mexicali, and the urban area of Ensenada.

The “Focused Study Area” is the area ten miles north and south of the California-Baja California International Border. The short-, mid-, and long-term POE and transportation projects analyzed in the California-Baja California Border Master Plan were limited to this bandwidth.

DECISION-MAKING STRUCTURE

Under the direction of the U.S./Mexico JWC, Caltrans, and SIDUE, a California-Baja California Border Master Plan Policy Advisory Committee (PAC) and a Technical Working Group (TWG) were established. The agencies listed on page ES-3 were invited to participate in the Border Master Plan. Each agency was asked to designate executive-level managers to serve on the PAC and senior staff to serve on the TWG.

United States

- U.S. Department of State (DOS)
- U.S. Customs and Border Protection (CBP)
- U.S. General Services Administration (GSA)
- U.S. Federal Highway Administration (FHWA)
- California Department of Transportation (Caltrans)
- Imperial Valley Association of Governments (IVAG)
- Southern California Association of Governments (SCAG)
- San Diego Association of Governments (SANDAG)
- County of Imperial
- City of Calexico
- County of San Diego
- City of Chula Vista
- City of San Diego

Mexico

- Secretariat of Foreign Relations (Secretaría de Relaciones Exteriores, SRE)
- Secretariat of Communications and Transportation (Secretaría de Comunicaciones y Transportes, SCT)
- General Customs Administration (Administración General de Aduanas)
- Secretariat of Social Development (Secretaría de Desarrollo Social, SEDESOL)
- Institute of Administration and Estimates of National Real Estate (Instituto de Administración y Avalúos de Bienes Nacionales, INDAABIN)
- Secretariat of Infrastructure and Urban Development of Baja California (Secretaría de Infraestructura y Desarrollo Urbano del Estado de Baja California, SIDUE)
- Municipal Planning Institute of Tijuana (Instituto Municipal de Planeación de Tijuana, IMPLAN)
- Municipal Planning Institute of Mexicali (Instituto Municipal de Planeación de Mexicali, IMIP)
- Municipality of Mexicali (Municipio de Mexicali)
- Municipality of Tecate (Municipio de Tecate)
- Municipality of Tijuana (Municipio de Tijuana)

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

In addition, other agencies were invited to participate on specific tasks as work progressed. They include:

- National Immigration Institute (Instituto Nacional de Migración)
- Secretariat of Economic Development of Baja California (Secretaría de Desarrollo Económico)
- Secretariat of Tourism of Baja California (Secretaría de Turismo)

The PAC was responsible for providing direction, approving the study parameters, establishing criteria for evaluation of projects, and approving the project rankings. The TWG was responsible for supporting the SANDAG Service Bureau to implement the direction of the PAC by providing requested information in a timely manner and for making recommendations to the PAC.

STUDY APPROACH

To accomplish the tasks outlined in the Scope of Work, the Service Bureau prepared questionnaires requesting pertinent data from the TWG. A summary of the data received and the analyses conducted by the Service Bureau were then presented to the TWG for discussion. Following the TWG meetings, the same information and analysis, updated according to the input received from the TWG, was presented at the PAC meetings. The TWG also made recommendations to the PAC on certain tasks, such as definition of the study area, planning horizon for the study, evaluation criteria, and project rankings.

Over the course of the study, six PAC meetings and seven TWG meetings were held. Throughout the process, the Service Bureau worked closely with the JWC, Caltrans, SIDUE, and the California-Baja California Border Master Plan PAC and TWG to ensure the Plan met its objectives and resulted in a model that could be used and adapted in other border areas for similar binational infrastructure planning and coordination.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following section describes the main findings and recommendations for each of the primary objectives of the study.

State of the Practice

One of the primary objectives of the California-Baja California Border Master Plan was to increase the understanding of POE and transportation planning on both sides of the California-Baja California border. In order to understand the planning practices followed by the different stakeholder agencies, a questionnaire was prepared to solicit information from the TWG. The findings and recommendations outlined below are based on responses from the stakeholder agencies.

Findings

- Planning for POEs and related transportation facilities is a complex process that involves multiple agencies at all levels of government in both the United States and Mexico. POE planning relies on a

five-year planning horizon while planning for transportation facilities uses a longer planning horizon. Not all planning documents include both the POE and associated transportation network projects.

- Federal, state, regional, and municipal agencies on both sides of the border follow a diversity of project evaluation processes in the preparation of POE and transportation planning documents. These processes range from overall qualitative assessments to the formulation and application of detailed quantitative and qualitative criteria.
- Coordination and communication among federal, state, regional, and local agencies are occurring at some level, but there are opportunities for a more systematic process to align implementation activities, including funding as well as schedules for POEs and connecting transportation facilities.
- Opportunities for greater coordination with municipal governments in the development of POE facilities exist. More direct coordination is sought with state and federal agencies to develop a comprehensive strategy for border crossings and allow for effective integration of POEs into the municipal environment. In addition to the POE facility itself, complementary actions related to transportation, security, urban image, infrastructure, and land use should be considered.
- Opportunities for increased public outreach and coordination with local and state agencies could occur through CBP's Strategic Resource Assessment (SRA) process. The SRA process focuses on improvements to existing POEs and does not appear to identify needs for new POE facilities. However, POE proposals made by other agencies are described in the SRA and selected POE proposals are included under options for improvements. The U.S. GSA follows through with requests from CBP to contract for and administer POE feasibility studies to identify and evaluate alternative POE designs and estimate costs.
- Additional coordination between GSA and state, regional, and local agencies is needed to recognize programming processes and to align implementation schedules and funding of proposed POE improvements and improvements to roads serving those POEs.

Recommendations

The California-Baja California Border Master Plan methodology is a valuable tool to inform the POE and transportation planning practices of the stakeholder agencies. Therefore, it is recommended that stakeholder agencies:

- Consider the California-Baja California Border Master Plan project evaluation criteria to guide their individual project ranking processes. In some instances, the California-Baja California Border Master Plan criteria would enhance the agency's methodology with elements or metrics not currently assessed. In other situations, it could lead to new data collection or monitoring efforts.
- Use outcomes from the California-Baja California Border Master Plan as inputs in federal, state, regional, and local planning documents, such as Strategic Resource Assessments (prepared by U.S. Customs and Border Protection); Statewide Transportation Plans (California and Baja California); Statewide Urban Development Plans (Baja California); Regional Transportation Plans

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

(San Diego and Imperial Counties); General Plans (cities and counties in San Diego and Imperial Counties); and Municipal Development Plans (municipalities in Baja California). In turn, outcomes of these planning documents would feed into updates of the California-Baja California Border Master Plan.

**POE AND TRANSPORTATION FACILITIES PROJECTS –
EVALUATION CRITERIA AND RANKINGS**

Another important objective of the California-Baja California Border Master Plan is to develop criteria for prioritizing POE and related transportation projects and rank the mid- and long-term projects. The California-Baja California Border Master Plan developed a methodology and criteria to evaluate and rank POE projects as well as roadway, interchange, and rail projects serving the POEs. These four sets of criteria were crafted taking into account previous corridor evaluation efforts [e.g. Binational Border Transportation Infrastructure Needs Assessment Study (BINS) project] and the available transportation data from stakeholder agencies at all levels of government in both California and Baja California. Criteria include quantitative and qualitative indicators that measure current and projected POE travel demand, crossborder trade, congestion at POEs and transportation facilities, as well as cost effectiveness, project performance, project readiness, and regional benefit.

The TWG submitted a list of the short-term (2007-2012) and mid- and long-term (2013-2030) POE and transportation facility projects planned for the “Focused Study Area.” The short-, mid-, and long-term POE and transportation projects were limited to this bandwidth and the criteria were applied to rank the mid- and long-term projects.

The development of criteria for ranking POE and transportation projects has allowed the California-Baja California Border Master Plan to create, maybe for the first time, a list of prioritized projects within a binational study area. Projects in early conceptual stages of development, for which quantitative and or qualitative information was not available, were inventoried without a priority ranking. Future updates of the Plan can incorporate additional data for these projects as more information becomes available from planning and implementation activities. The ranked lists serve as a guideline to identify projects of importance within the California-Baja California border region.

A total of 11 POE projects submitted by the TWG were ranked individually and then grouped by POE.² The individual project rankings were then used to establish the following priority order for the POEs.

- Otay Mesa East-Mesa de Otay II (new proposed POE)
- San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE³
- Calexico-Mexicali POE
- Otay Mesa-Mesa de Otay POE
- Tecate-Tecate POE
- Calexico East-Mexicali II POE
- Andrade-Los Algodones POE

In addition, a total of 68 roadway, 16 interchange, and nine railway projects serving the POEs were ranked. Figures ES-1 through ES-8 illustrate the mid- and long-term POE and transportation facility projects planned in the California-Baja California region. The main findings are summarized in POE priority order.

Otay Mesa East-Mesa de Otay II (New POE)

- The Otay Mesa East-Mesa de Otay II POE is a proposed new POE that will be located approximately two miles east of the existing Otay Mesa-Mesa de Otay POE and will serve both passenger and commercial vehicles. A presidential permit is in process in the United States. In Mexico, this project is in the advanced planning phase. Two projects were submitted for the construction of the POE; one in the United States and one in Mexico. The projects ranked 1st and 2nd out of 11 POE projects evaluated.
- The schedules for completion of the United States and Mexico's projects at the new POE do not appear to be fully coordinated since the project in Mexico is planned for completion in 2013 while the project in the United States is scheduled for completion in 2014. In terms of roadway connections, State Route (SR) 11, which is a direct connector to the POE, is tied to the construction of the POE and therefore is scheduled for completion in 2014. In Mexico, two new roads are planned to provide access to the proposed POE: International Otay II Blvd. and Las Torres Blvd. The roadways are scheduled for completion in 2013 and 2014, respectively.

² The projects were submitted by U.S. Customs and Border Protection (CBP), with concurrence from U.S. General Services Administration (GSA); Secretariat of Infrastructure and Urban Development (SIDUE), with concurrence from the Secretariat of Communications and Transportation (SCT) and the Institute of Administration and Appraisals of National Real Estate (INDAABIN); and by the California Department of Transportation (Caltrans).

³ The Virginia Avenue-El Chaparral gate is currently closed. However, projects for its reuse were submitted for evaluation in this California-Baja California Border Master Plan.

San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE

- The San Ysidro-Puerta México POE serves pedestrians and passenger vehicles (including buses). It does not serve commercial vehicles; however, a rail line crosses at this POE. The POE is open seven days a week and 24 hours a day.
- One POE project in the United States was submitted. The counterpart to this POE project in Mexico was proposed as a short-term project. Short-term projects were not ranked.
- The redesign of the San Ysidro-Puerta México/Virginia-El Chaparral POE is being coordinated with Mexico to convert the existing southbound vehicle lanes into northbound lanes⁴ to help facilitate northbound traffic into the United States. Some of these lanes could be double-stacked (i.e., two inspection booths per passenger vehicle lane). When double-stacking is taken into account, San Ysidro is expected to have 50 regular passenger vehicle inspection booths as well as six SENTRI⁵ lanes, two bus lanes, and 12 pedestrian lanes or inspection booths. Part of this project includes the associated roadway improvements to access the POE, including southbound access from Interstate 5 (I-5) through the federal facility at Virginia Avenue. This project ranked 3rd out of all 11 POE projects ranked by the TWG.
- Although the counterpart to this project in Mexico was submitted as a short-term project, a brief description is useful to understand the entire POE redesign. In Mexico, southbound passenger-vehicle traffic (including buses) is currently processed through nine lanes at Puerta México. As described above, these lanes will be converted to northbound lanes. Southbound traffic will be accommodated through the Virginia Avenue/El Chaparral gate, located just west of the existing San Ysidro/Puerta México POE. El Chaparral will have 15 southbound passenger vehicle lanes (including three bus lanes) and one return-to-the-U.S. lane. The project also includes the construction of covered areas for bus and auto inspections.
- The schedules for completion of the U.S. and Mexico's projects at the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE appear not to be fully coordinated since the project in the United States has an anticipated completion date of 2014, while the project in Mexico is planned for completion in 2012. However, it is understood that the GSA could advance the reconfiguration of the southbound lanes to Virginia Avenue/El Chaparral to meet Mexico's planned schedule of 2012 if funding became available. The expansion of several roads and construction on new bridges and ramps are planned in Tijuana to facilitate traffic via the POE reconfiguration. These projects are timed to be completed in 2013 and 2014, one to two years after Mexico plans to complete its work on the reconfiguration of the POE, but in line with the planned POE completion date in the United States.

⁴ The term "lane" as in passenger vehicle lane or pedestrian lane is used interchangeably with "inspection booth" in this report.

⁵ SENTRI or Secure Electronic Network for Travelers Rapid Inspection is a land border crossing program that provides expedited Customs and Border Protection processing for pre-approved, low-risk travelers.

Calexico-Mexicali POE

- The Calexico-Mexicali POE provides service for pedestrians and passenger vehicles. The POE operates seven days a week and 24 hours a day. Commercial trucks have not crossed at this facility since the Calexico East-Mexicali II POE opened in 1997; however, there is freight rail service that operates regularly.
- Two projects were proposed to alleviate current congestion at the border crossing. In Calexico, plans are to construct a new facility on the vacated commercial site (west of the railroad tracks) to process north and southbound passenger vehicles. Pedestrians and buses would be processed at the existing facility. The Calexico border station currently has ten passenger vehicle, one SENTRI, one bus, and four pedestrian lanes in the northbound direction. The project would expand to 16 passenger vehicle lanes with possible double-stacking (includes two SENTRI and one bus lane) and six pedestrian lanes. This project ranked 5th out of all 11 POE projects that were evaluated.
- In Mexico, detailed plans of the lane configurations and proposed changes were not provided, but it is understood that the federal government will make improvements to the federal inspection facilities located in Mexicali and reconfigure the roadways within the Mexican federal compound to connect to the new passenger-vehicle facility in Calexico. The POE improvement project ranked 4th out of the 11 POE projects.
- Planning for completion of the U.S. and Mexico's projects at the Calexico-Mexicali POE appears to be well coordinated. The project completion dates are aligned as projects in both the United States and in Mexico are planned for completion in 2013. The associated roadway improvements in the United States are designed to serve crossborder traffic as well as population growth in the local communities. In Mexico, the construction of new roadways and improvements on existing arterials are geared toward capacity improvements connecting the Mexicali I and the Mexicali II border stations.

Otay Mesa-Mesa de Otay POE

- The Otay Mesa-Mesa de Otay POE opened in 1985 for northbound passenger and commercial vehicle traffic and southbound passenger vehicles. In 1994, it began processing southbound commercial vehicles when the Virginia Avenue-El Chaparral gate ceased operations. It provides service for pedestrians, passenger vehicles (including bus), and commercial vehicles. The POE includes separate operations for cargo and passenger vehicles. The passenger crossing facility is open seven days a week and 24 hours per day. Cargo facilities operate reduced hours.
- Two projects in the United States were submitted to improve passenger and commercial throughput by expanding the number of lanes. The commercial facility currently has 12 commercial vehicle lanes, while the passenger facility has 13 passenger vehicle lanes. The additional number of lanes to be operational in 2030 is pending the outcome of a feasibility study. The commercial facility project ranked 6th out of 11 POE projects evaluated, while the passenger facility project ranked 8th. These projects are in the conceptual planning phase. The anticipated completion dates and cost estimates were not provided. (Note that although these POE projects were evaluated separately due to technical reasons in the design of the evaluation criteria, CBP considers the lane expansions at the commercial and passenger facilities to be one project.)

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

- Improvements to the passenger and cargo facilities at Otay Mesa-Mesa de Otay POE will help increase operational efficiencies. Details about the timing of these projects and specifics on the future number of lanes and/or other improvements were not provided as the efforts are pending the completion of a feasibility study. (At the time projects were submitted the feasibility study had not been completed.) Opportunities exist for additional coordination and alignment as more project details are determined. The associated roadway improvements in the United States are designed to serve crossborder traffic as well as population growth in the local communities. They include the expansion of SR 905 and SR 125, improvements on local bridges and arterials, and a new Bus Rapid Transit project with service between the Otay Mesa area and the northern part of the City of San Diego. In Mexico, the construction of new roadways and improvements on existing arterials are designed to improve connectivity between the Mesa de Otay and the proposed Mesa de Otay II POEs. These projects will help build capacity for future population growth of the local community, as well as facilitate crossborder traffic.

Tecate-Tecate POE

- The Tecate-Tecate POE opened in 1932. It provides service for pedestrians, passenger vehicles, commercial vehicles, and rail (the rail line crosses at Campo, located east of the POE). The passenger vehicle facility is open to northbound traffic from 6 a.m. to 12 a.m., while the POE is open to southbound traffic from 5 a.m. to 11 p.m. Cargo facilities operate reduced hours.
- A project to construct a commercial facility at the Tecate, Baja California border station was submitted to improve the flow of commercial vehicle traffic. Long-term potential projects, such as additional development of the Ensenada seaport, could potentially affect cargo traffic at the Tecate-Tecate POE. The expansion of the cargo facility in Mexico is scheduled for completion in 2013. No mid- or long-term counterpart project was submitted for the border station in the United States as major modernization and expansion of the U.S. border station was completed in 2005 and the new Commercial Vehicle Enforcement Facility is scheduled for completion in 2008.
- Two rail projects (both in the conceptual planning stage) to modernize and double-track the Desert Line were proposed to increase the market potential of this route for international and interstate movement of goods. In Mexico, one new road and two roadway improvements are planned to facilitate traffic to and from the POE. The new road, Defensores Blvd., is planned for completion in 2015. However, SIDUE anticipates that it could open much sooner to be more closely aligned with the POE improvement.

Calexico East-Mexicali II POE

- The Calexico East-Mexicali II POE was completed in 1997. It serves pedestrians, passenger vehicles, and commercial vehicles. Northbound passenger vehicle inspections take place from 6 a.m. to 10 p.m., but open at 4 a.m. during the fall and winter to accommodate the agricultural industry. Southbound passenger vehicle inspections take place from 4 a.m. to 10 p.m.
- A POE project in the United States was submitted to improve passenger throughput at the Calexico East-Mexicali II POE by expanding the number of passenger lanes at the existing facility. In Imperial

County, the passenger facility currently has eight passenger vehicle lanes, one SENTRI lane, one bus lane, and four pedestrian lanes. The project would expand the number of northbound passenger vehicle lanes to 12. No changes are proposed to increase the number of bus lanes. The project is in the conceptual planning phase, and the cost estimate and anticipated completion date were not provided.⁶ The passenger facility project ranked 9th out of 11 projects evaluated. No POE projects were submitted for the border station in Mexico.

- The lane expansion project is in the conceptual planning stage and a completion date was not provided. The associated roadway improvements submitted in the United States are planned to increase overall capacity for future population growth and development in the border region. In Mexico, the construction of new roadways and improvements on existing arterials are designed for capacity improvements connecting the Mexicali I and the Mexicali II border stations and are planned for 2015.

Andrade-Los Algodones POE

- The Andrade-Los Algodones POE was built in 1970 and serves pedestrians, passenger vehicles, and to a lesser extent, commercial vehicles. The POE, which is located in Imperial County and eastern Mexicali, is open from 6 a.m. to 10 p.m. in both directions.
- Two projects were submitted for this POE. The Andrade border station in Imperial County has two passenger vehicle and two pedestrian lanes and one informal commercial vehicle lane. The U.S. project is to move vehicle lanes to the Arizona border. Detailed information on the project in Mexico was not provided. This POE is important for tourism, especially with winter visitors to the area who typically cross on foot. The projects were ranked 10th and 11th.
- The Andrade-Los Algodones POE projects are in the conceptual planning phase. No detailed information, cost estimates, or completion dates were provided. No transportation facility projects were submitted for this POE. Opportunities exist for additional coordination and alignment as more project details are determined.

Recommendations

- Consider the California-Baja California Border Master Plan as a framework to prioritize infrastructure projects and enhance coordination of planning and implementation of POE and related transportation facilities on both sides of the California-Baja California border.
- Consider using prioritized California-Baja California project lists to compete for transportation funding sources, such as the reauthorization of U.S. federal transportation act, Mexico's federal funding sources, future bond or state funding programs, and private and local funds.
- Use prioritized California-Baja California project lists to follow a systematic and orderly approach toward the implementation of binational projects.

⁶ Since the technical analysis conducted for the California-Baja California Border Master Plan was completed, Caltrans/IVAG released a comprehensive report on the future expansion of this POE. New information can be incorporated in future updates.

Institutionalizing the California-Baja California Border Master Plan Process

An important objective of the California-Baja California Border Master Plan is to establish a process to institutionalize dialogue among federal, state, regional, and local stakeholders in the United States and Mexico to identify future POE and connecting transportation infrastructure needs and coordinate projects. The California-Baja California Border Master Plan PAC discussed how to accomplish this objective on a regular basis to establish a binational California-Baja California border master planning process.

Recommendations

Periodic Updates: Who will conduct the Border Master Plan updates?

- Caltrans and SIDUE lead efforts to establish a schedule or cycle for periodic California-Baja California Border Master Plan updates, seek funding, and take the lead on conducting these updates, in collaboration with the U.S./Mexico JWC and the California-Baja California Border Master Plan stakeholders.

California-Baja California Border Master Plan PAC members expressed a preference for a consultant team to coordinate future updates, similar to the framework followed for the development of the current California-Baja California Border Master Plan.

Frequency and Content of Update: When will the Border Master Plan updates be conducted and what elements of the Plan will be updated?

- The schedule for California-Baja California Border Master Plan updates should consider U.S. and Mexico's administration cycles.
- Depending on funding, comprehensive California-Baja California Border Master Plan revisions would take place every three to four years to:
 - ▶ Establish new base year and update base year data, including border wait times (currently 2005)
 - ▶ Establish new planning horizon (currently 2030)
 - ▶ Revise study area boundaries to incorporate significant planned POE or transportation projects
 - ▶ Incorporate updated horizon year projections, such as socio-economic data, crossborder travel demand, etc.
 - ▶ Incorporate updated POE plans
 - ▶ Incorporate updated transportation plans
 - ▶ Make use of binational GIS mapping (under development)

- Caltrans and SIDUE would lead the efforts to conduct an annual technical update of the California-Baja California Border Master Plan to provide an opportunity for stakeholder agencies to incorporate information on new planned projects, transmit changes to projects already submitted, and report on completed projects.

Institutionalizing the Dialogue – How will the Border Master Planning Process Continue?

- The California-Baja California Border Master Plan PAC would meet once a year, or more frequently if needed, to provide direction on annual California-Baja California Border Master Plan technical updates and on future comprehensive updates.
- Borderwide, rely on the U.S./Mexico JWC and the U.S.-Mexico Binational Group on Bridges and Border Crossings to share information on the status of the California-Baja California Border Master Plan.
- In California-Baja California, rely on Border Liaison Mechanism (BLM) Technical Commissions to maintain open lines of communication among federal, state, and local agencies responsible for planning and implementing POEs and connecting transportation facilities.
- SIDUE and Caltrans would report on California-Baja California Border Master Plan monitoring and implementation at meetings of the U.S./Mexico JWC, the U.S.-Mexico Binational Group on Bridges and Border Crossings, and the BLM Technical Commissions.
- The United States-Mexico Border Governors Conference also could provide a forum to institutionalize the California-Baja California Border Master Plan. The Border Governors Conference is a forum for cooperation and deliberation among the ten states of the United States and Mexico's border (Arizona, California, New Mexico, Texas, Baja California, Chihuahua, Coahuila, Nuevo León, Sonora, and Tamaulipas). SIDUE and Caltrans could report on the California-Baja California Border Master Plan at the annual conferences.

Representatives from each of the ten member states participate in work tables to develop solutions to mutual goals through a consensus approach. The Logistics and International Crossings Work Table "supports enhanced communications, coordination and consensus building among the ten Border States encouraging investment in modern and efficient infrastructure at ports of entry and to increase security and strengthen commercial exchange."

In August 2008, in its Joint Declaration, the XXVI Border Governors Conference adopted the following recommendation in the Logistics and International Crossings area:

"Substantially reduce cross border wait times by 2013 and complete bi-national state to state regional border master plans amongst the 10 border states within three years. Request both federal governments to incorporate these plans into a U.S.-Mexico Border Master Plan by the XXXI Border Governors Conference in 2013."

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

At future conferences, representatives from California and Baja California could present a recommendation to the Logistics and International Crossings Work Table to take action to update the California-Baja California Border Master Plan as the remaining State to State Regional Border Master Plans are developed.

**SUGGESTIONS FOR CONSIDERATION IN FUTURE CALIFORNIA-
BAJA CALIFORNIA BORDER MASTER PLANNING ACTIVITIES**

Based on the primary objectives of the California-Baja California Border Master Plan, the SANDAG Service Bureau offers the following thoughts for consideration in future California-Baja California border master planning activities based on lessons learned throughout the development of this pilot project.

Study Development

- Consider U.S. and Mexico's administration cycles at the federal, state, and local levels when establishing the California-Baja California Border Master Plan annual technical updates and comprehensive updates. Leadership and staff transitions at the various agencies result in unanticipated delays due to changes in personnel and changes in priorities.
- Reaffirm the participation of executive-level managers as decision makers at the California-Baja California Border Master Plan PAC and the effective communication practices between PAC and TWG members which allowed for an efficient flow of information and decision making throughout the development of this pilot project.
- Consider obtaining commitments from the California-Baja California Border Master Plan PAC to devote sufficient staff resources for technical work to ensure the plan updates are conducted in a timely manner (e.g. providing data and conducting review of draft documents).
- Provide consistent participation of PAC members at key decision-making milestones to obtain policy consistency throughout the binational planning process.
- For future annual technical updates, convene the California-Baja California Border Master Plan TWG to discuss needs for re-evaluating projects and rankings and, if warranted, to review and comment on the result of the updated project rankings prior to presenting the updates to the California-Baja California Border Master Plan PAC for approval.
- For future updates, consider adequate budget for document translation and simultaneous interpretation services at TWG and PAC meetings.
- Include professionals from both California and Baja California in the consultant team responsible for conducting updates to facilitate coordination and data collection with agencies on both sides of the California-Baja California border.

Data Needs

- When formulating and conducting data collection activities, consider the inclusion of indicators that are part of the California-Baja California Border Master Plan evaluation criteria to ensure information is readily available on both sides of the border and can be delivered in a timely fashion.
- Continue to collaborate through the U.S.-Mexico Border Forecasting Peer Exchange, created as a byproduct of the California-Baja California Border Master Plan and sponsored by the U.S. Federal Highway Administration, to harmonize and share information on data collection and forecasting methodologies for crossborder travel demand by mode, and other crossborder-related transportation data, such as border wait times.

CONCLUSION

Development of a new POE or improvement to an existing POE and related transportation facilities is a complex and lengthy undertaking that requires close coordination and collaboration with governmental agencies on both sides of the border. The California-Baja California Border Master Plan process is a new tool that can be used to help prioritize infrastructure projects and enhance coordination of planning and implementation of POE and transportation projects in both the United States and Mexico. A comprehensive approach helps agencies in both California and Baja California complete needed projects to efficiently facilitate international trade and improve the quality of life for residents in the border region. The California-Baja California approach could be expanded and adapted to other border states and customized to address their needs, resulting in a coordinated master planning process for the entire U.S.-Mexico border.

CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN

Figure ES-1
California-Baja California Border Master Plan
San Diego County – Municipality of Tijuana Projects (2007-2030)

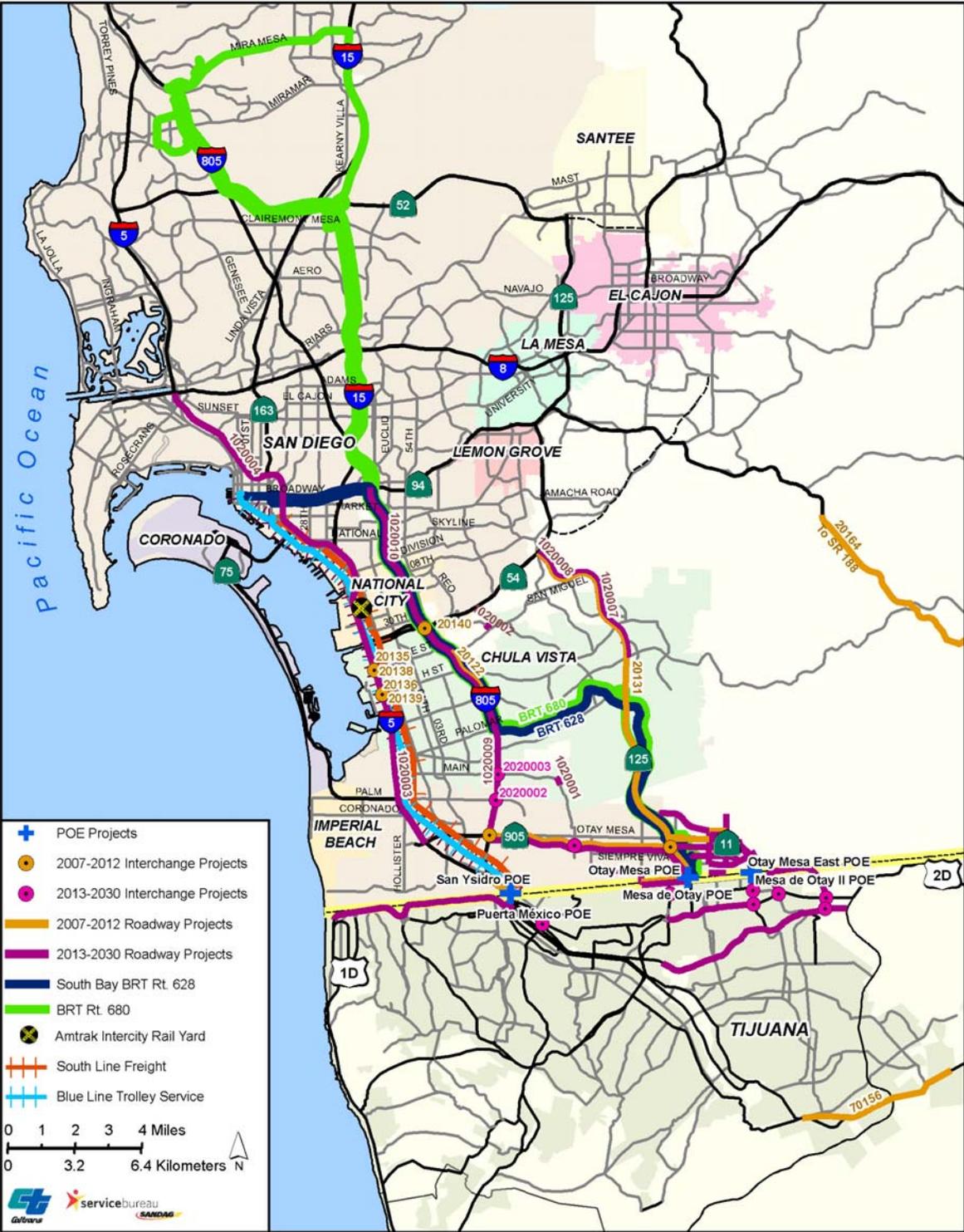


Figure ES-2
California-Baja California Border Master Plan
San Diego County – Municipality of Tijuana Projects (2007-2030) – Inset Map

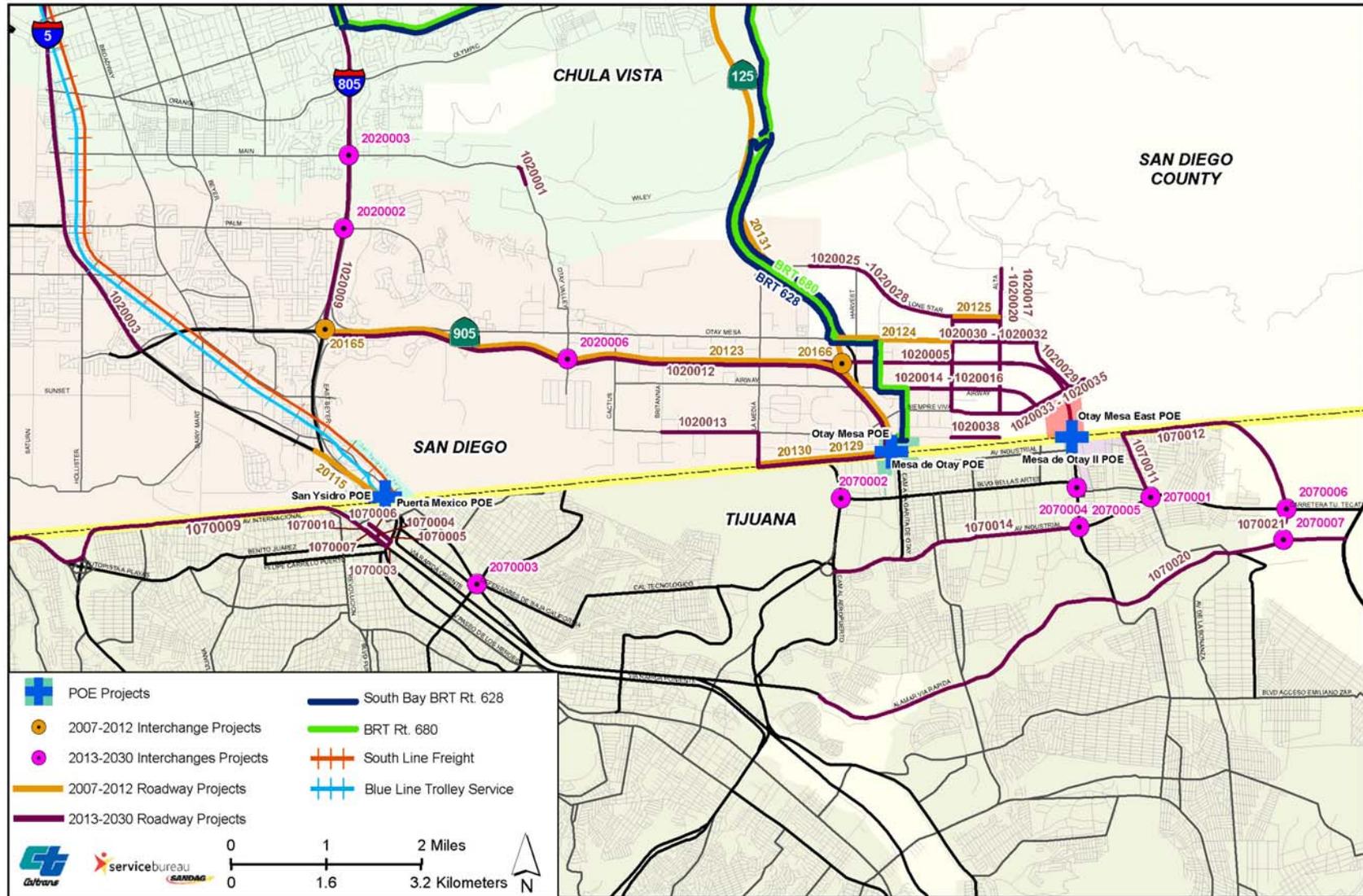


Figure ES-3
California-Baja California Border Master Plan
Tecate Projects (2007-2030)

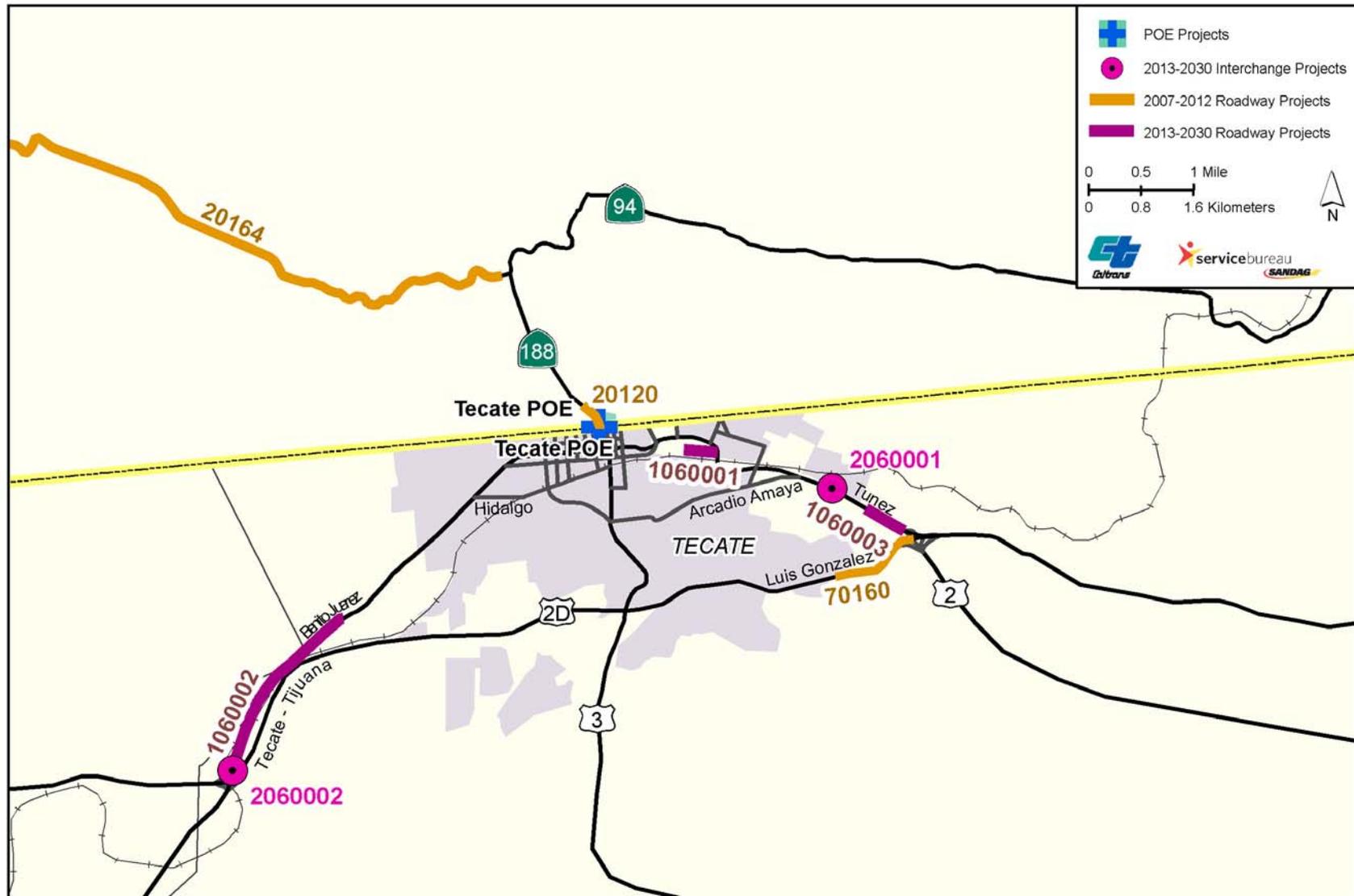


Figure ES-4
California-Baja California Border Master Plan
Desert Rail Line Projects (2007-2030)

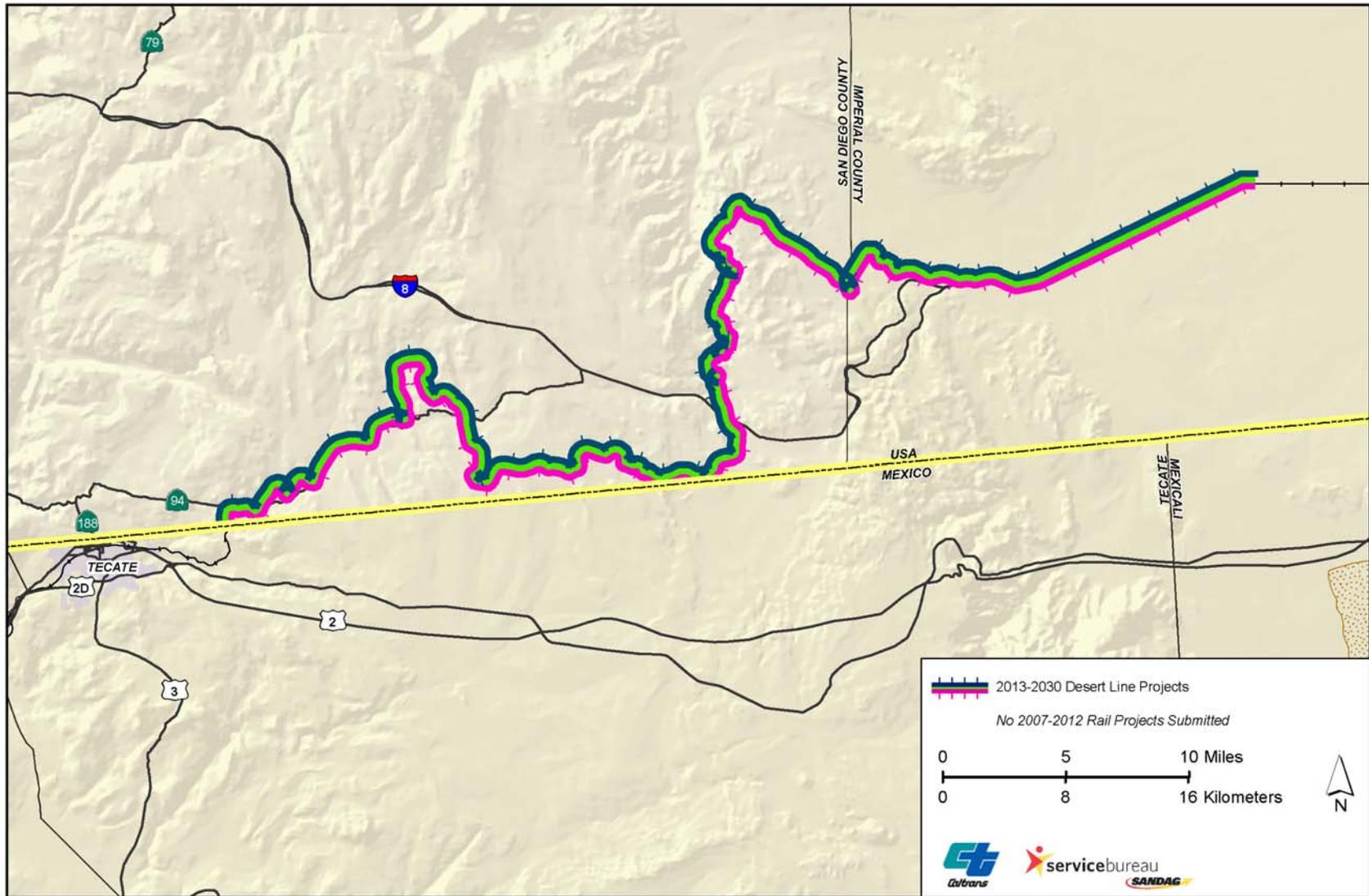


Figure ES-5
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2030)

2007 – 2012 ROADWAY PROJECTS

San Diego County Projects

Project ID Description

20115:	I-5/I-805. Modify Access to POE from Willow Road
20120:	SR 188 Truck Bypass Lanes
20122:	I-805 Ramp Meters and HOV Bypass Lanes from Telegraph Canyon to Bonita Road
20123:	SR 905 Freeway from I-805 to Mexico
20124:	Otay Mesa Road Widening from SR 125 to Enrico Fermi Drive
20125:	Lone Star Road from Alta Rd. to 0.5 Miles West
20129:	Otay Truck Route from Otay Mesa POE to Drucker Lane
20130:	Otay Truck Route Widening from Drucker Lane to La Media
20131:	SR 125 Toll, Gap, and Connector from SR 905 to SR 54
20164:	SR 94 Operational Improvements from Melody Road to SR 188

Tijuana / Tecate Projects

Project ID Description

70156:	Tijuana-Tecate Road Widening from El Florido to Toyota
70160:	Widening of Mexicali-Tecate Freeway

2013 – 2030 ROADWAY PROJECTS

San Diego County Projects

Project ID Description

1020001:	Heritage Road Bridge from Main Street to South of the Otay River
1020002:	Willow Street Bridge from Sweetwater Road to Bonita Road
1020003:	I-5. 2 HOV Lanes from SR 905 to SR 54
1020004:	I-5. 2 HOV Lanes from SR 54 to I-8
1020005:	SR 11. 4 Toll Lanes from SR 905 to Mexico
1020007:	SR 125. 4 Toll Lanes from Telegraph Canyon to San Miguel Road
1020008:	SR 125. 4 Toll Lanes from San Miguel Road to SR 54
1020009:	I-805. 4 Managed Lanes from SR 905 to Palomar Street
1020010:	I-805. 4 Managed Lanes from Palomar Street to SR 94
1020012:	SR 905. 2 General Lanes from I-805 to Mexico
1020013:	Otay Mesa Southbound Truck Route. Widening and Realignment from Britannia Boulevard to Otay Mesa POE
1020014:	Airway Road Arterial from City of San Diego to Enrico Fermi Drive
1020015:	Airway Road Arterial from Enrico Fermi Dr. to Alta Road
1020016:	Airway Road Arterial from Alta Road to Loop Road
1020017:	Alta Road Arterial from Old Otay Mesa Road to Donovan State Prison
1020018:	Alta Road Arterial from Lone Star Road to Otay Mesa Road
1020019:	Alta Road Arterial from Otay Mesa Road Airway Road
1020020:	Alta Road Arterial from Airway Road to Siempre Viva Road
1020021:	Enrico Fermi Drive Arterial from Lone Star Road to Otay Mesa Road

Figure ES-5 (cont'd)
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2030)

2013 – 2030 ROADWAY PROJECTS (CONT'D)

San Diego County Projects (cont'd)

Project ID Description

1020022:	Enrico Fermi Drive Enhanced Arterial from Otay Mesa Road to SR 11
1020023:	Enrico Fermi Drive Enhanced Arterial from SR 11 to Airway Road
1020024:	Enrico Fermi Drive Arterial from Airway Road to Siempre Viva Road
1020025:	Lone Star Road Arterial from Piper Ranch to Sunroad Boulevard
1020026:	Lone Star Road Arterial from Sunroad Boulevard to Vann Center Boulevard
1020027:	Lone Star Road Arterial from Vann Center Boulevard to Enrico Fermi Drive
1020028:	Lone Star Road Arterial from Enrico Fermi Drive to Alta Road
1020029:	Lone Star Road Arterial from Otay Mesa Road to Siempre Viva Road
1020030:	Otay Mesa Road Arterial from Sanyo Road to Enrico Fermi Drive
1020031:	Otay Mesa Road Arterial from Enrico Fermi Drive to Alta Road
1020032:	Otay Mesa Road Arterial from Alta Road to Loop Road
1020033:	Siempre Viva Road Arterial from City of San Diego to Alta Road
1020034:	Siempre Viva Road Arterial from Altar Road to Loop Road
1020035:	Siempre Viva Road Arterial from Loop Road to Rogue Road
1020038:	Via de la Amistad. Collector from City of San Diego/Enrico Fermi Drive to Alta Road

Tijuana / Tecate Projects

Project ID Description

1070003:	Single Lane Bridge over Tijuana River Channel from Vía Rápida East to Vía Rápida West
1070004:	Two Lane Bridge over Tijuana River Channel from Vía Rápida East to Vía Rápida West
1070005:	Expansion of Vía Rápida East from the Pedestrian Bridge to Bridge México
1070006:	Ramp on Eastern Crest of the Tijuana River Channel
1070007:	Ramp on Western Crest of the Tijuana River Channel
1070008:	Avenue International East from Silvestre Revueltas Street to Calle 12 Norte
1070009:	Double Deck International Avenue West from Vía Rápida East to access Playas de Tijuana
1070010:	Incorporation of International Avenue West to Vía Rápida
1070011:	Las Torres Boulevard from Highway Tijuana-Tecate to International Otay II Boulevard
1070012:	International Otay II Boulevard from Otay II POE to Tijuana-Tecate Toll Road
1070014:	Industrial Boulevard from Airport Access Rd. to Terán Boulevard
1070020:	Alamar Vía Rápida from Central Bus Station to Tijuana - Rosarito 2000 Boulevard
1070021:	International Otay II Boulevard from Tijuana-Tecate Toll Road to Alamar
1060001:	Defensores Boulevard from Mixcoac Street to Tecate -Tijuana Freeway
1060002:	Tecate - Tijuana Freeway from Rancho La Puerta to Paso el Águila node
1060003:	Tecate - Mexicali Freeway from Rancho Santa Lucia to San José

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Figure ES-5 (cont'd)
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2030)**

2013 – 2030 RAIL PROJECTS

Project ID	Description	
------------	-------------	--

3020001:	South Line -- Sidings, Passings, Mexico Connectivity, Coronado Line Rehab, San Ysidro Rail Yard	
3020004:	Desert Line -- Basic Service	
3020005:	Desert Line -- Modernization	
3020017:	Desert Line -- Double Tracking	
3020018:	Blue Line Trolley Service -- Increase Frequency of Blue Line Service	
3020003:	Amtrak Intercity Rail Yard	

● 2007 – 2012 INTERCHANGE PROJECTS
San Diego County Projects

Project ID	Description
------------	-------------

20135:	I-5 and E Street Split Grade Intersection
20136:	I-5 and H Street Split Grade Intersection
20138:	I-5 and E Street Interchange Improvements
20139:	I-5 and H Street Interchange Improvements
20140:	I-805 and SR 54 Interchange Improvements
20165:	SR 905 and I-805 Interchange Improvements
20166:	SR 905 and SR 125 Interchange Construction

● 2013 – 2030 INTERCHANGE PROJECTS
San Diego County Projects

Project ID	Description
------------	-------------

2020001:	I-5 from North of SR 54 to J St. Overcrossing -- Interchange Improvements, Local Road Improvements and New Structures (Not Shown)
2020002:	I-805 / Palm Avenue Overcrossing -- Revise Interchange
2020003:	I-805 - Main Street / Auto Park Drive Undercrossing -- Revise Interchange
2020006:	SR 905 / Heritage Road Interchange (Phase 4) -- Construct Interchange

Tijuana / Tecate Projects

Project ID	Description
------------	-------------

2070001:	Bridge and Node over the Tijuana-Tecate Toll Road with Access to Boulevard de las Torres -- Construction of 40 Meter Bridge with a 200 Meter Intersection
2070002:	Airport Node-Bellas Artes -- Construction of Airport -Bellas Artes Node with Access to the Otay I Border Crossing

Figure ES-5 (cont'd)
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2030)

 **2013 – 2030 INTERCHANGE PROJECTS (CONT'D)**

Tijuana / Tecate Projects (cont'd)

Project ID	Description
2070003:	Cuauhtemoc-Padre Kino Node -- Construction of the Cuauhtemoc-Padre Kino Node
2070004:	Bellas Artes-Magisterial Node -- Construction of the Bellas Artes-Magisterial Node with Access to the Otay II Border Crossing
2070005:	Industrial Avenue-Terán Terán Node -- Optimization of Intersection
2070006:	International Otay II Boulevard --Tijuana-Tecate Toll Road Node
2070007:	International Otay II Boulevard and Alamar Node -- Construction of node at International Otay II Boulevard and Alamar
2060001:	Tecate-Mexicali Freeway and Las Torres Boulevard -- Highway Node
2060002:	Freeway Node and the Tecate-Tijuana Toll Road -- Completion of the Roadway Intersection

 **2007 – 2012 BRT PROJECTS**

San Diego County Projects

Project ID	Description
20127:	South Bay BRT Route 628 -- Otay Ranch to Downtown San Diego

 **2013 – 2030 BRT PROJECTS**

San Diego County Projects

Project ID	Description
3020002:	BRT Route 680 -- Otay Mesa to Sorrento Mesa

 **2007 – 2012 POE PROJECTS**

San Diego County Projects

Project ID	Description
20126:	San Ysidro POE -- Border Bicycle Parking
20176:	San Ysidro POE -- Stacked Booth Pilot
20177:	San Ysidro POE -- SENTRI Lane Expansion
20178:	San Ysidro POE -- Secondary Inspection Upgrades
20179:	San Ysidro POE -- Signage Upgrade
20180:	San Ysidro POE -- Bus Passenger Inspection
20181:	Otay Mesa POE -- SENTRI Lane Expansion
20182:	Otay Mesa POE -- FAST Lane Expansion
20183:	Otay Mesa POE -- Otay Mesa Feasibility Study

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Figure ES-5 (cont'd)
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2030)**



2007 – 2012 POE PROJECTS (CONT'D)

San Diego County Projects (cont'd)

Project ID Description

20185:	Otay Mesa POE -- Otay Mesa POE Master Site Plan
20184:	Otay Mesa East POE -- Otay Mesa East Feasibility Study
20119:	Tecate POE -- CHP Truck Inspection Facility
20186:	Tecate POE -- Rail Inspection Facilities
20187:	Tecate POE -- New Commercial Vehicle Enforcement Facility (CVEF)

Tijuana / Tecate Projects

Project ID Description

70157:	Mesa de Otay POE -- Commercial Lane Extension
70158:	Mesa de Otay II POE -- Feasibility Study
70196/197:	Puerta México-EI Chaparral POE -- Reconfiguration
70159:	Tecate POE -- Acquisition of Land



2013 – 2030 POE PROJECTS

San Diego County Projects

Project ID Description

4020001:	Otay Mesa East POE -- Construct New POE Facility
4020003:	San Ysidro POE -- POE Re-design
4020004:	Otay Mesa POE -- Modernization. Additional Passenger Lanes
4020005:	Otay Mesa POE -- Modernization. Additional Commercial Lanes

Tijuana / Tecate Projects

Project ID Description

4070002:	Mesa de Otay II POE -- Construct New POE Facility
4060001:	Tecate POE -- Cargo Expansion and Improvement

Figure ES-6
California-Baja California Border Master Plan
Imperial County – Municipality of Mexicali Projects (2007-2030)

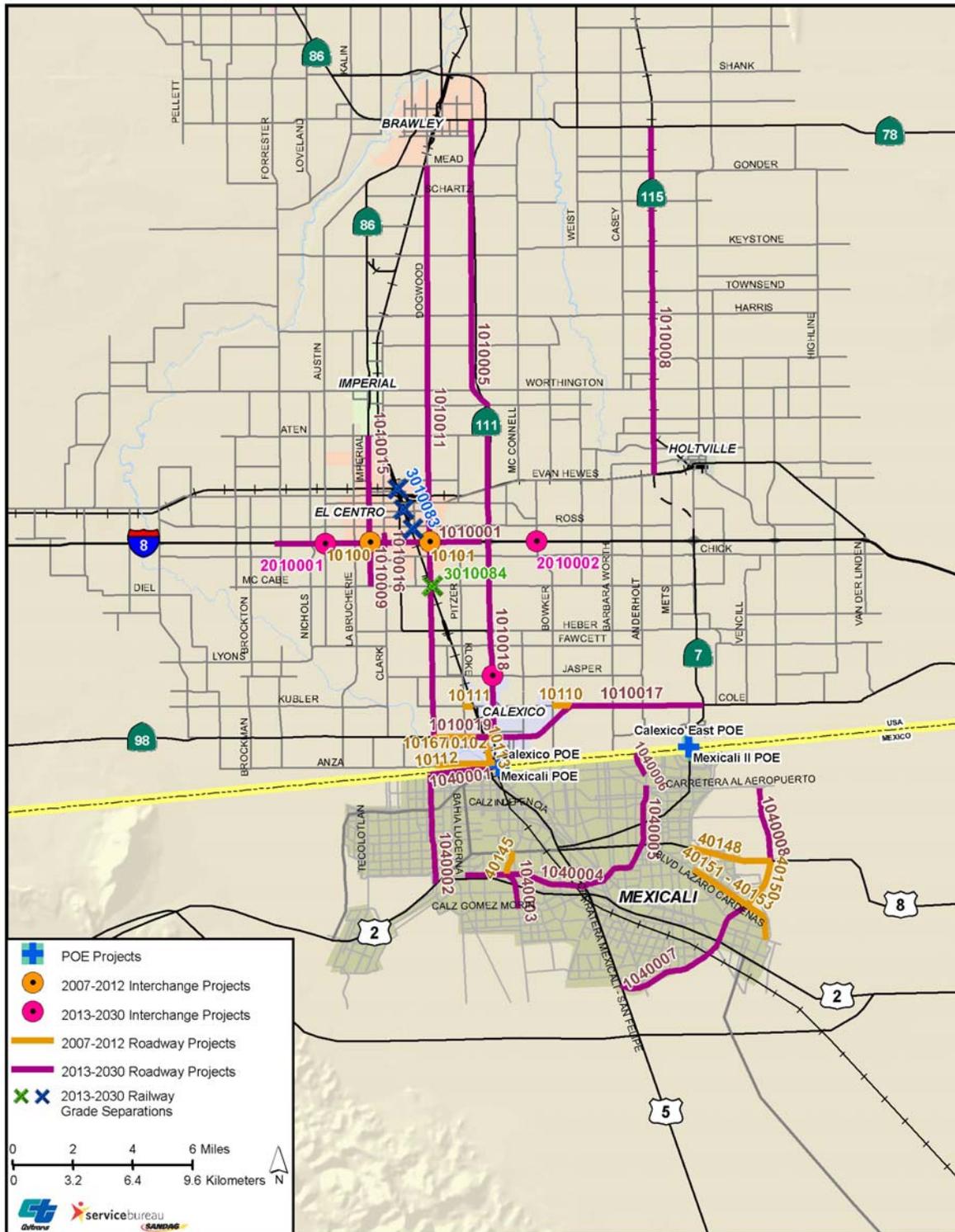


Figure ES-7
California-Baja California Border Master Plan
Andrade - Algodones Projects (2007-2030)



Figure ES-8
California-Baja California Border Master Plan
Imperial County – Municipalities of Mexicali Project Lists (2007-2030)

2007 – 2012 ROADWAY PROJECTS

Imperial County Projects

Project ID Description

10102:	SR 98 from Navarro Road to SR 111
10104:	SR 186 at Andrade CVEF
10110:	Cole Road from Bowker Road to SR 98
10111:	Cole Road from Kloke Road to the railroad
10112:	Second Street Expansion from SR 111 to Dogwood Road
10113:	Cesar Chavez Boulevard Expansion from SR 111 to SR 98/Birch Street
10167:	SR 98 West from Dogwood to SR 111

Mexicali Projects

Project ID Description

40145:	Rio Nuevo Extension from Lazaro Cárdenas to Blvd. Héctor Terán Terán
40148:	Mexicali-Algodones Road Widening from Calle Novena to Islas Agrarias
40150:	Beltway Around Eastern Periphery from Lazaro Cárdenas to Islas Agrarias
40151/152/153:	Mexicali-San Luis Rio Colorado Road

2013 – 2030 ROADWAY PROJECTS

Imperial County Projects

Project ID Description

1010001:	I-8 from Forrester Road to SR 111
1010005:	SR 111 from I-8 to SR 78
1010008:	SR 115 from Evan Hewes Highway to SR 78
1010009:	Imperial Avenue from McCabe Road to I-8
1010011:	Dogwood from SR 98 to Mead Road
1010015:	Imperial Avenue from I-8 to Aten Road
1010016:	8th Street Overpass from Wake Avenue to Centinela
1010017:	SR 98 East from SR 111 to SR 7
1010018:	SR 111 from SR 98 to I-8
1010019:	SR 98 from SR 98 to Cesar Chavez Boulevard

Mexicali Projects

Project ID Description

1040001:	Colon Avenue West from Leyes de Reforma Bridge and Proposed Roadway on Western Periphery
1040002:	Western Periphery from Intersection with the Proposed International Roadway West. to Tijuana Highway
1040003:	Extension of the Central Axis from Lázaro Cárdenas Boulevard to Gómez Morin Road
1040004:	Terán-Terán Boulevard from San Felipe Highway to Tijuana Highway
1040005:	Gómez Morin Road from Cetys Road to Mexicali -San Felipe Highway
1040006:	Gómez Morin Road from Capitan Carrillo Avenue to Rep. de Argentina Street
1040007:	Beltway Around Eastern Periphery from Lázaro Cárdenas Blvd. to San Felipe Highway
1040008:	Beltway Around Eastern Periphery from Islas Agrarias Highway to Highway to the Airport

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Figure ES-8 (cont'd)
California-Baja California Border Master Plan
Imperial County – Municipalities of Mexicali Project Lists (2007-2030)**

 **2007 – 2012 INTERCHANGE PROJECTS**

Imperial County Projects

Project ID Description

10100: Imperial Avenue and I-8 Interchange
10101: Dogwood Avenue and I-8 Interchange
10105: SR 186 and I-8 Interchange

 **2013 – 2030 INTERCHANGE PROJECTS**

Imperial County Projects

Project ID Description

2010001: Austin Road and I-8 Interchange
2010002: Bowker Road and I-8 Interchange
2010004: Jasper Road and SR 111

2013 – 2030 RAIL PROJECTS

Imperial County Projects

Project ID Description

3010083: Grade Separation at McCabe Road and Dogwood Avenue
3010084: City of El Centro Grade Separations at Various Locations



 **2007 – 2012 POE PROJECTS**

Imperial County Projects

Project ID Description

10190: Calexico West POE -- Repair Sink Hole at Primary Inspection
10191: Calexico East POE -- SENTRI Lane Expansion
10192: Andrade POE -- Upgrades to Pedestrian Crossing and Facilities Renovations
10193: Andrade POE -- Traffic Control Barriers
10194: Andrade POE -- Site Expansion

 **2013 – 2030 POE PROJECTS**

Imperial County Projects

Project ID Description

4010003: Andrade POE -- Move Vehicle Lanes to Arizona Border
4010004: Calexico POE -- Reconfigure POE
4010005: Calexico East POE -- Expansion of Primary Vehicle Lanes

Mexicali Projects

Project ID Description

4040001: Mexicali I-Calexico West POE -- Expansion and Improvement of the Customs Facilities
4040004: Los Algodones-Andrade POE -- Tourist-Commercial Crossing Modernization

RESUMEN EJECUTIVO

INTRODUCCIÓN

Con el pasar de los años, los cruces transfronterizos en las seis garitas de la región Baja California-California han ido aumentando de manera importante. La región de Tijuana/Tecate- Condado de San Diego alberga las garitas de Puerta México-San Ysidro, Mesa de Otay-Otay Mesa y Tecate-Tecate, mientras que en la región de Mexicali-Condado de Imperial se encuentran las garitas de Mexicali-Calexico, Mexicali II-Calexico East, y Los Algodones-Andrade. Se anticipa que la demanda de uso en todas las garitas de la región aumentará entre 2005 y 2030. En 2005 la estimación de la población total en la zona que abarca el estudio en Baja California-California, rebasaba los seis millones de habitantes, y se proyecta su crecimiento a casi 9.5 millones para el año 2030.¹ El crecimiento de la población y de la actividad económica ocasionará un aumento en la demanda de uso de las garitas y ejercerá una mayor presión sobre sus instalaciones y las vialidades que conectan con las mismas.

En virtud de la demanda actual y proyectada en las garitas existentes, es de suma importancia mejorar la capacidad y operaciones de la infraestructura actual para disminuir la congestión vehicular y las demoras, facilitar el comercio internacional y mejorar la calidad de vida de los habitantes de la región fronteriza. Dependencias federales, estatales, regionales y locales, con responsabilidad de planeación e instrumentación de garitas e instalaciones relacionadas de transporte en la región de Baja California-California, coinciden en que es necesario un proceso de planeación maestra con el fin de evaluar e integrar el desarrollo de infraestructura de garitas y transporte de manera coordinada.

PROPÓSITO Y OBJETIVOS DEL ESTUDIO

El Plan Maestro Fronterizo California-Baja California consiste en una metodología exhaustiva y binacional para coordinar la planeación y entrega de proyectos en garitas terrestres, y la infraestructura de transporte correspondiente, en la región de Baja California-California. El Departamento de Transporte del Estado de California (*Caltrans*), en conjunto con la Secretaría de Infraestructura y Desarrollo Urbano del Estado de Baja California (SIDUE) y el Comité Conjunto de Trabajo de los Estados Unidos y México (CCT), contrataron al Buró de Servicio de SANDAG para asistirles en el desarrollo de dicho Plan.

El CCT concibió el Plan Maestro Fronterizo California-Baja California como un proyecto piloto entre estados fronterizos. En función de los resultados que brinde este proceso piloto de planeación binacional, la metodología utilizada en California-Baja California podría ampliarse a otros estados

¹ Fuente: Secretaría de Infraestructura y Desarrollo Urbano (SIDUE); Asociación de Gobiernos de San Diego (SANDAG); y la Asociación de Gobiernos del Sur de California (SCAG); compilado por el Buró de Servicio de SANDAG.

**PLAN MAESTRO FRONTERIZO
CALIFORNIA-BAJA CALIFORNIA**

fronterizos y adaptarse a sus necesidades, redundando en un proceso de planeación maestra para toda la frontera entre México y EE.UU.

Los objetivos principales del Plan Maestro Fronterizo California-Baja California son:

- **Prácticas Actuales:** Mejorar la comprensión de los procesos de planeación de garitas y transporte en ambos lados de la frontera, y crear un plan para establecer prioridades y avances en proyectos de garitas y sus correspondientes necesidades en materia de transporte.
- **Proyectos de Garitas y de Instalaciones de Transporte – Criterios de Evaluación y Jerarquización:** Desarrollar criterios para establecer las prioridades en proyectos relacionados con garitas existentes y futuras, así como las vialidades que conducen a las garitas entre Baja California y California; jerarquizar proyectos a mediano y largo plazo.
- **Institucionalización del Proceso de Planeación Maestra California-Baja California:** Establecer un proceso que institucionalice el diálogo entre dependencias y actores interesados federales, estatales, y locales en los EE.UU. y México, para identificar necesidades futuras de garitas y de infraestructura de transporte y coordinar proyectos.

Idealmente, se incorporarán el enfoque y las metodologías identificadas en el Plan Maestro Fronterizo California-Baja California a los procesos respectivos de planeación y programación de cada una de las dependencias participantes en los tres niveles de gobierno de ambos países.

ZONA DE ESTUDIO

La región de Tijuana-Condado de San Diego alberga tres garitas —Puerta México-San Ysidro, Mesa de Otay-Otay Mesa, y Tecate-Tecate. Adicionalmente, se ha propuesto un nuevo cruce fronterizo para vehículos comerciales y ligeros en Mesa de Otay II-Otay Mesa East, para atender la demanda de cruces transfronterizos en la región. La región de Mexicali-Condado de Imperial también incluye tres garitas — Mexicali-Calexico, Mexicali II-Calexico East, y Los Algodones-Andrade.

La zona de estudio del Plan Maestro Fronterizo California-Baja California incluye un “Área de Influencia” y un “Área de Estudio Enfocado”. El “Área de Influencia” es la franja geográfica a 60 millas, o 100 kilómetros, al norte y al sur de la Frontera Internacional entre Baja California y California. En California, esta franja incluye los Condados de San Diego y de Imperial. En Baja California, abarca los Municipios de Tijuana, Tecate, Playas de Rosarito, parte del de Mexicali, y la zona urbana de Ensenada.

El “Área de Estudio Enfocado” es la zona geográfica que abarca diez millas [16 kilómetros] al norte y al sur de la Frontera Internacional entre Baja California y Baja California. Los proyectos de garitas y de transporte a corto, mediano y largo plazo analizados en el Plan Maestro Fronterizo California-Baja California se limitaron a esta franja.

ESTRUCTURA DE TOMA DE DECISIONES

Bajo la dirección del CCT, Caltrans y SIDUE, se establecieron un Comité Consejero de Reglamentos/Políticas (*PAC* por sus siglas en inglés) y un Grupo Técnico de Trabajo (*TWG*, idem) del Plan Maestro Fronterizo California-Baja California. Se invitó la participación en el Plan Maestro Fronterizo de las dependencias listadas a continuación. Se solicitó a cada dependencia que designara representantes de nivel ejecutivo en el *PAC*, y de nivel de funcionario superior ("*senior staff*") para el *TWG*.

Estados Unidos

- Departamento de Estado (DOS)
- Buró de Aduanas y Protección Fronteriza (CBP)
- Administración de Servicios Generales (GSA)
- Administración Federal de Carreteras (FHWA)
- Departamento de Transporte del Estado de California (Caltrans)
- Asociación de Gobiernos del Valle Imperial (IVAG)
- Asociación de Gobiernos del Sur de California (SCAG)
- Asociación de Gobiernos de San Diego (SANDAG)
- Condado de Imperial
- Ciudad de Calexico
- Condado de San Diego
- Ciudad de Chula Vista
- Ciudad de San Diego

México

- Secretaría de Relaciones Exteriores (SRE)
- Secretaría de Comunicaciones y Transportes (SCT)
- Administración General de Aduanas
- Secretaría de Desarrollo Social (SEDESOL)
- Instituto de Administración y Avalúos de Bienes Nacionales (INDAABIN)
- Secretaría de Infraestructura y Desarrollo Urbano del Estado de Baja California (SIDUE)
- Instituto Municipal de Planeación de Tijuana (IMPLAN)
- Instituto Municipal de Planeación de Mexicali (IMIP)
- Municipio de Mexicali
- Municipio de Tecate
- Municipio de Tijuana

Además, se invitó a otras dependencias a participar en tareas específicas en la medida que avanzaba el trabajo. Estas incluyen:

- Instituto Nacional de Migración de México
- Secretaría de Desarrollo Económico del Estado de Baja California
- Secretaría de Turismo del Estado de Baja California

Fue responsabilidad del PAC proporcionar la dirección, aprobar los parámetros de estudio, establecer los criterios de evaluación de proyectos, y aprobar las jerarquizaciones de los proyectos. Por su parte, el TWG apoyó al Buró de Servicio de SANDAG en la instrumentación de la dirección proporcionada por el PAC, aportando la información solicitada oportunamente y presentando recomendaciones al PAC.

ENFOQUE DEL ESTUDIO

Para cumplir con las tareas señaladas en el Alcance de Trabajo, el Buró de Servicio preparó cuestionarios solicitando información relevante al TWG. Posteriormente se presentó al TWG un resumen de la información recibida y los análisis efectuados por el Buró de Servicio para su análisis. Tras las reuniones con el TWG, se presentó dicha información y análisis, actualizados con retroalimentación proporcionada por el TWG, en reuniones con el PAC. El TWG también hizo recomendaciones al PAC en cuanto a ciertas tareas, tales como la definición de la zona de estudio, el horizonte de planeación del estudio, criterios de evaluación y jerarquizaciones de proyectos.

Se llevaron a cabo seis reuniones del PAC y siete del TWG durante el transcurso del estudio. A todo lo largo del proceso, el Buró de Servicio trabajó de cerca con el CCT, Caltrans, SIDUE, y el PAC y el TWG del Plan Maestro Fronterizo California-Baja California para asegurar que el Plan cumpliera con sus metas, y diera como resultado un modelo que pudiera adaptarse y utilizarse en otras regiones fronterizas en sus esfuerzos similares de planeación y coordinación binacional de infraestructura.

RESUMEN DE RESULTADOS Y RECOMENDACIONES

La siguiente sección describe los resultados y recomendaciones principales para cada una de los objetivos primordiales del estudio.

Prácticas Actuales

Una de los objetivos primordiales del Plan Maestro Fronterizo California-Baja California consiste en mejorar la comprensión de la planeación de garitas y transporte en ambos lados de la frontera entre Baja California y California. Para comprender los procesos de planeación de las diferentes dependencias involucradas, se preparó un cuestionario solicitando información al TWG. Los resultados y recomendaciones que se describen a continuación parten de las respuestas obtenidas de las dependencias involucradas.

Resultados

- La planeación de garitas e infraestructura de transporte relacionada es un proceso complejo que involucra a múltiples dependencias en todos los niveles de gobierno, tanto en México como en los EE.UU. La planeación de garitas utiliza un horizonte de planeación de cinco años, mientras que la planeación de infraestructura de transporte utiliza un horizonte de planeación más largo. No todos los documentos de planeación incluyen tanto los proyectos de garitas como los de la red de transporte correspondiente.
- Dependencias municipales, regionales, estatales y federales en ambos lados de la frontera utilizan diferentes procesos de evaluación en la preparación de documentos de planeación de garitas y de transporte. Estos procesos abarcan una gama que va desde evaluaciones cuantitativas globales, hasta la formulación y aplicación de criterios cuantitativos y cualitativos a detalle.
- Existe un cierto nivel de coordinación y comunicación entre dependencias federales, estatales, regionales y locales, pero también existen oportunidades para crear un proceso más sistemático que alinee actividades de instrumentación, incluyendo el financiamiento y la calendarización de garitas e instalaciones de transporte que los unan.
- Existen asimismo oportunidades para una mayor coordinación con gobiernos municipales en el desarrollo de instalaciones de garitas. Se busca una coordinación más directa con dependencias estatales y federales para desarrollar una estrategia exhaustiva en materia de garitas, que permita una integración efectiva de las garitas al entorno municipal. Además de las instalaciones mismas de la garita, deben considerarse acciones complementarias relacionadas con transporte, seguridad, imagen urbana, infraestructura y uso de suelos.
- Podrían darse oportunidades de una mayor divulgación pública y coordinación con dependencias locales y estatales mediante el proceso de Evaluación de Recursos Estratégicos (SRA por sus siglas en inglés) del Buró de Aduanas y Protección Fronteriza (CBP). El proceso de la SRA se enfoca en mejoras a instalaciones existentes de garitas y no parece identificar necesidades de nuevas instalaciones. Sin embargo, se describen en la SRA propuestas formuladas por otras dependencias de garitas nuevas, y se incluyen propuestas selectas bajo las opciones de mejoras. La Administración de Servicios Generales (GSA) de los EE.UU. da seguimiento a solicitudes del CBP de contratar y administrar estudios de factibilidad para identificar y evaluar alternativas de diseños de garitas, y estimar sus costos.
- Se requiere una mayor coordinación entre la GSA y dependencias locales, regionales y estatales para reconocer los procesos de programación, y alinear la calendarización de instrumentación y financiamiento de mejoras propuestas a garitas con las mejoras a las vialidades correspondientes a las mismas.

Recomendaciones

La metodología del Plan Maestro Fronterizo California-Baja California es una herramienta valiosa para aportar información a las prácticas de planeación de garitas y de transporte de las dependencias involucradas. Por lo tanto, se recomienda que dichas dependencias:

- Consideren los criterios de evaluación de proyectos del Plan Maestro Fronterizo California-Baja California para guiar sus procesos individuales de jerarquización de proyectos. En algunos casos los criterios del Plan Maestro Fronterizo California-Baja California pueden mejorar la metodología de la dependencia con elementos o unidades de medición que no se estén evaluando en la actualidad. En otras situaciones, podría llevar a incorporar nuevas medidas de monitoreo o de recopilación de datos.
- Utilicen los resultados obtenidos del Plan Maestro Fronterizo California-Baja California en documentos de planeación federales, estatales, regionales y locales, tales como la Evaluación de Recursos Estratégicos o SRA (preparada por el Buró de Aduanas y Protección Fronteriza); Planes Estatales de Transportación (California y Baja California); Planes Estatales de Desarrollo Urbano (Baja California); Planes Regionales de Transportación (Condados de San Diego y de Imperial); Planes Generales (ciudades y condados en los Condados de San Diego y de Imperial); y Planes Municipales de Desarrollo (municipios en Baja California). A su vez, los resultados de estos documentos de planeación se retroalimentarían al Plan Maestro Fronterizo California-Baja California para su actualización.

Proyectos de Garitas y de Instalaciones de Transporte – Criterios de Evaluación y Jerarquizaciones

Otro objetivo importante del Plan Maestro Fronterizo California-Baja California consiste en desarrollar criterios para jerarquizar proyectos de garitas y transporte, y jerarquizar los proyectos a mediano y largo plazo. El Plan Maestro Fronterizo California-Baja California desarrolló una metodología y criterios para evaluar y jerarquizar proyectos de garitas así como proyectos de vialidades, accesos y ferrocarril correspondientes a las garitas. Se elaboraron estos cuatro conjuntos de criterios tomando en cuenta evaluaciones previas de corredores [Vg., la Evaluación Binacional de Necesidades de Infraestructura de Transporte Fronteriza o *Binational Border Transportation Infrastructure Needs Assessment Study (BINS)*] y datos disponibles en materia de transporte por parte de dependencias involucradas de todos los niveles de gobierno, tanto en Baja California como en California. Los criterios incluyen indicadores cuantitativos y cualitativos que miden la demanda actual y proyectada de cruces en las garitas, comercio transfronterizo, congestión vehicular en las garitas y en instalaciones de transporte, efectividad en términos de costos, desempeño del proyecto, disponibilidad del proyecto y beneficios a la región.

El TWG presentó una lista de los proyectos de garitas y de instalaciones de transporte planeados a corto plazo (2007-2012) y a mediano y largo plazo (2013-2030) para el “Área de Estudio Enfocada”. Se limitaron dichos proyectos de corto, mediano y largo plazo a esta franja, y se jerarquizaron los proyectos de mediano y largo plazo aplicando dichos criterios.

La creación de criterios de jerarquización de proyectos de garitas y de transporte permite al Plan Maestro Fronterizo California-Baja California generar, quizás por primera vez, una lista de proyectos con prioridades dentro de una zona binacional de estudio. Aquellos proyectos en etapas tempranas de desarrollo conceptual, para los cuales no hay información cuantitativa o cualitativa disponible, fueron inventariados sin jerarquizar. Actualizaciones futuras del Plan pueden incorporar datos adicionales de estos proyectos en la medida que las actividades de planeación y de instrumentación generen más información disponible. Las listas jerarquizadas sirven como pauta para identificar proyectos de importancia en la región fronteriza California-Baja California.

Se jerarquizaron individualmente un total de 11 proyectos de garitas presentados por el TWG, y se agruparon por garita.² Se utilizaron entonces las jerarquizaciones de los proyectos individuales para establecer el siguiente orden de prioridades para las garitas.

- Mesa de Otay II-Otay Mesa East (garita nueva propuesta)
- Garita de Puerta México-San Ysidro/El Chaparral-Virginia Avenue³
- Garita de Mexicali-Calexico
- Garita de Mesa de Otay-Otay Mesa
- Garita de Tecate-Tecate
- Garita de Mexicali II-Calexico East
- Garita de Los Algodones-Andrade

También se jerarquizaron un total de 68 proyectos de vialidades, 16 de accesos, y nueve de ferrocarril relacionados con las garitas. Las ilustraciones RE-1 – RE-8 muestran los proyectos de garitas y de transporte a mediano y largo plazo planeados para la región de Baja California-California. Se resumen los resultados principales en orden de prioridad de garita.

Mesa de Otay II-Otay Mesa East (Garita Nueva)

- Mesa de Otay II-Otay Mesa East es una garita nueva propuesta a ubicarse aproximadamente a dos millas [tres kilómetros] al oriente del cruce existente de Mesa de Otay-Otay Mesa, y atenderá a vehículos ligeros y comerciales. En los Estados Unidos se está procesando el permiso presidencial requerido; en México, este proyecto ya se encuentra en la fase de planeación avanzada. Se presentaron dos proyectos para la construcción de la garita, uno en los EE.UU. y el otro en México. Estos proyectos se jerarquizaron en primer y segundo lugar de los 11 proyectos de garita evaluados.

² Se presentaron proyectos de parte del Buró de Aduanas y Protección Fronteriza (CBP), con la anuencia de la Administración de Servicios Generales (GSA); la Secretaría de Infraestructura y Desarrollo Urbano (SIDUE) con la anuencia de la Secretaría de Comunicaciones y Transporte (SCT) y el Instituto de Administración y Avalúos de Bienes Nacionales (INDAABIN); y por el Departamento de Transportación del Estado de California (Caltrans).

³ La puerta de El Chaparral-Avenida Virginia está clausurada actualmente. Sin embargo, los proyectos para su reutilización fueron sometidos a evaluación en este Plan Maestro Fronterizo California-Baja California.

- Las calendarizaciones de los proyectos de los EE.UU. y de México en la garita nueva no parecen estar completamente coordinados, ya que el proyecto mexicano tiene fecha planeada de terminación en 2013, mientras que el de los EE.UU. en el 2014. En cuanto a vialidades, la Ruta Estatal 11 (SR 11), que conecta directamente a la garita, está ligada a la construcción de la garita y, por tanto, está programada para terminarse en 2014. En México, están planeadas dos vialidades nuevas de acceso a la garita: el Blvd. Internacional Otay II y el Blvd. Las Torres. Estas vialidades están programadas para estar listas en 2013 y 2014, respectivamente.

Garita de Puerta México-San Ysidro/El Chaparral/Virginia Avenue

- La garita de Puerta México-San Ysidro atiende a peatones y vehículos ligeros (incluyendo autobuses). No da servicio a tráfico comercial; sin embargo, una línea de ferrocarril cruza la frontera en este punto. La garita está abierta las 24 horas del día.
- Se presentó un proyecto para esta garita en los EE.UU. Se presentó como contraparte mexicana a este proyecto una propuesta de corto plazo, y no se jerarquizaron proyectos de corto plazo.
- El rediseño de la garita Puerta México-San Ysidro/Virginia-El Chaparral se está coordinando con México para invertir la dirección de los carriles⁴ que actualmente salen de EE.UU. hacia el norte ayudando a agilizar el tráfico entrante a los EE.UU. Algunos de estos carriles podrían equiparse con casetas de inspección doble; al tomar esto en cuenta, se espera que San Ysidro cuente con 50 carriles (o casetas de inspección) para vehículos ligeros, seis carriles SENTRI⁵, dos carriles para autobuses, y 12 peatonales. Parte de este proyecto incluye las obras viales necesarias para tener acceso al cruce fronterizo, incluyendo acceso de la Interestatal 5 (I-5) que pase por las instalaciones federales en Virginia Avenue. De los 11 proyectos jerarquizados por el TWG, este proyecto quedó en tercer lugar.
- Aun cuando la contraparte mexicana de este proyecto se presentó como proyecto de corto plazo, conviene una breve descripción para comprender plenamente la totalidad del rediseño de la garita. En la actualidad, vehículos ligeros entran a México por nueve carriles en la Puerta México. Como se describe anteriormente, estos carriles se reorientarán con dirección hacia los EE.UU. El tráfico vehicular entrante a México será procesado en El Chaparral/Virginia Avenue, ubicado justo al occidente de la garita existente de San Ysidro/Puerta México. El Chaparral contará con 15 carriles vehiculares (incluyendo tres para autobuses) entrando a México, y un carril de retorno a los EE.UU. El proyecto también contempla la construcción de áreas cubiertas para inspecciones vehiculares y de autobuses.

⁴ El término carril (Vg. carril para vehículos ligeros o carril peatonal) se utiliza alternativamente con caseta de inspección en este informe.

⁵ SENTRI, sigla para Secure Electronic Network for Travelers Rapid Inspection, es un programa para cruces fronterizos que permite el procesamiento acelerado por parte de Aduanas y Protección Fronteriza de EE.UU. de viajeros pre-aprobados y de bajo riesgo.

- Las calendarizaciones de los proyectos estadounidense y mexicano en la garita de Puerta México-San Ysidro/El Chaparral/Virginia Avenue no parecen estar completamente coordinadas, ya que la fecha anticipada de terminación del proyecto de EE.UU. es 2014, mientras que en México se anticipa para 2012. Sin embargo, queda entendido que la GSA podría adelantar la reconfiguración de las vialidades hacia El Chaparral/Virginia Avenue para empatar con la fecha prevista mexicana de 2012, sujeto a disponibilidad de fondos. Estos proyectos están calendarizados para terminarse en 2013 y 2014, uno a dos años después de la fecha programada de terminación de las obras mexicanas de la reconfiguración, pero coincidiendo con la fecha planeada de terminación de obra en EE.UU. En Tijuana se planea ampliar varias vialidades y construir puentes y rampas nuevas para atender el tráfico por la garita reconfigurada.

Garita de Mexicali-Calexico

- La garita de Mexicali-Calexico atiende tráfico peatonal y de vehículos ligeros. Opera las 24 horas del día. Desde que abrió la garita de Mexicali II-Calexico East en 1997, no ha habido tráfico comercial por este cruce; sin embargo, existe servicio ferroviario de carga que opera con regularidad.
- No se proporcionaron planes detallados de las configuraciones de carriles vehiculares y cambios propuestos por el lado mexicano, pero queda entendido que el gobierno federal hará mejoras a las instalaciones federales de inspección ubicadas en Mexicali y reconfigurará las vialidades en los terrenos federales para conectarlos a las instalaciones nuevas para vehículos ligeros en Calexico. Se jerarquizó en cuarto lugar el proyecto de mejoras a esta garita, de los 11 proyectos estudiados.
- Se propusieron dos proyectos para agilizar la congestión actual en la garita. En Calexico, se planea construir instalaciones nuevas en los terrenos comerciales vacantes (al occidente de las vías de ferrocarril) para procesar vehículos ligeros entrando a y saliendo de los EE.UU. Peatones y autobuses se procesarían en las instalaciones existentes. En la actualidad la garita de Calexico cuenta con diez carriles para vehículos ligeros, un carril SENTRI, uno para autobuses, y cuatro peatonales entrando a los EE.UU. El proyecto ampliaría la capacidad a 16 carriles para vehículos ligeros con la posibilidad de casetas de inspección doble (incluye dos SENTRI y uno para autobuses), y seis carriles peatonales. Este proyecto se jerarquizó quinto de los 11 evaluados.
- La planeación de la terminación de los proyectos estadounidense y mexicano en la garita de Mexicali-Calexico parece encontrarse debidamente coordinada. Las fechas de terminación de los proyectos empatan ya que se planea terminar los proyectos en ambos países en 2013. Las obras viales asociadas en los EE.UU. están diseñadas para atender el tráfico transfronterizo así como el crecimiento poblacional en las comunidades locales. En México, la construcción de nuevas vialidades y obras de mejoramiento de arterias existentes se enfocan a mejorar el flujo entre las garitas de Mexicali I y Mexicali II.

Garita de Mesa de Otay-Otay Mesa

- La garita de Mesa de Otay-Otay Mesa se inauguró en 1985 para tráfico vehicular ligero y comercial entrando a EE.UU., y vehicular ligero entrando a México. En 1994 comenzó a procesar tráfico

**PLAN MAESTRO FRONTERIZO
CALIFORNIA-BAJA CALIFORNIA**

comercial saliendo de los EE.UU. al clausurarse las operaciones en El Chaparral/Virginia Avenue. Se atiende tráfico peatonal, vehicular ligero (incluyendo autobuses) y comercial. Existen instalaciones separadas para vehículos ligeros y comerciales. El cruce para vehículos ligeros está abierto las 24 horas del día. Los patios para carga operan con horario reducido.

- Se presentaron dos proyectos del lado estadounidense para agilizar el tráfico vehicular ligero y comercial mediante un aumento en el número de carriles de inspección. En la actualidad hay 12 carriles de inspección comercial y 13 para vehículos ligeros. El número de carriles adicionales operando para el 2030 depende del resultado de un estudio de factibilidad. Se jerarquizó en sexto lugar el proyecto correspondiente a las instalaciones comerciales, y el proyecto para vehículos ligeros octavo. Estos proyectos se encuentran en la fase conceptual de planeación. No se proporcionaron costos ni fechas estimadas de terminación. (Nótese que, aunque estos proyectos se evaluaron por separado por razones técnicas en el diseño de los criterios de evaluación, el CBP considera el aumento en el número de carriles para vehículos ligeros y comerciales como un solo proyecto.)
- Las mejoras a las instalaciones de vehículos ligeros y comerciales en la garita de Mesa de Otay-Otay Mesa ayudarán a mejorar las eficiencias operativas. No se proporcionaron detalles específicos de fechas, número de carriles y/o otras mejoras ya que está pendiente de concluir el estudio de factibilidad. (No se había completado el estudio de factibilidad al momento de presentar los proyectos.) Existen oportunidades para una mayor coordinación y alineamiento en la medida que se determinen más detalles de los proyectos. Las obras viales asociadas en los EE.UU. están diseñadas para atender el tráfico transfronterizo, así como el crecimiento poblacional en las comunidades locales. Incluyen la ampliación de las Rutas Estatales SR 905 y SR 125, mejoras a puentes y arterias locales, y un proyecto nuevo de transporte urbano (*Bus Rapid Transit*) para pasajeros entre la zona de Otay Mesa y el norte de la Ciudad de San Diego. En México, la construcción de nuevas vialidades y obras de mejoramiento de arterias existentes se enfocan a mejorar el flujo entre la garita de Mesa de Otay y la garita propuesta de Mesa de Otay II. Estos proyectos contribuirán capacidad para atender el crecimiento poblacional futuro de la comunidad local, además de agilizar el tráfico transfronterizo.

Garita de Tecate-Tecate

- La garita de Tecate-Tecate abrió en 1932. Maneja tráfico peatonal, vehicular ligero y comercial, y ferroviario (el ferrocarril cruza en Campo, al oriente del cruce fronterizo). La garita para vehículos ligeros está abierta de 6:00 a 24:00 horas para tráfico entrando a EE.UU., y de 5:00 a 23:00 horas para tráfico con rumbo a México. Los patios para carga operan con horario reducido.
- Se presentó un proyecto para construir instalaciones para vehículos de carga en la garita de Tecate, Baja California, con el fin de mejorar el flujo de tráfico comercial. Proyectos potenciales a largo plazo, como por ejemplo un desarrollo adicional del puerto marítimo de Ensenada, tienen el potencial de afectar el tráfico de carga en el cruce fronterizo Tecate-Tecate. La ampliación de las instalaciones de carga mexicanas está programada para terminarse en 2013. No se presentó ningún proyecto a mediano o a largo plazo del lado estadounidense, ya que en 2005 se completó una modernización y ampliación mayor de la estación fronteriza estadounidense, y están programadas para terminarse en

2008 las nuevas instalaciones de inspección de vehículos comerciales de la Patrulla de Carreteras de California (*California Highway Patrol's Commercial Vehicle Enforcement Facility*).

- Se propusieron dos proyectos ferroviarios (ambos en etapa de planeación conceptual) para modernizar e incorporar vía doble en la Línea del Desierto (*Desert Line*) para incrementar el potencial de mercado de esta ruta para el movimiento internacional e interestatal de bienes. En México se planean una vialidad nueva y dos obras de mejoramiento para facilitar el tráfico hacia y desde la garita. La vialidad nueva, el Blvd. Defensores, está programada para terminarse en 2015. Sin embargo, SIDUE anticipa que podría inaugurarse mucho antes para alinearlos mejor con las obras de la garita.

Garita de Mexicali II-Calexico East

- La garita de Mexicali II-Calexico East se terminó de construir en 1997. Atiende tráfico peatonal, vehicular ligero y comercial. La garita para vehículos ligeros está abierta de 6:00 a 22:00 horas para tráfico entrando a EE.UU., y de 4:00 a 22:00 horas para tráfico con rumbo a México. En otoño e invierno, la garita comienza a operar a las 4:00 para atender a la industria agrícola.
- Se presentó un proyecto para mejorar el flujo vehicular en la garita de Mexicali II-Calexico East del lado estadounidense mediante un aumento en el número de carriles para vehículos ligeros en las instalaciones existentes. En estos momentos, en el Condado de Imperial se cuenta con ocho carriles de vehículos ligeros, un carril SENTRI, uno para autobuses, y cuatro peatonales. El proyecto aumentaría el número de carriles vehiculares ligeros a 12. No se proponen cambios en el número de carriles para autobuses. Este proyecto se encuentra en la fase de planeación conceptual, y no se proporcionaron estimaciones de costos ni de fecha de terminación de obra. Se jerarquizó este proyecto noveno de los once evaluados.⁶ No se presentaron proyectos para la garita del lado mexicano.
- El proyecto de aumento de carriles se encuentra en la fase de planeación conceptual y no se proporcionó fecha de terminación de obra. Las obras viales correspondientes del lado estadounidense están concebidas para incrementar la capacidad global y atender el desarrollo y crecimiento poblacional de la región fronteriza a futuro. En México, la construcción de nuevas vialidades y obras de mejoramiento de arterias existentes se enfocan a mejorar el flujo entre las garitas de Mexicali I y Mexicali II, y se estima terminar las obras en 2015.

Garita de Los Algodones-Andrade

- La garita de Los Algodones-Andrade se terminó de construir en 1970 y atiende a peatones, vehículos ligeros y, en menor grado, vehículos comerciales. Ubicada en el Condado de Imperial y al oriente de Mexicali, la garita está abierta de 6:00 a 22:00 en ambas direcciones.

⁶ Desde que el análisis técnico conducido para el Plan Maestro Fronterizo Baja California-California, Caltrans/IVAG lanzaron un informe comprensivo sobre la ampliación futura de esta garita. Esta nueva información se podrá incorporar en actualizaciones futuras.

**PLAN MAESTRO FRONTERIZO
CALIFORNIA-BAJA CALIFORNIA**

- Se presentaron dos proyectos para esta garita. La garita de Andrade en el Condado de Imperial cuenta con dos carriles para vehículos ligeros, dos peatonales, y uno comercial de manera informal. Los planes para esta garita consisten en dirigir el tráfico vehicular a la garita en Arizona y convertir la garita de Andrade-Algodones en peatonal exclusivamente. No se proporcionó información detallada del proyecto del lado mexicano. Esta garita es de importancia turística, especialmente para visitantes en invierno quienes visitan la zona y típicamente cruzan a pie. Se jerarquizaron estos proyectos en 10º y 11º lugar.
- Los proyectos de la garita de Los Algodones-Andrade se encuentran en la fase de planeación conceptual. No se proporcionó información detallada ni estimaciones de costos o fechas. Tampoco se presentaron proyectos de infraestructura de transporte para esta garita. Existen oportunidades para una mayor coordinación y alineamiento en la medida que se definan detalles de los proyectos.

Recomendaciones

- Se recomienda tomar en cuenta el Plan Maestro Fronterizo California-Baja California como un marco conceptual para jerarquizar proyectos de infraestructura, y mejorar la coordinación de planeación e instrumentación de garitas y la correspondiente infraestructura de transporte en ambos lados de la frontera entre Baja California y California.
- Asimismo, considerar el uso de las listas jerarquizadas de proyectos Baja California-California para competir por fuentes de financiamiento tales como la reautorización de la ley federal de transporte de los EE.UU., fuentes federales de financiamiento en México, programas futuros de financiamiento estatal o mediante obligaciones, y fondos locales y del sector privado.
- Por último, usar las listas jerarquizadas de proyectos Baja California-California para seguir un enfoque sistemático y ordenado en la instrumentación de proyectos binacionales.

Institucionalización del Proceso del Plan Maestro Fronterizo California-Baja California

Un objetivo importante del Plan Maestro Fronterizo California-Baja California consiste en establecer un proceso que institucionalice el diálogo entre actores locales, estatales, regionales y federales en los EE.UU. y México, para identificar necesidades futuras de garitas y la infraestructura de transporte correspondiente, y coordinar proyectos. En el PAC del Plan Maestro Fronterizo California-Baja California se analizó como lograr este objetivo de manera constante para establecer un proceso de planeación maestra binacional en la frontera entre Baja California y California.

Recomendaciones

Actualizaciones Periódicas: ¿Quién actualizará el Plan Maestro Fronterizo?

- Caltrans y SIDUE lideran los esfuerzos para establecer un calendario o ciclo de actualizaciones periódicas del Plan Maestro Fronterizo California-Baja California, para solicitar financiamientos y para marcar la pauta en cuanto a las actualizaciones, conjuntamente con el CCT EE.UU/México y los actores interesados en el Plan Maestro Fronterizo California-Baja California.

Los integrantes del PAC del Plan Maestro Fronterizo California-Baja California expresaron su preferencia por tener un equipo de consultores que coordine las actualizaciones futuras, de manera similar al marco que se utilizó al desarrollar el Plan Maestro Fronterizo California-Baja California actual.

Frecuencia y Contenido de las Actualizaciones: ¿Cuándo se llevarán a cabo las actualizaciones del Plan Maestro Fronterizo, y cuáles elementos del Plan se actualizarán?

- La calendarización de las actualizaciones del Plan Maestro Fronterizo California-Baja California deberá tomar en cuenta los ciclos de las administraciones de los EE.UU. y de México.
- Dependiendo de la disponibilidad de fondos, se llevarían a cabo revisiones a fondo del Plan Maestro Fronterizo California-Baja California cada tres o cuatro años para:
 - ▶ Establecer un año base nuevo y actualizar los datos del año base, incluyendo tiempos de demora en el cruce transfronterizo (en la actualidad se tienen datos del 2005)
 - ▶ Establecer un nuevo horizonte de planeación (en la actualidad se maneja el 2030)
 - ▶ Revisar los límites del área de estudio para incorporar proyectos planeados de importancia de garitas o transporte
 - ▶ Incorporar proyecciones actualizadas de año horizonte, como son datos socioeconómicos, demanda de tráfico transfronterizo, etc.
 - ▶ Incorporar planes actualizados de garitas
 - ▶ Incorporar planes actualizados de transporte
 - ▶ Utilizar mapas en base a sistemas de información geográfica (GIS) binacionales (en desarrollo)
- Caltrans y SIDUE liderarían los esfuerzos para llevar a cabo una actualización técnica anual del Plan Maestro Fronterizo California-Baja California, para permitir a las dependencias involucradas incorporar información sobre nuevos proyectos planeados, cambios a proyectos previamente presentados, y reportar sobre proyectos terminados.

Institucionalización del Diálogo – ¿Cómo continuará el Proceso de Planeación Maestra Fronteriza?

- El Comité Consejero de Reglamentos/Políticas del Plan Maestro Fronterizo California-Baja California se reuniría una vez al año, o con mayor frecuencia de ser necesario, para aportar

**PLAN MAESTRO FRONTERIZO
CALIFORNIA-BAJA CALIFORNIA**

dirección sobre la actualización anual del Plan Maestro Fronterizo California-Baja California y también de actualizaciones a fondo en el futuro.

- Apoyarse a todo lo largo de la frontera en el CCT EE.UU./México y el Grupo Binacional México-EE.UU. de Puentes y Cruces Fronterizos, para compartir información sobre el estado que guarda el Plan Maestro Fronterizo California-Baja California.
- En Baja California-California, apoyarse en las Comisiones Técnicas del Mecanismo de Enlace Fronterizo (*BLM*) para mantener abiertas las líneas de comunicación entre dependencias federales, estatales y locales que tienen la responsabilidad de planear e instrumentar las garitas y las correspondientes instalaciones de transporte.
- SIDUE y Caltrans reportarían sobre el monitoreo y la instrumentación del Plan Maestro Fronterizo California-Baja California en reuniones del CCT EE.UU./México, el Grupo Binacional México-EE.UU. de Puentes y Cruces Fronterizos y las Comisiones Técnicas del BLM.
- La Conferencia de Gobernadores Fronterizos de los Estados Unidos y México también podría ser un foro para institucionalizar el Plan Maestro Fronterizo California-Baja California. La Conferencia de Gobernadores Fronterizos es un foro de cooperación y deliberación entre los diez estados fronterizos de los Estados Unidos y México (Arizona, California, Nuevo México, Texas, Baja California, Chihuahua, Coahuila, Nuevo León, Sonora, y Tamaulipas). SIDUE y Caltrans podrían reportar sobre el Plan Maestro Fronterizo California-Baja California en las conferencias anuales.

Representantes de cada uno de los diez estados mencionados participan en mesas de trabajo para desarrollar soluciones a objetivos comunes mediante un enfoque de consenso. La Mesa de Trabajo de Logística y Cruces Internacionales “apoya una comunicación, coordinación y la construcción de consensos más amplios entre los diez estados Fronterizos, promoviendo la inversión en infraestructura moderna y eficiente en las garitas, para mejorar la seguridad y fortalecer el intercambio comercial.”

En agosto del 2008, en su Declaratoria Conjunta, la XXVI Conferencia de Gobernadores Fronterizos adoptó la siguiente recomendación en materia de Logística y Cruces Internacionales:

“Reducir substancialmente los tiempos de espera en cruces fronterizos para el año 2013, y completar los planes maestros binacionales entre los diez estados fronterizos en un plazo no mayor a tres años. Solicitar a ambos gobiernos federales incorporar estos planes en un Plan Maestro Fronterizo EE.UU.-México para la XXXI Conferencia de Gobernadores Fronterizos en 2013.”

En conferencia futuras, representantes de California y Baja California podrían presentar una recomendación a la Mesa de Trabajo de Logística y Cruces Internacionales de apoyar actualizaciones al Plan Maestro Fronterizo California-Baja California en la medida que se desarrollan los demás Planes Maestros Fronterizos Regionales.

SUGERENCIAS A CONSIDERAR EN ACTIVIDADES FUTURAS DE PLANEACIÓN MAESTRA FRONTERIZA CALIFORNIA- BAJA CALIFORNIA

Basados en los objetivos primordiales del Plan Maestro Fronterizo California-Baja California, el Buró de Servicio de SANDAG ofrece las siguientes ideas para consideración en actividades futuras de Planeación Maestra Fronteriza California-Baja California, a raíz de lo aprendido en el desarrollo de este proyecto piloto.

Desarrollo del Estudio

- Tomar en cuenta los ciclos de las administraciones de los EE.UU. y de México en los tres niveles de gobierno al establecer las actualizaciones técnicas anuales y las actualizaciones a fondo del Plan Maestro Fronterizo California-Baja California. Transiciones en el liderazgo y personal en las diferentes dependencias resultan en demoras no anticipadas debido a cambios de personal y prioridades.
- Reafirmar la participación de administradores de nivel ejecutivo en la toma de decisiones en el PAC del Plan Maestro Fronterizo California-Baja California, así como las prácticas efectivas de comunicación entre integrantes del PAC y del TWG que permitieron un flujo eficiente de información y toma de decisiones durante el desarrollo de este proyecto piloto.
- Considerar la posibilidad de lograr compromisos por parte del PAC del Plan Maestro Fronterizo California-Baja California de dedicar suficientes recursos de personal para el trabajo técnico, de tal forma que se asegure que las actualizaciones del plan se lleven a cabo de manera oportuna (Vg., proporcionando información y revisando borradores de documentos).
- Proporcionar la participación consistente de los integrantes del PAC en momentos claves de toma de decisiones, para lograr consistencia a todo lo largo del proceso binacional de planeación.
- En el caso de las actualizaciones técnicas anuales en el futuro, convenir el TWG del Plan Maestro Fronterizo California-Baja California para considerar la necesidad de reevaluar proyectos y jerarquizaciones y, en su caso, revisar y comentar sobre los resultados de las jerarquizaciones actualizadas de proyectos, antes de presentar las actualizaciones al PAC del Plan Maestro Fronterizo California-Baja California para su aprobación.
- En el caso de actualizaciones futuras, considerar un presupuesto adecuado para la traducción de documentos e interpretación simultánea en reuniones del TWG y del PAC.
- Incluir profesionales tanto de Baja California como de California en el equipo consultivo responsabilizado de las actualizaciones, para facilitar la coordinación y recopilación de datos con dependencias de ambos lados de la frontera California-Baja California.

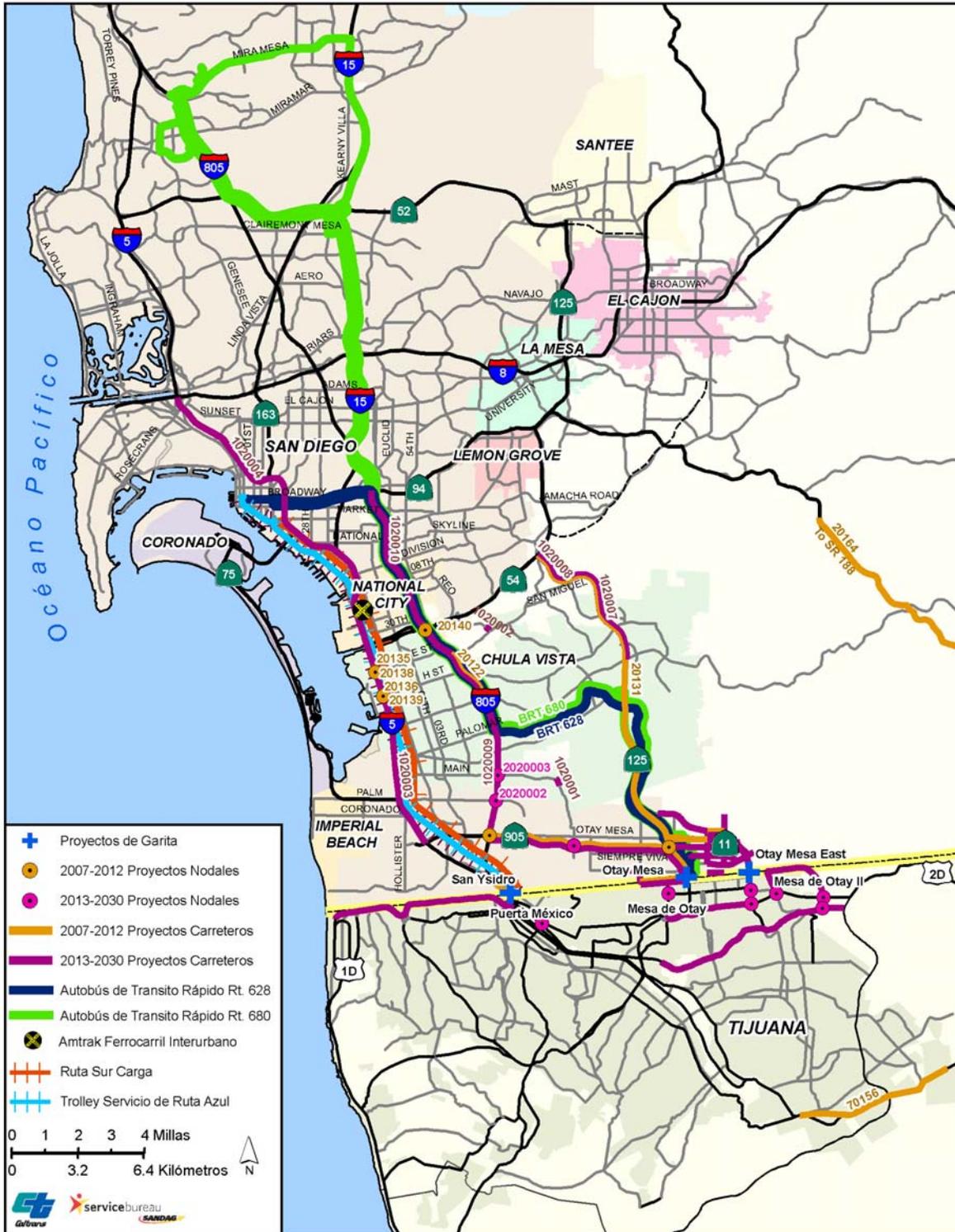
Información Requerida

- Al formular y llevar a cabo actividades de recopilación de información, considerar la inclusión de indicadores que forman parte de los criterios de evaluación del Plan Maestro Fronterizo California-Baja California, para asegurar que la información sea fácilmente disponible en ambos lados de la frontera y que se pueda acceder a ella de manera oportuna.
- Continuar la colaboración mediante el Intercambio entre Pronosticadores Fronterizos EE.UU.-México, subproducto del Plan Maestro Fronterizo California-Baja California y patrocinado por la Administración Federal de Carreteras de los EE.UU., para armonizar y compartir información sobre metodologías de recopilación de datos y de pronóstico de los cruces transfronterizos (por medio de transporte), así como de cualquier otra información relacionada con el transporte transfronterizo, como por ejemplo tiempos de espera.

CONCLUSIONES

El desarrollo de una nueva garita, o mejoras a una garita existente y las instalaciones de transporte correspondientes, es una tarea compleja y tardada que requiere de coordinación y colaboración estrechas con dependencias gubernamentales en ambos lados de la frontera. El proceso del Plan Maestro Fronterizo California-Baja California es una herramienta nueva que puede utilizarse para jerarquizar proyectos de infraestructura y mejorar la coordinación de planeación e instrumentación de proyectos de garitas y de transporte tanto en los EE.UU. como en México. Un enfoque integral ayuda a dependencias tanto en Baja California como California terminar los proyectos necesarios de manera que eficientemente facilite el comercio internacional y mejore la calidad de vida de los habitantes de la región fronteriza. El enfoque California-Baja California podría ampliarse y adaptarse a otros estados fronterizos atendiendo sus necesidades, dando como resultado un proceso de planeación maestra coordinado para toda la frontera México-EE.UU.

Ilustración RE-1
Plan Maestro Fronterizo California-Baja California
Proyectos del Condado de San Diego – Municipio de Tijuana (2007-2030)



PLAN MAESTRO FRONTERIZO
CALIFORNIA-BAJA CALIFORNIA

Ilustración RE-2
Plan Maestro Fronterizo California-Baja California
Proyectos del Condado de San Diego – Municipio de Tijuana (2007-2030) – Mapa Enfocado

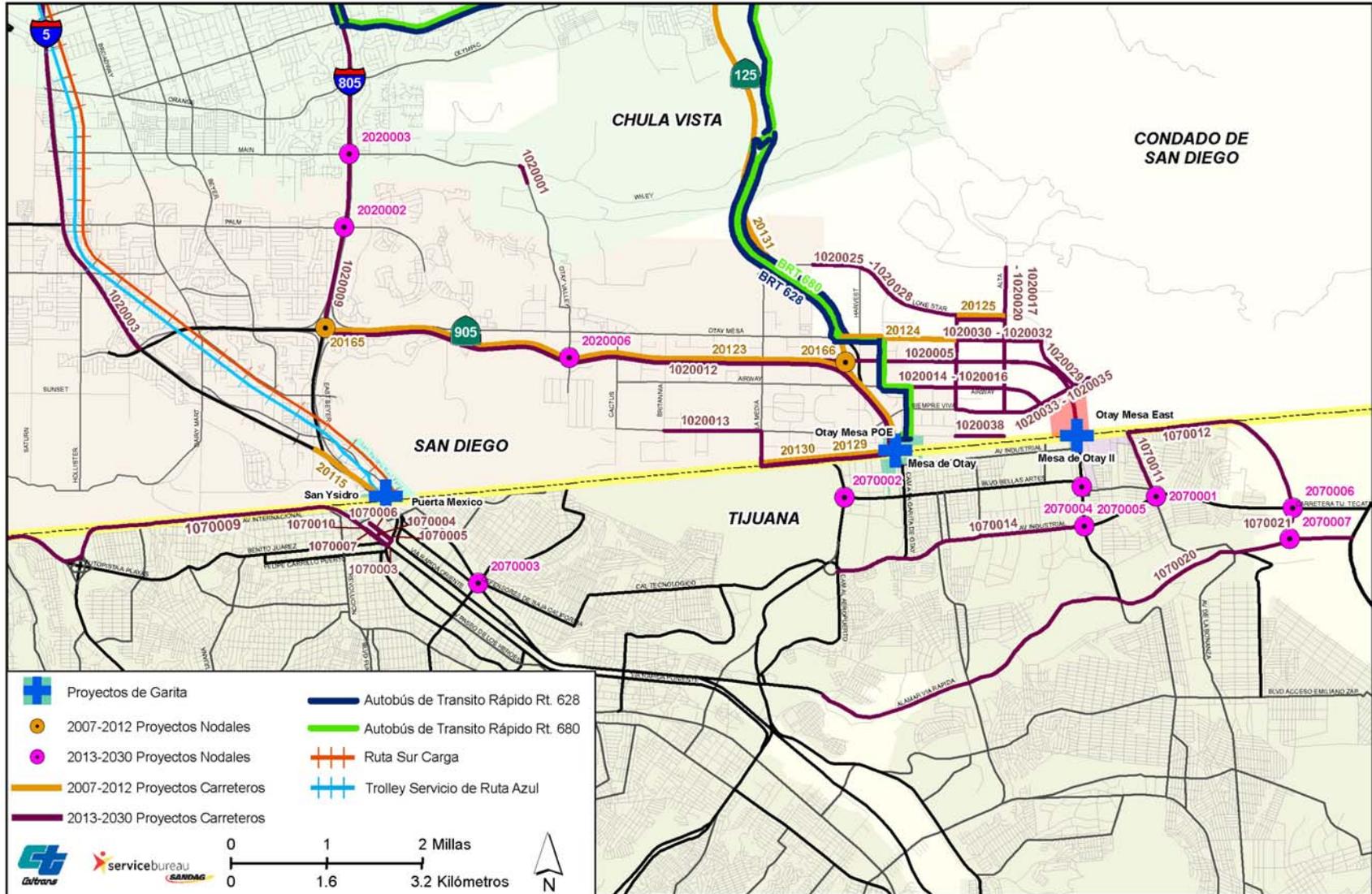


Ilustración RE-3
Plan Maestro Fronterizo California-Baja California
Proyectos de Tecate (2007-2030)

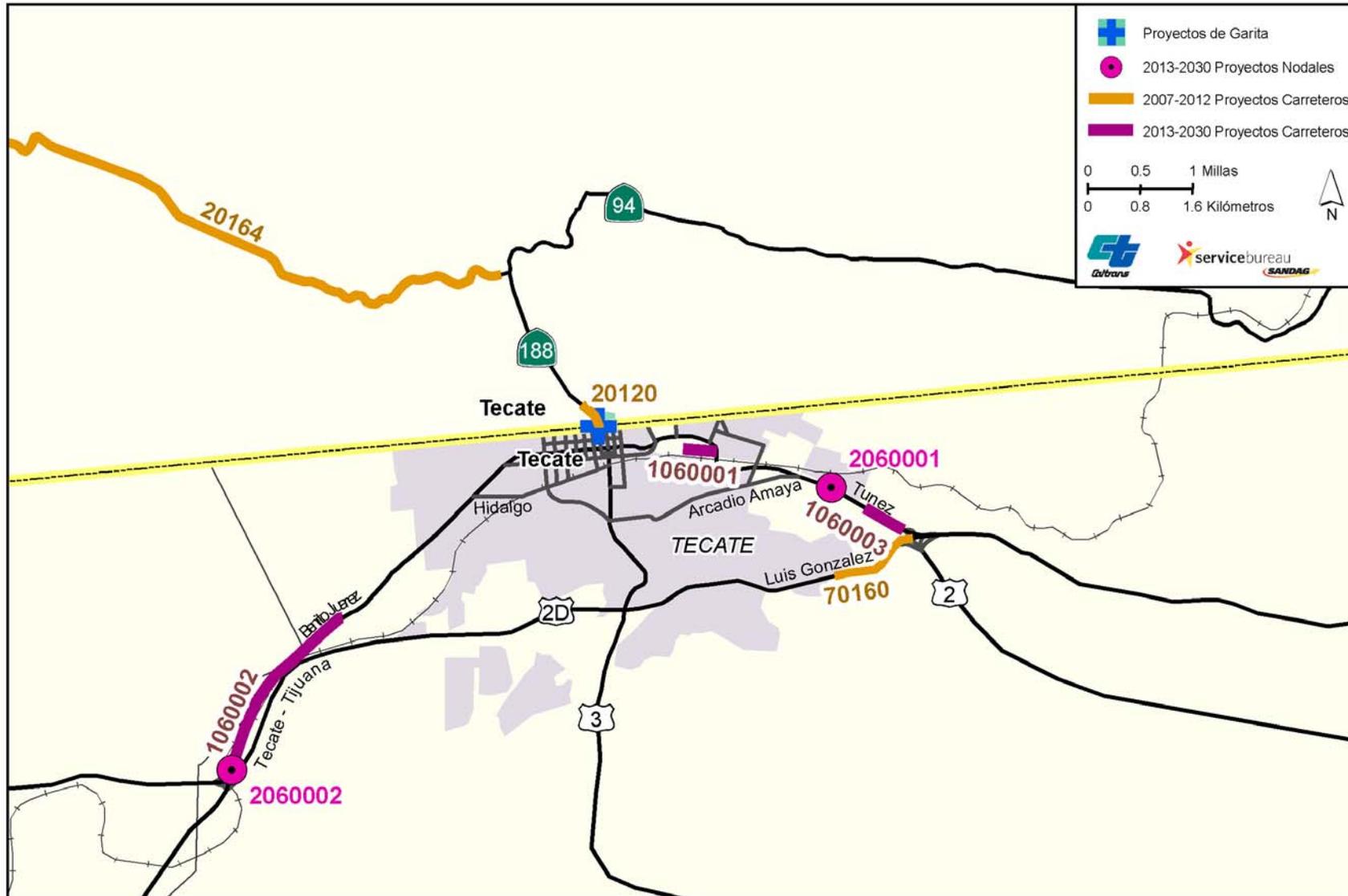


Ilustración RE-4
Plan Maestro Fronterizo California-Baja California
Proyectos de Ferrocarril – Ruta del Desierto (2007-2030)

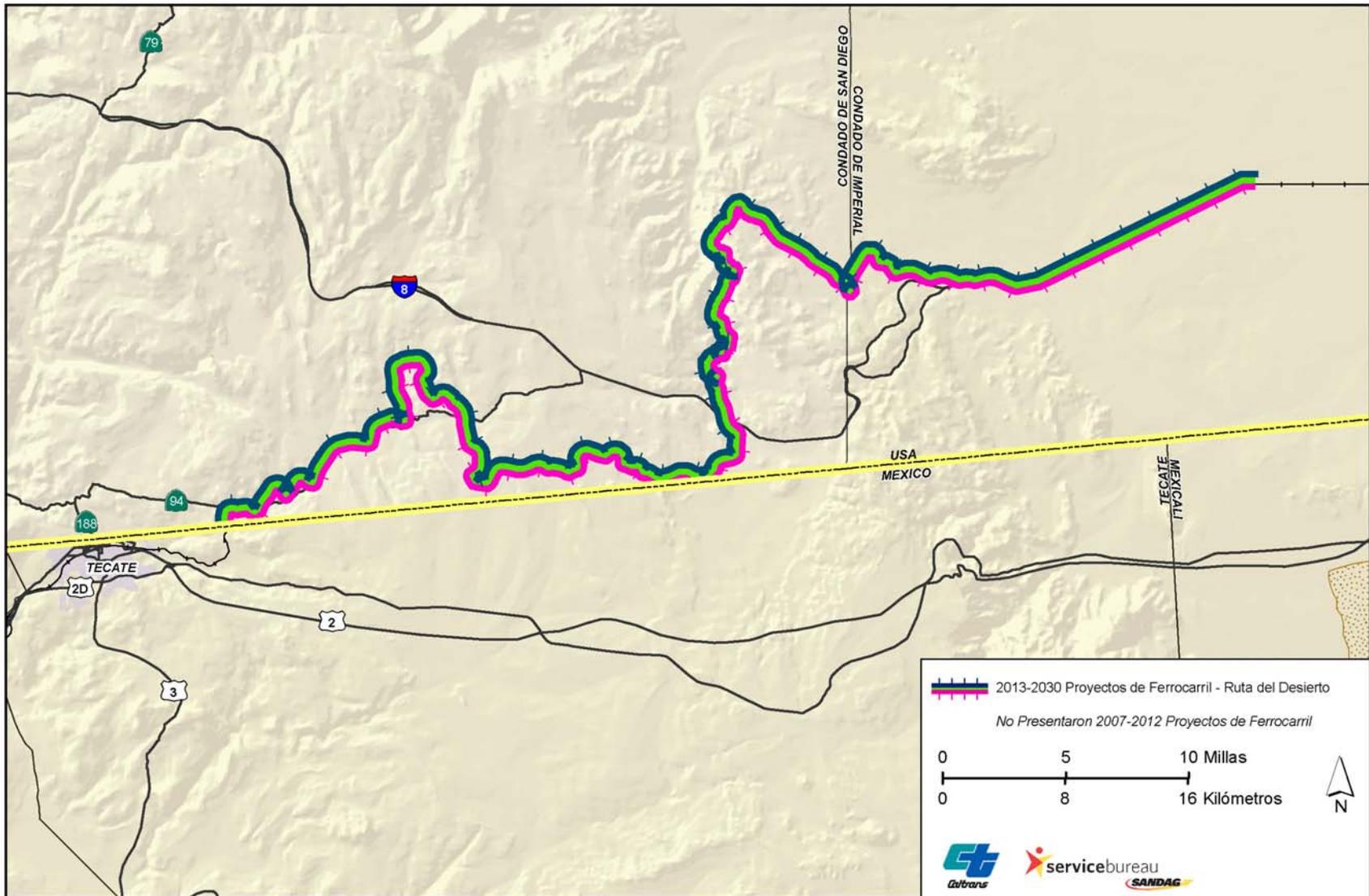


Ilustración RE-5
Plan Maestro Fronterizo California-Baja California
Lista de Proyectos del Condado de San Diego – Municipios de Tijuana y Tecate (2007-2030)

2007 – 2012 PROYECTOS CARRETEROS

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
20115:	I-5/I-805: Modificar acceso a la garita desde Willow Road
20120:	SR 188: Carriles de desfogue para camiones
20122:	I-805: Dispositivos de señales de trafico y carriles de desfogue para vehículos de alta ocupación de Telegraph Canyon a Bonita Road
20123:	Autopista SR 905: del I-805 a México
20124:	Ensanchar de Otay Mesa Road: de SR 125 a Enrico Fermi Drive
20125:	Lone Star Road: de Alta Road a 0.5 millas al Oeste
20129:	Ruta de camiones de Otay: de la Garita de Otay Mesa a Drucker Lane
20130:	Ampliación de ruta de camiones de Otay: de Drucker Lane a La Media
20131:	SR 125 Peaje: Conector de SR 905 a SR 54
20164:	SR 94: Mejoras de operación de Melody Road a SR 188

Proyectos de Tijuana/Tecate

No. de Proyecto	Descripción
70156:	Carretera Tijuana-Tecate: Ampliación de El Florido a Toyota
70160:	Carretera Mexicali-Tecate: Ampliación

2013 – 2030 PROYECTOS CARRETEROS

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
1020001:	Puente Heritage Road: de Main Street al Sur del Río de Otay
1020002:	Puente Willow Street: de Sweetwater Road a Bonita Road
1020003:	I-5: 2 Carriles para vehículos de alta ocupación de SR 905 a SR 54
1020004:	I-5: 2 Carriles para vehículos de alta ocupación SR 54 a I-8
1020005:	SR 11: 4 Carriles de peaje de SR 905 a México.
1020007:	SR 125: 4 Carriles de peaje de Telegraph Canyon a San Miguel Road
1020008:	SR 125: 4 Carriles de peaje de San Miguel Road a SR 54
1020009:	I-805: 4 Carriles Controlados de SR 905 a Palomar Street
1020010:	I-805: 4 Carriles Controlados de Palomar Street a SR 54
1020012:	SR 905: 2 Carriles generales de I-805 a México
1020013:	Otay Mesa ruta de camiones hacia el Sur: Ampliación y realineamiento de Britannia Blvd. a la Garita de Otay Mesa
1020014:	Arteria Airway Road: de la Ciudad de San Diego a Enrico Fermi Drive
1020015:	Arteria Airway Road: de Enrico Fermi Drive a Alta Road
1020016:	Arteria Airway Road: de Alta Road a Loop Road
1020017:	Arteria Alta Road: de Old Otay Mesa Road a Prisión Estatal Donovan
1020018:	Arteria Alta Road: de Lone Star Road a Otay Mesa Road

Ilustración RE-5 (Continuación)
Plan Maestro Fronterizo California-Baja California
Lista de Proyectos del Condado de San Diego – Municipios de Tijuana y Tecate (2007-2030)

2013 – 2030 PROYECTOS CARRETEROS (CONTINUACIÓN)

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
1020019:	Arteria Alta Road: de Otay Mesa Road a Airway Road
1020020:	Arteria Alta Road: de Airway Road a Siempre Viva Road
1020021:	Enrico Fermi Drive: Mejorar arteria de Lone Star Road a Otay Mesa Road
1020022:	Enrico Fermi Drive: Mejorar arteria de SR 11 a Airway Road
1020024:	Enrico Fermi Drive: Arteria de Airway Road a Siempre Viva Road
1020025:	Arteria Lone Star Road: de Piper Ranch a Sunroad Boulevard
1020026:	Arteria Lone Star Road: de Sunroad Boulevard a Vann Center Boulevard
1020027:	Arteria Lone Star Road: de Vann Center Boulevard a Enrico Fermi Drive
1020028:	Arteria Lone Star Road: de Enrico Fermi Drive a Alta Road
1020029:	Arteria Lone Star Road: de Otay Mesa Road a Siempre Viva Road
1020030:	Arteria Otay Mesa Road: de Sanyo Road a Enrico Fermi Drive
1020031:	Arteria Otay Mesa Road: de Enrico Fermi Drive a Alta Road
1020032:	Arteria Otay Mesa Road: de Alta Road a Loop Road
1020033:	Arteria Siempre Viva Road: de la Ciudad de San Diego a Alta Road
1020034:	Arteria Siempre Viva Road: de Alta Road a Loop Road
1020035:	Arteria Siempre Viva Road: de Loop Road a Rogue Road
1020038:	Colector Vía de la Amistad: de la Ciudad de San Diego/Enrico Fermi Drive a Alta Road

Proyectos de Tijuana/Tecate

No. de Proyecto	Descripción
1070003:	Puente un solo carril sobre canalización del Río Tijuana: de Vía Rápida Oriente a Vía Rápida Poniente
1070004:	Dos carriles del puente sobre canalización del Río Tijuana: de Vía Rápida Oriente a Vía Rápida Poniente
1070005:	Ampliación de Vía Rápida Oriente: del puente peatonal al puente México
1070006:	Rampa en la corona oriental del canalización del Río Tijuana
1070007:	Rampa en la corona poniente del canalización del Río Tijuana
1070008:	Avenida Internacional Oriente: de Calle Silvestre Revueltas a Calle 12 Norte
1070009:	Double nivel de Avenida Internacional Poniente: de Vía Rápida Oriente a acceso para Playas de Tijuana
1070010:	Incorporación de Avenida Internacional Poniente de la Vía Rápida
1070011:	Boulevard Las Torres: de la autopista Tijuana-Tecate a Boulevard Internacional Otay II
1070012:	Boulevard Internacional Otay II: de la Garita de Otay II a la autopista de peaje Tijuana-Tecate
1070014:	Boulevard Industrial: de camino de acceso a aeropuerto a Boulevard Terán
1070020:	Vía Rápida Alamar: de estación central de autobuses a Boulevard Tijuana-Rosarito 2000
1070021:	Boulevard Internacional Otay II: de autopista de peaje Tijuana-Tecate a Alamar
1060001:	Boulevard Defensores: de Mixcoac Street a la autopista Tecate-Tijuana
1060002:	Autopista Tecate-Tijuana: de Rancho La Puerta a nodo Paso el Aguila
1060003:	Autopista Tecate-Tijuana: de Rancho Santa Lucia a San José

Ilustración RE-5 (Continuación)
Plan Maestro Fronterizo California-Baja California
Lista de Proyectos del Condado de San Diego – Municipios de Tijuana y Tecate (2007-2030)

2013 – 2030 PROYECTOS DE FERROCARRIL

Proyectos del Condado de San Diego

No. de Proyecto	Descripción	
3020001:	Ruta Sur de Carga: Apartadores, pases, conexión con México, rehabilitación de ruta Coronado, estación de ferrocarril San Ysidro	
3020004:	Ruta Desierto: Servicios Básicos (carga)	
3020005:	Ruta Desierto: Modernización (carga)	
3020017:	Ruta Desierto: Carril doble (carga)	
3020018:	Servicio de tren ligero ruta azul: Incrementar frecuencia del servicio de ruta azul	
3020003:	Estación de ferrocarril interurbano de Amtrak	

● 2007 – 2012 PROYECTOS NODALES

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
20135:	I-5 y "E" Street. Mejores a intersección
20136:	I-5 y "H" Street. Mejores a intersección
20138:	I-5 y "E" Street. Mejoras a nodo
20139:	I-5 y "H" Street. Mejoras a nodo
20165:	SR 905 y I-805. Mejoras a nodo
20166:	SR 905 y SR 125. Construcción de nodo

● 2013 – 2030 PROYECTOS NODALES

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
2020001:	I-5 del Norte de SR 54 a puente "J" Street. Mejoras de nodo nuevas estructuras (no mostrado)
2020002:	Puente I-805/Palm Ave. Modificar nodo
2020003:	Paso a desnivel I-805-Main Street/Auto Park Dr. Modificar nodo
2020006:	Nodo (Fase 4) SR 905/ Heritage Rd. Construcción de nodo

Ilustración RE-5 (Continuación)
Plan Maestro Fronterizo California-Baja California
Lista de Proyectos del Condado de San Diego – Municipios de Tijuana y Tecate (2007-2030)

 **2013 – 2030 PROYECTOS NODALES (CONTINUACIÓN)**

Proyectos de Tijuana/ Tecate

No. de Proyecto	Descripción
2070001:	Puente y nodo sobre la autopista de peaje Tijuana -- Tecate con acceso a Blvd. Las Torres
2070002:	Nodo Aeropuerto -Bellas Artes -- Construcción de nodo Aeropuerto-Bellas Artes con acceso a la Garita de Otay
2070003:	Nodo Cuauhtemoc-Padre Kino -- Construcción de nodo Cuauhtemoc-Padre Kino
2070004:	Nodo Bellas Artes-Magisterial -- Construcción de nodo Bellas Artes--Magisterial con acceso a la Garita de Otay II
2070005:	Nodo Avenida Industrial-Terán Terán -- Optimización de intersección-Terán Terán
2070006:	Nodo Boulevard Internacional Otay II -- autopista de peaje Tijuana-Tecate
2070007:	Nodo Boulevard Internacional Otay II y Alamar -- Construcción de nodo en Blvd. Internacional Otay II y Alamar
2060001:	Nodo Autopista Tecate-Mexicali y Boulevard Las Torres -- Nodo de autopista
2060002:	Nodo de autopista y la autopista de peaje Tecate-Tijuana -- Terminación de intersección y carretera

 **2007 – 2012 PROYECTOS DE AUTOBÚS DE TRANSITO RÁPIDO**

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
20127:	South Bay autobús de transito rápido ruta 628 -- Otay Ranch a centro de San Diego

 **2013 – 2030 PROYECTOS DE AUTOBÚS DE TRANSITO RÁPIDO**

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
3020002:	Autobús de transito rápido ruta 680: Otay Mesa a Sorrento Mesa

 **2007 – 2012 PROYECTOS DE GARITAS**

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
20126:	Garita de San Ysidro: Estacionamiento de bicicletas en la frontera
20176:	Garita de San Ysidro: Proyecto piloto de casetas de inspección Tandem
20177:	Garita de San Ysidro: Expansión del carril SENTRI
20178:	Garita de San Ysidro: Mejoras a inspección secundaria

Ilustración RE-5 (Continuación)
Plan Maestro Fronterizo California-Baja California
Lista de Proyectos del Condado de San Diego – Municipios de Tijuana y Tecate (2007-2030)



2007 – 2012 PROYECTOS DE GARITAS (CONTINUACIÓN)

Proyectos del Condado de San Diego (Continuación)

20179:	Garita de San Ysidro: Mejoras a señalamientos
20180:	Garita de San Ysidro: Inspección de pasajeros de autobús
20181:	Garita de Otay Mesa: Expansión del carril SENTRI
20182:	Garita de Otay Mesa: Expansión del carril FAST
20183:	Garita de Otay Mesa: Estudio de Factibilidad Otay Mesa
20185:	Garita de Otay Mesa: Plan Maestro de la Garita de Otay Mesa
20184:	Garita de Otay Mesa Este: Plan Maestro de la Garita de Otay Mesa Este
20119:	Garita de Tecate: Instalaciones de inspección para CHP
20186:	Garita de Tecate: Instalaciones de inspección de ferrocarril
20187:	Garita de Tecate: Nuevas instalaciones de CHP

Proyectos del Municipio Tijuana/ Tecate

No. de Proyecto	Descripción
70157:	Garita Mesa de Otay: Expansión de carriles para tractocamiones
70158:	Garita Mesa de Otay II : Estudio de factibilidad
70196/197:	Garita Puerta México-El Chaparral: Reconfiguración
70159:	Garita de Tecate: Adquisición de terrenos



2013 – 2030 PROYECTOS DE GARITAS

Proyectos del Condado de San Diego

No. de Proyecto	Descripción
4020001:	Garita de Otay Mesa Este: Construcción de la nueva garita
4020003:	Garita de San Ysidro: Rediseño de la garita
4020004:	Modernización de la garita de Otay Mesa: Carriles adicionales de peatones
4020005:	Modernización de la garita de Otay Mesa: Carriles adicionales de tractocamiones

Proyectos del Municipio Tijuana/ Tecate

No. de Proyecto	Descripción
4070002:	Garita Mesa de Otay II: Construcción de la nueva garita
4060001:	Garita de Tecate: Expansión y mejoras de área comercial

Ilustración RE-6
Proyectos del Condado de Imperial – Municipio de Mexicali (2007-2030)

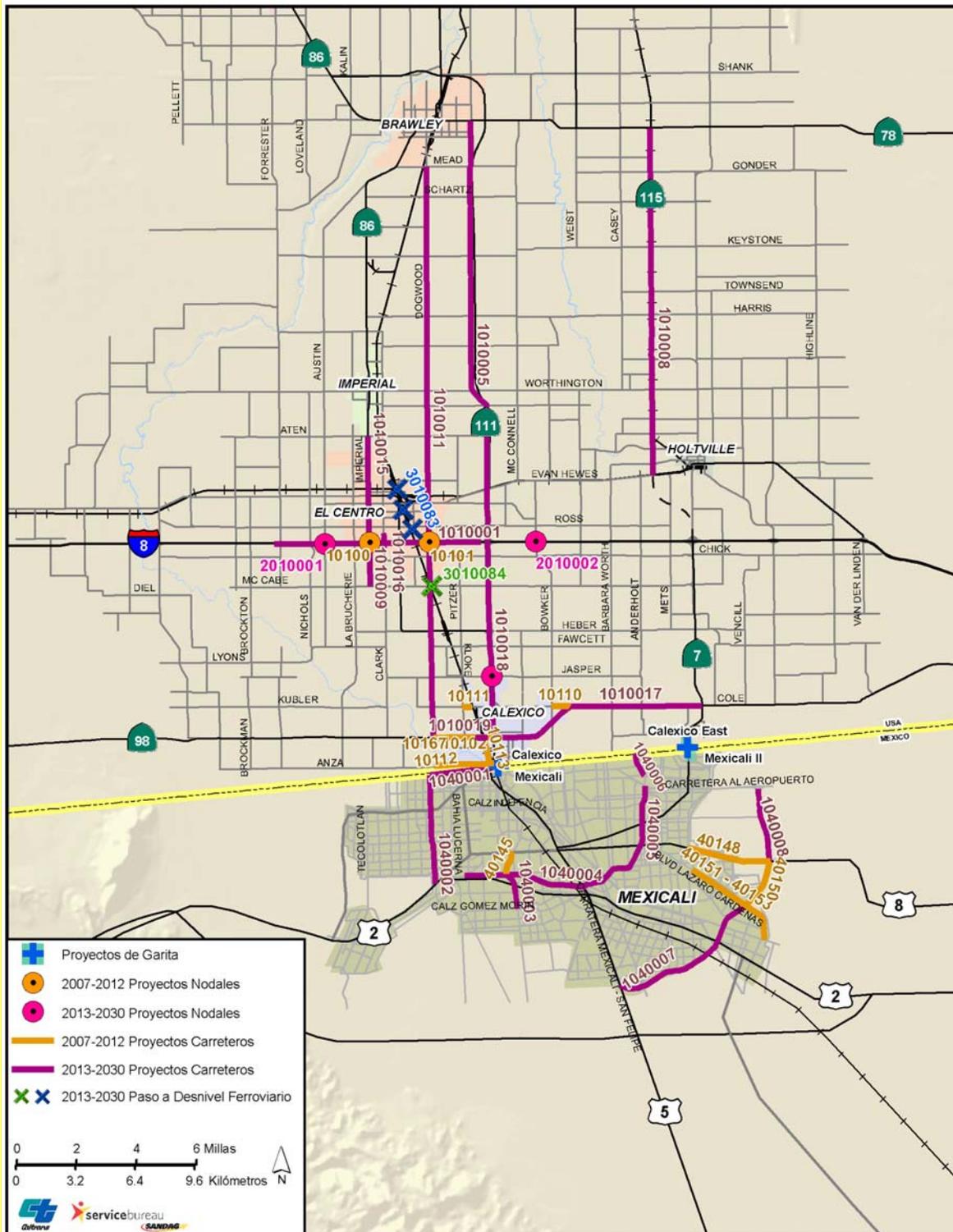


Ilustración RE-7
Proyectos Andrade - Algodones (2007-2030)



Ilustración RE-8
Lista de Proyectos del Condado de Imperial – Municipio de Mexicali (2007-2030)

2007 – 2012 PROYECTOS CARRETEROS

Proyectos del Condado Imperial

No. de Proyecto	Descripción
10102:	SR 98: de Navarro Road a SR 111
10104:	SR186 en Andrade Instalaciones de Inspección de CHP
10110:	Cole Road: de Bowker Road a SR 98
10111:	Cole Road: de Kloke Road hasta el ferrocarril
10112:	Expansión de Second Street: de SR 111 a Dogwood Road
10113:	Expansión de Cesar Chavez Boulevard: de SR 111 a SR 98/Birch Street
10167:	SR 98 West: de Dogwood Road a SR 111

Proyectos de Mexicali

No. de Proyecto	Descripción
40145:	Extensión Río Nuevo: de Lázaro Cárdenas a Boulevard Héctor Terán Terán
40148:	Ampliación de Carretera Mexicali-Algodones: de Calle Novena a Islas Agrarias
40150:	Periférico en zona este: de Lázaro Cárdenas a Islas Agrarias
40151/152/153:	Mexicali-San Luís Río Colorado

2013 – 2030 PROYECTOS CARRETEROS

Proyectos del Condado Imperial

No. de Proyecto	Descripción
1010001:	I-8: de Forrester Road a SR 111
1010005:	SR 111: de I-8 a SR 78
1010008:	SR 115: de Evan Hewes Highway a SR 78
1010009:	Imperial Avenue: de McCabe Road a I-8
1010011:	Dogwood Road: de SR 98 a Mead Road
1010015:	Imperial Avenue: de I-8 a Aten Road
1010016:	Puente: de 8th St. de Wake Avenue a Centinela
1010017:	SR 98: de este de SR 111 a SR 7
1010018:	SR 111: de SR 98 a I-8
1010019:	SR 98: de SR 98 a Cesar Chavez Boulevard

Proyectos de Mexicali

No. de Proyecto	Descripción
1040001:	Avenida Colon Poniente: del puente Leyes de Reforma y la vialidad propuesta en la periférica poniente
1040002:	Periférico Poniente: de la intersección con Avenida Colon Poniente (propuesta) a la carretera Tijuana
1040003:	Prolongación del Eje Central: de Blvd. Lázaro Cárdenas a Calz. Gómez Morin
1040004:	Boulevard Terán-Terán: de la carretera San Felipe a la carretera Tijuana
1040005:	Calz. Gómez Morin: de Calle Cety's a la carretera Mexicali-San Felipe
1040006:	Calz. Gómez Morin: de Avenida Capitán Carrillo a Calle Rep. de Argentina
1040007:	Tramo Anillo Periférico Oriente: de Blvd. Lázaro Cárdenas a la carretera San Felipe
1040008:	Tramo Anillo Periférico Oriente: de la carretera Islas Agrarias a la carretera al aeropuerto

Ilustración RE-8 (Continuación)
Lista de Proyectos del Condado de Imperial – Municipio de Mexicali (2007-2030)

 **2007 – 2012 PROYECTOS DE NODO**

Proyectos del Condado Imperial

No. de Proyecto	Descripción
10100:	Nodo de Imperial Avenue - I-8
10101:	Nodo de Dogwood Avenue - I-8
10105:	Nodo de SR 186 - I-8

 **2013 – 2030 PROYECTOS DE NODO**

Proyectos del Condado Imperial

No. de Proyecto	Descripción
2010001:	Nodo del Austin Road - I-8
2010002:	Nodo del Bowker Road - I-8
2010004:	Nodo del Jasper Road - SR 111

2013 – 2030 PROYECTOS DE FERROCARRIL

Proyectos del Condado Imperial

No. de Proyecto	Descripción
3010083:	Paso a desnivel en McCabe Road y Dogwood Avenue
3010084:	Ciudad de El Centro: Pasos a desnivel en varios lugares



 **2007 – 2010 PROYECTOS DE GARITAS**

Proyectos del Condado Imperial

No. de Proyecto	Descripción
10188:	Garita Calexico West: Expansión de las instalaciones de la garita y áreas de inspección
10189:	Garita Calexico West: Reubicación de caseta peatonal Sur
10190:	Garita Calexico West: Reparar pozo en inspección primaria
10191:	Garita Calexico Oeste: Expansión del carril SENTRI
10192:	Garita Andrade: Mejoras a puente peatonal y renovación de instalaciones
10193:	Garita Andrade: Barreras de control de tráfico
10194:	Garita Andrade: Expansión de instalaciones

Ilustración RE-8 (Continuación)
Lista de proyectos del Condado de Imperial – Municipio de Mexicali (2007-2030)



2013 – 2030 PROYECTOS DE GARITAS

Proyectos del Condado Imperial

No. de Proyecto	Descripción
4010003:	Expansión de Garita de Andrade: Mover carriles vehiculares a la frontera de Arizona
4010004:	Rediseñar la Garita de Calexico: Reconfigurar la garita
4010005:	Expansión de la Garita Calexico Este: Expansión de carriles primarios vehiculares

Proyectos de Mexicali

No. de Proyecto	Descripción
4040001:	Garita de Mexicali I – Calexico West: Expansión y mejoramiento de las instalaciones de Aduanas
4040004:	Garita de Los Algodones - Andrade: Modernización de cruce turístico

CHAPTER 1

INTRODUCTION

PURPOSE OF STUDY

The California-Baja California Border Master Plan is a binational comprehensive approach to coordinate planning and delivery of land ports of entry (POEs) and transportation infrastructure projects serving those POEs in the California-Baja California region. The California Department of Transportation (Caltrans), in partnership with the Secretariat of Infrastructure and Urban Development of Baja California (SIDUE) and the U.S./Mexico Joint Working Committee (JWC), retained the San Diego Association of Governments (SANDAG) Service Bureau to assist in the development of this California-Baja California Border Master Plan. The primary objectives of the Plan were to:

- Increase the understanding of POE and transportation planning on both sides of the border and create a process for prioritizing and advancing POE and related transportation projects;
- Develop criteria for prioritizing projects related to existing and new POEs, as well as transportation facilities leading to the California-Baja California POEs and rank mid- and long-term projects and services (e.g., roads, public transit, and railways); and
- Establish a process to institutionalize dialogue among federal, state, regional, and local stakeholders in the United States and Mexico to identify future POE and connecting transportation infrastructure needs and coordinate projects.

Ideally, the approach and methodologies identified in the California-Baja California Border Master Plan will be incorporated into the respective planning and programming processes of the individual participating agencies at the federal, state, regional, and local levels in both the United States and Mexico.

SCOPE OF WORK

The California-Baja California Border Master Plan scope of work identified seven key tasks, which are described below. All tasks have been completed.

Task 1: Stakeholder Participation

To facilitate the study's direction, a Policy Advisory Committee (PAC), composed of government and quasi-governmental stakeholders will be established. By invitation, the PAC will include top-level executive managers of federal, state, regional, and local entities responsible for land use, transportation, POE facilities, and security operations from the United States and Mexico. In addition, a Technical

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Working Group (TWG) composed of senior staff from the agencies participating in the PAC will be established to provide support and guidance to the Consultant throughout the study in collecting and providing the requested information.

Task 2: Document “State of the Practice” to Determine Transportation and POE Infrastructure Needs

The California-Baja California Border Master Plan will document current planning practices that each participating agency follows to determine and prioritize transportation and POE infrastructure needs.

Task 3: Assess Existing Capacity and Demand and Identify Short-Term Transportation and POE Infrastructure Needs

The California-Baja California Border Master Plan will gather current and projected population and socio-economic data in the border area. Other data to be collected include existing crossing and transportation volumes, existing POE and transportation facility configurations, current staffing levels and patterns, and POE and transportation capacities, as available. This information is critical for determining existing capacity and demand through the POEs and transportation facilities.

Task 4: Estimate Growth of Demand

Projections for future demand for border facilities will be estimated using appropriate tools, published studies and reports, as well as the information collected in Task 3.

Task 5: Define and Approve Criteria for Prioritization of Needs

Criteria for evaluating and ranking POE and transportation facility projects will be developed. The PAC will be responsible for defining and adopting the criteria for establishing project needs and time frames.

Task 6: Analyze Data and Identify Short-, Mid- and Long-Term Transportation and POE Operational and Infrastructure Needs; Rank POE and Transportation Projects

Short-term operational and capital improvement needs and projects will be identified by evaluating existing capacity and demand. Mid- and long-term needs will be determined by analyzing projected demand and capacities. The needs analysis will identify proposals for expansion and the location of new POE/transportation infrastructure, examine whether they concur with the analysis of growth in demand, and determine if other sites or projects should be evaluated. The mid- and long-term POE and transportation projects will be prioritized according to the approved evaluation criteria.

Task 7: Draft and Final Reports

Prepare a draft California-Baja California Border Master Plan report for review and comment by the TWG. The technical memoranda prepared throughout the study will be the basis for this report. After addressing comments from the TWG, the TWG will be asked to recommend approval of the study findings to the PAC. The final report will be presented to the PAC for approval and transmittal to Caltrans and the U.S./Mexico JWC.

DECISION-MAKING STRUCTURE

Under the direction of the U.S./Mexico JWC, Caltrans, and SIDUE, a California-Baja California Border Master Plan PAC and TWG were established. The agencies listed below were invited to participate in the development of the Plan. Each agency was asked to designate executive-level managers to serve on the PAC and senior staff to serve on the TWG. The participating agencies are listed below.

United States

- U.S. Department of State (DOS)
- U.S. Customs and Border Protection (CBP)
- U.S. General Services Administration (GSA)
- U.S. Federal Highway Administration (FHWA)
- California Department of Transportation (Caltrans)
- Imperial Valley Association of Governments (IVAG)
- Southern California Association of Governments (SCAG)
- San Diego Association of Governments (SANDAG)
- County of Imperial
- City of Calexico
- County of San Diego
- City of Chula Vista
- City of San Diego

Mexico

- Secretariat of Foreign Relations (Secretaría de Relaciones Exteriores, SRE)
- Secretariat of Communications and Transportation (Secretaría de Comunicaciones y Transportes, SCT)
- General Customs Administration (Administración General de Aduanas)
- Secretariat of Social Development (Secretaría de Desarrollo Social, SEDESOL)
- Institute of Administration and Estimates of National Real Estate (Instituto de Administración y Avalúos de Bienes Nacionales, INDAABIN)
- Secretariat of Infrastructure and Urban Development of Baja California (Secretaría de Infraestructura y Desarrollo Urbano del Estado de Baja California, SIDUE)
- Municipal Planning Institute of Tijuana (Instituto Municipal de Planeación de Tijuana, IMPLAN)
- Municipal Planning Institute of Mexicali (Instituto Municipal de Planeación de Mexicali, IMIP)
- Municipality of Mexicali (Municipio de Mexicali)
- Municipality of Tecate (Municipio de Tecate)
- Municipality of Tijuana (Municipio de Tijuana)

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

In addition, other agencies were invited to participate on specific tasks as work progressed. They included:

- National Immigration Institute (Instituto Nacional de Migración)
- Secretariat of Economic Development Baja California (Secretaría de Desarrollo Económico)
- Secretariat of Tourism de Baja California (Secretaría de Turismo)

The PAC was responsible for providing direction, approving the study parameters, and establishing criteria for future evaluation of projects. The TWG was responsible for supporting the consultant to implement the direction of the PAC by providing requested information in a timely manner and for making recommendations to the PAC. Specific roles of PAC and TWG are outlined in the charter included in Appendix A-1. The agency membership list and contact information are located in Appendix A-2.

APPROACH FOR COMPLETING THE TASKS

To accomplish the tasks outlined in the scope of work, the Service Bureau prepared questionnaires requesting pertinent data from the TWG by task. A summary of the data received and the analyses conducted by the Service Bureau then were presented to the TWG for discussion. Following the TWG meetings, the same information and analyses, updated according to the input received from the TWG, were presented at the PAC meetings. The TWG made recommendations to the PAC on tasks, such as definition of the study area and planning horizon for the study.

Over the course of the study, six PAC meetings and seven TWG meetings were held. The schedule of meetings is provided in Appendix A-3. The attendance and agreements for the PAC and TWG meetings are shown in Appendix A-4 and A-5, respectively.

Throughout the process, the Service Bureau worked closely with the U.S./Mexico JWC, Caltrans, SIDUE, and the binational PAC and TWG to ensure the Border Master Plan met the above objectives and resulted in a model that could be used in other border areas for similar binational infrastructure planning and coordination.

ORGANIZATION OF THE REPORT

Chapter 2 of the California-Baja California Border Master Plan report documents the State of the Practice followed by federal, state, regional, and local agencies to determine transportation and POE infrastructure needs and establish priorities for project implementation. Chapter 3 presents a profile of the communities within the binational study area and includes data on income as well as current and projected data on population, employment, and land use. Chapter 4 examines the current and projected capacity and demand of transportation facilities and POEs along the California-Baja California International Border, identifies short-term transportation and POE needs and projects, and analyzes the growth of travel demand. Chapter 5 describes the development of the evaluation criteria for ranking the POE and transportation projects. Chapter 6 analyzes the mid- and long-term POE and transportation projects by POE. The analysis identified whether planning and implementation of POE and connecting transportation

facilities are taking place in a coordinated manner or whether there are any gaps or inconsistencies in the projects and or project schedules. Chapter 7 provides lessons learned and recommendations to maintain and enhance the binational planning process, including suggestions for institutionalizing the California-Baja California Border Master Plan process. In addition, the Appendix includes agency responses to the questionnaires, the POE and transportation facility projects and project rankings, and other documents pertinent to the study.

CHAPTER 2

STATE OF THE PRACTICE FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITY PLANNING

This chapter documents current planning practices followed by federal, state, regional, and local agencies to determine transportation and port of entry (POE) infrastructure needs and how priorities for project implementation are established.

DEFINITION OF STUDY AREA

Figure 2-1 on page 18 illustrates the study area, which was approved by the Policy Advisory Committee (PAC) on January 25, 2007. The study area includes an “Area of Influence” and a “Focused Study Area.” The “Area of Influence” is the geographic area 60 miles (or 100 km.) north and south of the California-Baja California International Border. In California, it includes the counties of San Diego and Imperial. In Baja California, it includes the municipalities of Tijuana, Tecate, Playas de Rosarito, parts of Mexicali, and the urban area of Ensenada. POE data, as well as current and projected data on population, employment, land use, and income were gathered for the “Area of Influence.”

The “Focused Study Area” is the area ten miles north and ten miles south of the California-Baja California International Border. The short-, mid-, and long-term POE and transportation projects were limited to this bandwidth.

STUDY HORIZON YEAR

In the United States, planning documents tend to have a long-term planning horizon of 20 to 30 years, while some, such as the Imperial Valley Association of Governments (IVAG), have an even longer planning horizon of 30 to 50 years. In Mexico, federal, state, and regional plans have a planning horizon of 20 to 25 years. The PAC discussed the planning horizon for the California-Baja California Border Master Plan and, on January 25, 2007, approved 2030 as the horizon year to allow for a long-range planning vision.

CURRENT PLANNING PRACTICES

To better understand the current planning practices followed by federal, state, regional, and local agencies to determine transportation and POE infrastructure needs and priorities, a seven-part questionnaire (Appendix B) was distributed to the technical working group members. Responses were received from the: U.S. Customs and Border Protection (CBP), U.S. Federal Highway Administration (FHWA), U.S. General Services Administration (GSA), U.S. Department of State (DOS), California

CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN

Department of Transportation (Caltrans), Imperial Valley Association of Governments (IVAG), San Diego Association of Governments (SANDAG), Southern California Association of Governments (SCAG), County of San Diego, City of Calexico, City of Chula Vista, Mexico's General Customs Administration (Administración General de Aduanas or Aduanas), Mexico's Secretariat of Social Development (Secretaría de Desarrollo Social or SEDESOL), Mexico's Secretariat of Communications and Transportation (Secretaría de Comunicaciones y Transporte or SCT), Mexico's Secretariat of Foreign Relations (Secretaría de Relaciones Exteriores or SRE), Mexico's Institute of Administration and Estimates of National Real Estate (Instituto de Administración y Avalúos de Bienes Nacionales or INDAABIN), State of Baja California's Secretariat of Infrastructure and Urban Development (Secretaría de Desarrollo Urbano del Estado or SIDUE), Municipal Research and Planning Institute of Mexicali (Instituto Municipal de Investigación y Planeación de Mexicali or IMIP), and Municipal Planning Institute of Tijuana (Instituto Municipal de Planeación de Tijuana or IMPLAN). The information summarized in this chapter reflects the data received from participating agencies. A summary of the questionnaire responses can be seen in Appendix B.

Transportation Planning Processes

In California, Caltrans prepares a statewide policy plan while the Metropolitan Planning Organizations (MPOs) are responsible for the more detailed Regional Transportation Plans (RTPs) (<http://www.dot.ca.gov/hq/tpp/offices/osp/ctp.html>). The planning horizon for the RTPs is at least 20 years (SCAG, IVAG and SANDAG currently use up to a 30-year horizon). Caltrans works in concert with these agencies to select projects and to plan for the long term.

At the regional level, MPOs, such as SCAG and SANDAG develop the RTPs with participation from cities, counties, Caltrans, transportation commissions, transit agencies, and other stakeholders. SANDAG prepares the RTP for the County of San Diego (www.sandag.org/2030rtp). Imperial County is part of the SCAG region (www.scag.ca.gov/rtp2008/). IVAG is an association of city, county, and local governments created to address regional transportation issues. IVAG, Caltrans, and a technical review committee prepare the Imperial County Transportation Plan, which provides input into SCAG's RTP development.

RTPs include major transportation projects identified by the cities and the county in their General Plan circulation element, highway projects identified by Caltrans, and other multimodal projects identified by the MPOs and other stakeholders. Caltrans initiates development of projects through feasibility studies. These agencies also prepare traffic impact studies as well as corridor, subregional, and other transportation studies.

In Mexico, the federal government is responsible for leading national development planning (Plan Nacional de Desarrollo or PND) with public participation. Based on the PND (<http://pnd.calderon.presidencia.gob.mx/>), a series of sectorial, institutional, and regional programs are elaborated, including a sectorial plan of communications and transportation and a program of regional development for the northern border. Based on the sectorial plan, the SCT has a regional planning process in which state governments and working groups participate (e.g., National Infrastructure Council, U.S./Mexico Joint Working Committee (JWC), U.S.-Mexico Binational Group on Bridges and Border Crossings) to identify infrastructure needs. SEDESOL is responsible for preparing the National Program

of Urban Development and coordinates planning activities with state and municipal governments. It also is responsible for the Borders Cities Program (cities within 100 kilometers of the border).

In Baja California, the Municipality of Mexicali's IMIP prepares the Municipal Urban Development Plan and participates in the development of partial or specific plans. SIDUE prepares the State Urban Development Plan, Regional Programs of Urban Development, and Interregional Programs of Urban Development (Conurbación), where it identifies transportation or POE needs, proposes new transportation facilities or POEs or improvements to existing highways or ports, and prioritizes the proposed projects in Baja California. It also participates in the development of municipal plans and programs.

POE Planning

In the United States, GSA responds to requests from CBP to initiate POE projects. The U.S. DOS has the authority to issue Presidential permits for the construction, operation, and maintenance for all new border crossings at the U.S.-Mexico and U.S.-Canada borders and for substantial modifications of existing international POEs.

POE needs are identified by CBP through a Strategic Resource Assessment (SRA) report prepared for each field office. The San Diego field office includes land POEs in San Diego and Imperial Counties. CBP prepares a capital improvement plan for land POEs. CBP's SRA process does not appear to identify needs for new POE facilities and focuses on improvements to existing ones; however, POE proposals made by other agencies are described in the SRA, and selected POE proposals are included under options for improvements. The GSA follows through with requests from CBP to contract for and administer POE feasibility studies to identify and evaluate alternative POE designs and estimate costs.

General Plans and Transportation Plans prepared by cities, counties, regional agencies, and Caltrans simply describe current and planned POE projects. Planning and implementation of transportation facilities serving POEs is conducted by state, regional, and local agencies.

GSA reported that POE feasibility studies refer to state and regional transportation plans and to municipal plans to assess the adequacy of proposed POE facilities.

In Mexico, municipal and state plans include both POE projects and transportation facilities connecting to the POEs. No detailed schedules for project implementation are included. Aduanas works with the Local Customs Administration, Central Customs Planning Administration, and the General Customs Administration to plan new POE projects and improvements. Proposed projects are ranked using quantitative and qualitative criteria based on their impact on foreign trade and ability to solve an existing problem.

INDAABIN is in charge of the physical planning, maintenance, and conservation of the shared federal buildings. With regard to existing POEs, INDAABIN carries out the issuance of conservation and maintenance bonds for shared public buildings. For new border crossings, INDAABIN supports the studies that are conducted by federal, state, and municipal agencies in charge of transportation planning.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Project Prioritization

In the United States, several agencies use quantitative and qualitative data to evaluate transportation facility projects. Some agencies use this information to also rank or prioritize those projects. For roads and highways, common data or criteria include:

- Project cost
- Current and projected average daily traffic (ADT)
- Current and projected level of service (LOS)
- Serves/benefits goods movement
- Connectivity or critical linkage
- Existing traffic accident rate/accident history
- Habitat/environmental and residential impacts
- Social/community impacts
- Cost-effectiveness

In addition, SANDAG recently adopted criteria to rank regional freight projects, which include cost-effectiveness and other qualitative criteria.

For POEs, GSA's ranking of POE projects reflect rankings provided by CBP. The overarching criteria that CBP follows to prioritize projects includes:

- Mission and operations
- Space and site deficiencies
- Security and life safety
- Workload and personnel growth

The SRA prepared by CBP for the San Diego field office includes a description of geographic, demographic and economic features, workload trends (number of trucks, passenger vehicles, buses, pedestrians, and trains inspected) and forecasts, and short-, mid-, and long-term improvement options for each of the existing POEs in San Diego and Imperial Counties. The objective of forecasting in the SRA process is to project the primary workload volume and number of personnel needed at 5-year intervals for a 20-year horizon.

The San Diego field office SRA includes proposals for new POE facilities initiated by local and state agencies, such as the pedestrian bridge crossing at San Ysidro, the Otay Mesa East-Otay II POE, the Jacumba-Jacumé POE, and a new cargo inspection facility at Tecate, Baja California. Selected proposals are included as improvement options for each POE.

In Mexico, SCT evaluates the conditions of the road network, LOS, and traffic volumes in its sectorial plans and in market studies for specific projects. Aduanas evaluates project impacts at the POE – improvements, reorganization, and expansion, and evaluates the ability of the project to address an

existing problem. IMPLAN utilizes state indicators to evaluate the institutional, natural, socio-economic, and urban subsystems. SRE evaluates projects within the framework of the Intersecretarial Group for Bridges and Border Crossings (Grupo Intersecretarial de Puentes y Cruces Fronterizos). SIDUE prepares studies that evaluate historical traffic flow data, origin and destination, and capacity analyses. At the municipal level, qualitative criteria are considered in the planning process to establish projects and priorities.

INDAABIN utilizes evaluation criteria to prioritize federal building projects within the Mexican POE property. The evaluation considers four areas of emphasis: economics, administrative roles, technical, and socio-political parameters.

Funding Transportation and POE Projects

In the United States, most of the funding for transportation projects is allocated at the federal and state levels, while most of the planning occurs at the regional level. The U.S. Department of Transportation (DOT) receives funding from Congress. [The FHWA and other federal agencies, such as the Federal Transit Administration and the Federal Railway Administration, are part of the U.S. DOT.] The FHWA provides funding to the State Departments of Transportation (e.g., Caltrans in California).

In California, state law has established a cooperative planning process involving the California Transportation Commission (CTC), Caltrans, and the MPOs. The CTC is a nine-member board that oversees Caltrans. It provides a seven-year forecast of future available funding and adopts the State Transportation Improvement Program (STIP), which is California's short-term transportation spending plan for state and federal funding. Seventy-five percent of the STIP funds flow to the regions by formula. The regional share is further divided 40 percent to Northern California and 60 percent to Southern California. The remaining 25 percent of the funds flow through the Interregional Improvement Program (IIP), which is a statewide competitive program. Caltrans is responsible for nominating projects to be funded under the IIP.¹

Regions identify projects for funding through the Regional Transportation Improvement Program (RTIP) process. The RTIP is a multi-year program of proposed major highway, arterial, transit, and bikeway projects and is developed every two years. MPOs across California prepare RTIPs. The projects included in the RTIPs are submitted to Caltrans for inclusion in the Federal State Transportation Improvement Program (FSTIP). All projects listed in the RTIP must be included in the RTP. Federal and state planning regulations require the RTIP to be a revenue constrained program. This means that funding must be available and committed to implement to projects listed in the RTIP.

Cities and counties work with the regional agencies (SCAG, IVAG, and SANDAG) to have their projects included in the RTP and RTIP. In addition, cities and counties use their own funding to plan and construct local streets. Funding sources include the publicized state and federal grants, gas tax, *TransNet* (local sales tax), and traffic impact fee revenue as conditions of private development projects. Cities often compute developer fees based on plans for future infrastructure needs.

¹ SANDAG, 2006. "Regional Transportation Improvement Program-2006." Retrieved January 12, 2006, from http://www.sandag.org/uploads/publicationid/publicationid_1240_5704.pdf

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

The RTIP/STIP process is an important source of short-term funding for transportation projects. Additional sources of potential revenue are described in the RTP. For instance, in the SANDAG RTP, the capital, operating, maintenance, and rehabilitation costs of the region's transportation systems over the life of the plan are compared against forecasts of available revenues. Actions are recommended to obtain the revenues necessary to implement the improvements recommended in the plan. The level of improvements possible under three alternative revenue scenarios is included as part of the financial analysis: Revenue Constrained Scenario, Reasonably Expected Revenue Scenario, and Unconstrained Revenue Scenario. Additional sources of revenue could include the an additional *TransNet* half-cent local sales tax, local and state bond measures, higher levels of state and federal discretionary funds, and increase in state and federal gas taxes.

In the United States, the federal government has jurisdiction over border crossings. The major source of funding for POE projects is Congressional appropriations. GSA manages the funding for the construction and maintenance of POE projects. Most POE projects require GSA to submit two funding requests or prospectuses through the process. The first is for site and design funding and the second—usually two years later—is for construction funding. GSA contracts for and administers port feasibility studies to identify, estimate the cost of, and evaluate alternative designs for meeting CBP space requests. GSA prepares a prospectus for the preferred design alternative, which requires approval from the GSA central office and the Office of Management and Budget (OMB). If approved, it is forwarded to the House of Representatives Committee on Transportation and Infrastructure and the Senate Committee on Environment and Public Works. The House of Representatives appropriates the capital expenditure in the federal budget, and funding becomes available to GSA. This process is later repeated for construction funding.

GSA reported that although Congressional appropriations are the major source of funding for POE projects, other POE stakeholders, such as state transportation departments and local port authorities, frequently contribute significant resources, particularly development sites for new POEs.

In Mexico, at the municipal level, planning documents identify traditional funding sources for actions included in the plans and programs; however, no specific funding sources for particular projects are identified.

SIDUE prepares technical data sheets for strategic projects to seek federal and international funding sources (SEDESOL, SCT), and for an annual operational program to seek state resources.

SCT identifies the most appropriate funding source based on specific project studies and analyses. The studies include surveys to estimate value of time and stated preference. Main funding sources include public resources identified in the federal budget, private financing through concessions, or a combination of both types of resources.

Public Participation and Interagency Coordination

In the United States, state, regional, and local agencies are mandated to establish processes to receive public comment and input. Some of these are formal guidelines included in the law, such as Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

At the federal level, GSA invites public comment on POE projects as required by NEPA and works closely with CBP to coordinate the projects. CBP coordinates on multiple levels with GSA, FHWA, the Federal Motor Carrier Safety Administration (FMCSA), the Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), the U.S. DOS, state departments of transportation, local governments and MPOs, and Mexico's SRE and SCT. CBP holds partnering workshops during SRA process site visits. GSA and CBP maintain community outreach sessions as a standard component of project planning and execution.

At the state level, Caltrans follows the public hearing processes as prescribed in SAFETEA-LU, CEQA and NEPA. In addition, Caltrans holds public scoping meetings to allow the public to provide verbal and written input.

At the regional level, SCAG, IVAG and SANDAG follow a combination of the federal and state public outreach guidelines in developing their approach to gather local input in developing the RTP and RTIP. These efforts include participation through task force/committee structure, through public and community outreach, and through the formal public hearing and public comment periods. In October 2007, SCAG adopted a Public Participation Plan as mandated by SAFETEA-LU. For the 2030 RTP adopted in November 2007, SANDAG also followed the new guidelines for public involvement programs included in SAFETEA-LU, and created a comprehensive public involvement program. SANDAG's public participation plan implemented a community-based outreach program and distributed information via the Web, brochures, newsletters and other publications, and at regularly-scheduled meetings. The plan also included media outreach, subregional meetings/workshops, and public hearings. SANDAG awarded seven mini-grants to community-based organizations to assist with the public outreach.

Cities (such as the City of Chula Vista) receive public comments during the public review period of the CEQA process or during city council hearings. The County of San Diego obtains input from each community planning group and also receives input from various agencies and interested groups, such as the Bicycle Coalition, North County Transit District, Metropolitan Transit System, Caltrans, adjacent jurisdictions, Endangered Habitats League, Sierra Club, etc. The City of Calexico primarily receives input from public hearings held by the City Council.

In Mexico, during the development of the sectorial plan for transportation, SCT considers public comments, input received from regional planning groups (federal-state), as well as from interdisciplinary working groups, such as National Infrastructure Council, JWC, and Binational Group on Bridges and Border Crossings.

SRE solicits interagency input within the framework of the Intersecretarial Group for Bridges and Border Crossings (Grupo Intersecretarial de Puentes y Cruces Fronterizos), which includes federal

CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN

representatives. State and municipal representatives, as well as the private sector participate in proposals for bridges and international border projects through the U.S.-Mexico Binational Group on Bridges and Border Crossings.

For any POE project that INDAABIN develops, it seeks the advice of the federal operational departments; the occupants of the facility; and the federal authorities and the municipalities charged with national, regional, and local planning. Additionally, INDAABIN participates in meetings that the local governments organize in an effort to present and promote POE projects and receive comments from different public and private entities.

SIDUE follows a two-step process for public consultation, as described below:

- At the state level, public consultation is the responsibility of the Development Planning Committee (Comité de Planeación de Desarrollo del Estado or COPLADE), through the Subcommittee of Urban Development and Housing, which is chaired by SIDUE. This subcommittee includes federal, state, and municipal public agencies with responsibilities for human settlements, construction and building industry, and representatives from professional organizations and community organizations.
- Technical Opinion of Consistency (Dictamen Técnico de Congruencia) issued by the Coordinating Commission for Urban Development (Comisión Coordinadora de Desarrollo Urbano del Estado), which is published in the Official Gazette of the State of Baja California (Periódico Oficial del Estado de Baja California). The Coordinating Commission is chaired by SIDUE and verifies the consistency of documents with statewide planning documents.

IMIP comments that POE projects are not developed by the municipality, but by the federal government. Not much consultation takes place at the local level. Similarly, in technical meetings that are held in preparation for binational border crossing meetings, the municipal government does not participate. Another example is the Silicon Border project, which is being promoted by the State of Baja California Secretariat of Economic Development with very little municipal participation. IMIP seeks closer coordination for POE projects, which are a municipal planning priority due to their impact on the economic dynamic of the city. More direct coordination is sought with SIDUE and SEDECO at the state level and with SCT and INDAABIN at the federal level in order to develop a comprehensive strategy for border crossings. In addition to the POE facility itself, complementary actions related to transportation, security, urban image, infrastructure, and land use should be considered.

Tijuana's, IMPLAN follows the public involvement process outlined in the mandated state legislation on urban development and coordinates with a working group made up of agencies at the federal, state, and municipal levels, such as SCT, INDAABIN, SRE, Customs, and SIDUE.

Planning Document Updates and Horizons

Transportation facilities needs are identified in various plans. In the United States, these plans tend to have a long-term planning horizon of 20 to 30 years, while some (such as IVAG) have an even longer planning horizon of 30 to 50 years. In Mexico, federal, state, and regional plans have a planning horizon of 20 to 25 years. The frequency of updates varies among the agencies as indicated in the Table 2-1.

**Table 2-1
Planning Documents**

Agency	Frequency of Updates	Planning Horizon
Port of Entry		
U.S. Department of State	n/a*	n/a
U.S. General Services Administration		
▪ Port of Entry Feasibility Studies	no regular schedule	30 years
U.S. Customs and Border Protection		
▪ Strategic Resource Assessments	data elements**	3 years
Institute of Administration and Estimates of National Real Estate		
▪ POE Master Plans	continually	20-25 years
Secretariat of Communications and Transportation		
▪ National Development Plan	6 years	25 years
▪ Sectorial and Regional Plans	6 years	25 years
▪ Federal Budget	annually	6 years
Transportation		
Federal Highway Administration International Border Program	n/a	n/a
California Department of Transportation	3 to 5 years	20 to 30 years
Southern California Association of Governments		
▪ Regional Transportation Plan	4 years	30 years (2030)
▪ Regional Transportation Improvement Program	2 years	6 years
San Diego Association of Governments		
▪ Regional Transportation Plan	4 years	30 years (2030)
▪ Regional Transportation Improvement Program	2 years	5 years
Imperial Valley Association of Governments		
▪ Corridor Studies	4 to 6 years	30 to 50 years
County of San Diego		
▪ Capital Improvement Plan	2 years	5 years
▪ General Plan	no set cycle	20 years (2020)
City of Calexico		
▪ General Plan	5 to 10 years	20 years
City of Chula Vista		
▪ General Plan	10 to 15 years	25-30 years (2030)
Secretariat of Infrastructure and Urban Development		
▪ Operational Programs	annually	6 years
▪ Institutional Programs	6 years	20 years
Secretariat of Social Development		
▪ National Urban Development Plan	6 years	
Municipal Planning Institute of Mexicali		
▪ Municipal Development Plan	3 years	25 years

* n/a = not available

**quarterly and annually

CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN

Interagency Participation in Planning Processes

Most of the U.S. and Mexican agencies that responded to the questionnaire are directly involved in developing transportation or POE plans for their jurisdiction. For transportation projects in the United States, participation in the RTP and RTIP processes is a primary vehicle for providing input into regional plans. In Mexico, POE and connecting transportation facilities are included in some municipal and state plans or programs, as well as in federal sectorial plans.

Cities and counties are interested parties in POE planning as they make land-use and local transportation decisions needed due to new POEs or expansions of existing POEs. In the United States, local agencies, as well as the regional planning agencies, coordinate with Caltrans and federal agencies on transportation/POE planning. The FHWA International Border Program participates both by providing information and technical assistance from dedicated border staff, and also, in its role as co-chair for the U.S./Mexico JWC, develops tools so that agencies involved can make informed decisions. This includes funding and overseeing various studies, such as the Binational Infrastructure Needs Assessment (BINS) I, BINS II, and this Border Master Plan pilot study to assist in planning efforts.

SIDUE is responsible for participating in federal, state, and municipal public review and consultation activities related to plans and programs dealing with transportation issues. At the state level, SIDUE also issues a technical opinion of consistency that verifies the consistency of documents with statewide planning documents.

IMIP participates in the Bi-State Transportation Technical Advisory Committee (BTTAC). According to IMIP, the work of this committee focuses on information exchange and a common strategy to promote projects has yet to be developed. Continued participation in the BTTAC by cities and counties in the United States, as well as INDAABIN and SCT in Mexico, is needed.

Integration of Plans

In the United States, federal government agencies partner with the border and transportation communities in program development. As CBP's capital planning process matures, linkages to regional, state, and other federal planning processes are anticipated to be strengthened. GSA submits POE funding requests to the OMB and if approved, they are included in the President's proposed budget. If approved by the President and the responsible committees of Congress, then the project becomes part of the federal budget as public law.

SANDAG and IVAG work in concert with Caltrans to select transportation projects and plan for the long term, using the statewide transportation plan as well as the RTPs and RTIPs as a basis. Transportation facility needs are identified by the cities and counties in their General Plans and Specific Plans. The city and county plans per se do not get incorporated into the RTP, but their transportation projects do (e.g., improvements identified in the General or Community Plans' circulation elements). The SANDAG RTP and the SCAG RTP are submitted to FHWA and FTA for air quality conformity. A finding of conformity allows funding to flow to the region.

In Mexico, SCT's programs are incorporated in the national development plan and the regional and federal planning processes. SRE coordinates the Intersecretarial Group of Ports and Border Services and analyzes and evaluates the proposals for bridges and border crossings so that these proposals are presented at the Binational Mexico- U.S. Group on Bridges and Border Crossings.

SIDUE's planning responsibilities are conducted concurrently with federal and municipal agencies based on the attributions determined in the Constitution. IMIP reported that POE projects are generally initiated through the municipal or city urban development programs. Afterward, federal agencies develop only the site of the POE and leave the integration of the POE to the community in the hands of local authorities without allocating financial resources. IMIP's perspective is that development of POEs should be integrated more closely between the municipal and federal governments, since POEs are federal facilities located within a municipal environment and not isolated projects.

SUMMARY AND CONCLUSIONS

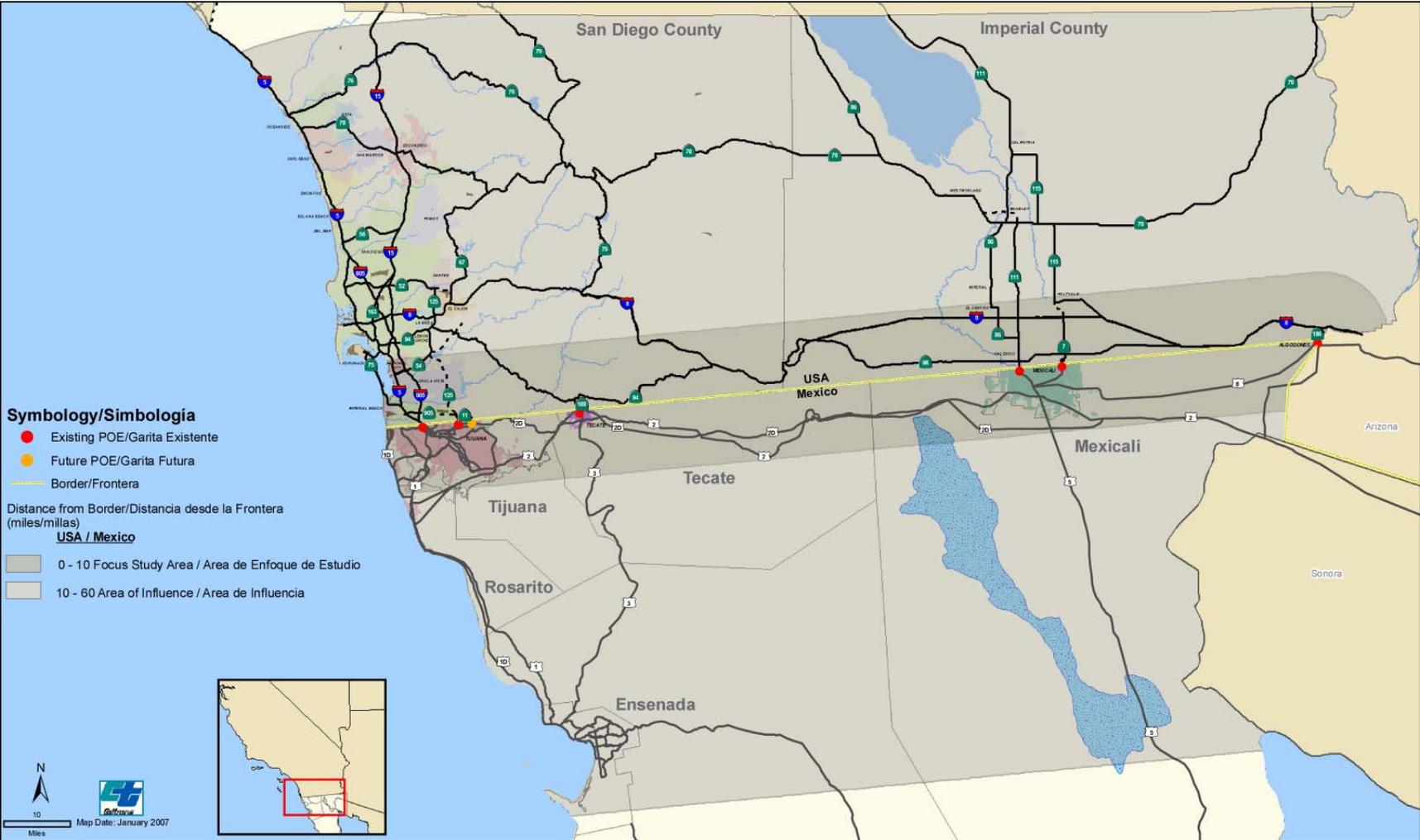
Planning for POEs and related transportation facilities is a complex process that involves multiple agencies at all levels of government in both the United States and Mexico. POE planning relies on a five-year planning horizon while planning for transportation facilities uses a longer planning horizon (typically 20 years). Federal, state, regional, and municipal agencies on both sides of the border follow a diversity of project evaluation processes in the preparation of POE and transportation planning documents, and not all planning documents include both the POE and associated access or network projects. These processes range from overall qualitative assessments to the formulation and application of detailed quantitative and qualitative criteria.

Effective collaboration is critical to coordinated project implementation. Based on responses from stakeholder agencies, coordination and communication among federal, state, regional, and local agencies are occurring at some level, but there are opportunities for a more systematic process to align implementation activities, including funding as well as schedules for POEs and connecting transportation facilities. There are opportunities for greater coordination with municipal governments in the development of POE facilities. More direct coordination is sought with federal and state agencies to develop a comprehensive strategy for border crossings and allow for effective integration of POEs into the municipal environment. In addition to the POE facility, complementary actions related to transportation, security, urban image, infrastructure, and land use should be considered.

Additional opportunities for increased public outreach and coordination with local and state agencies could occur through CBP's Strategic Resource Assessment (SRA) process. The SRA process focuses on improvements to existing POEs and does not appear to identify needs for new POE facilities. However, POE proposals made by other agencies are described in the SRA and selected POE proposals are included under options for improvements. The U.S. GSA follows through with requests from CBP to contract for and administer POE feasibility studies to identify and evaluate alternative POE designs and estimate costs. Additional coordination between GSA and state, regional, and local agencies also is needed to recognize programming processes and to align implementation schedules and funding of proposed POE improvements and improvements to roads serving those POEs.

CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN

Figure 2-1
 California-Baja California Border Master Plan Study Area



CHAPTER 3

CURRENT AND PROJECTED DEMOGRAPHIC AND ECONOMIC PROFILE

This chapter presents a profile of the communities within the California-Baja California binational study area and includes current, as well as projected population, employment, income, and land use data. The data are presented for the study area in the United States, followed by Mexico, and then for the combined border region.

CALIFORNIA DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

The “Area of Influence” of the Border Study Area is defined as the geographic area 60 miles, or 100 km., north and south of the California-Baja California International Border. In California, it includes the counties of San Diego and Imperial. San Diego and Imperial Counties are large in terms of area. San Diego measures approximately 4,260 square miles while Imperial County measures 4,175 square miles.² San Diego is bordered by the Pacific Ocean to the west, the counties of Orange and Riverside to the north, Imperial County to the east and Baja California to the south. Imperial County is bordered by San Diego County to the west, Riverside County to the north, Yuma County, Arizona to the east, and Baja California to the south.

The following demographic, socio-economic, and land use data were provided by the San Diego Association of Governments (SANDAG) and the Southern California Association of Governments (SCAG).

Population

As shown in Table 3-1, approximately 2,960,800 people lived in the combined area of San Diego and Imperial Counties in 2000. Population grew on average by 1.6 percent per year, reaching more than 3.2 million in 2005. Population is expected to grow at a slightly slower rate in both counties between 2005 and 2030. Nonetheless, the combined area is projected to reach 4,254,600 by 2030. The addition of more than one million people is projected to increase crossborder travel demand and continue to add pressure to the Port of Entry (POE) facilities and connecting roads.

² National Association of Counties, available at:

http://www.naco.org/Template.cfm?Section=Data_and_Demographics&Template=/cffiles/counties/state.cfm&STAT ECODE=CA

**Table 3-1
Total Population, 2000-2030
California and San Diego and Imperial Counties**

	2000	2005	2030	AAGR ⁽¹⁾	
				2000-2005	2005-2030
California	33,873,086	36,728,196	48,110,671	1.6%	1.1%
San Diego County	2,813,833	3,039,277	3,984,753	1.6%	1.1%
Imperial County	147,001	165,430	269,871	2.4%	2.0%
Total	2,960,834	3,204,707	4,254,624	1.6%	1.1%

Source: SANDAG, SCAG, California Department of Finance

(1) AAGR = Annual Average Growth Rate

Employment

As illustrated in Table 3-2, approximately 1,448,000 people were employed in San Diego and Imperial Counties in 2005. Employment is expected to expand by 489,300, or at an average of 1.2 percent annually, between 2005 and 2030. Most of the expansion will occur in San Diego County as its labor market is much larger than Imperial County's; however, in terms of the rate of growth, Imperial County is expected to grow twice as fast as San Diego County. Employment in Imperial County is expected to grow 2.3 percent annually between 2005 and 2030, compared to 1.1 percent per year in San Diego County.

**Table 3-2
Employment, 2005-2030
California and San Diego and Imperial Counties**

	2005	2030	Change	AAGR ⁽¹⁾
				2005-2030
California	16,208,611	--	--	--
San Diego County	1,386,970	1,828,614	441,644	1.1%
Imperial County	61,051	108,687	47,636	2.3%
Total	1,448,021	1,937,301	489,280	1.2%

Source: SANDAG, SCAG

(1) AAGR = Annual Average Growth Rate

Income

The per capita income in San Diego County is one of the highest in the state. It was estimated at \$37,960 in 2004, which is higher than California's level of \$35,220. Per capita income has increased since its 1995 level of \$32,100 (adjusted for inflation), although the annual rate of growth slowed slightly between 2000

and 2004. In Imperial County, inflation-adjusted per capita income fell slightly from \$20,510 in 1995 to \$19,600 in 2000 but then increased to \$27,800 in 2004. Still, it has one of the lowest per capita income levels out of all 58 counties in California.

Land Use

Table 3-3 illustrates existing and projected acres of residential, commercial, industrial, and agricultural land in San Diego and Imperial Counties. Out of the 518,174 acres of developed land in San Diego County in 2005, about 60 percent was developed for residential uses, 27 percent for agriculture, 8 percent for commercial uses, and 5 percent for industrial uses. Land developed for residential purposes is projected to increase the fastest (3.1% per year) through 2030. Projections for agriculture were not available.

In Imperial County, approximately 88 percent of acres of developed land was used for agriculture in 2005, reflecting Imperial County's importance as an agricultural region in the state. Approximately 9 percent of developed acres was for industrial use, 3 percent for residential use, and less than 1 percent for commercial use. Projections for 2030 were not available.

Table 3-3
Land Use (Acres), 2005-2030
San Diego and Imperial Counties

	2005 ⁽¹⁾	2030	Change	AAGR ⁽²⁾
Residential				
San Diego County	312,547	692,120	379,573	3.1%
Imperial County	14,894	--	--	--
Commercial				
San Diego County	39,521	50,550	11,029	1.0%
Imperial County	1,934	--	--	--
Industrial				
San Diego County	26,319	32,542	6,223	0.8%
Imperial County	49,097	--	--	--
Agriculture				
San Diego County	139,760	--	--	--
Imperial County	499,282	--	--	--

Source: SANDAG, SCAG

(1) San Diego County estimates are for 2004

(2) AAGR = Annual Average Growth Rate

BAJA CALIFORNIA DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

The "Area of Influence" of the Border Zone Study Area in Baja California includes the municipalities of Tijuana, Tecate, Playas de Rosarito, parts of Mexicali, and the urban area of Ensenada. The California-Baja California International Border is the northern border of three municipalities: Tijuana, Tecate, and Mexicali. Tijuana is bordered by the Pacific Ocean to the west, the municipalities of Playas de Rosarito and Ensenada to the south, and the municipality of Tecate to the east. Tecate lies between Tijuana and Mexicali. Mexicali is bordered by Tecate to its west, and its eastern border touches Yuma, Arizona, San Luis Rio Colorado, Sonora, and the Sea of Cortez (Gulf of California). Although Playas de Rosarito and Ensenada do not physically lie along the California-Baja California International boundary, they are important urban centers with highway and road transportation networks that connect to the POEs.

The following demographic, socio-economic, and land use data were provided by the Secretariat of Infrastructure and Urban Development (SIDUE) and the Municipality of Mexicali's Institute of Investigation and Planning (IMIP).

Population

Table 3-4 shows population estimates for the five municipalities in Baja California in 2000, 2005, and 2030. Approximately 2,487,400 people resided in Baja California in 2000. By 2005, the population had reached 2,844,500, expanding at an average rate of 2.7 percent per year. Population is expected to reach more than 5,209,000 residents in 2030. Within Baja California, population is concentrated in the municipalities of Tijuana and Mexicali. Tijuana, the largest municipality, grew by 3.1 percent annually between 2000 and 2005 and is expected to grow at a slightly slower rate of 2.6 percent annually between 2005 and 2030. Mexicali expanded by 2.3 percent annually on average between 2000 and 2005, and is expected to grow at 2.0 percent annually between 2005 and 2030. The area projected to grow the fastest is Playas de Rosarito, which is projected to almost triple its population by 2030. Although Playas de Rosarito would grow the fastest, Tijuana is the municipality expected to add the most residents, and is projected to exceed 2,690,000 residents by 2030, nearly doubling its 2005 level. Tijuana, Tecate, and Playas de Rosarito all have projected annual average growth rates that are higher than the 2.5 percent projected for all of the municipalities combined, which would result in additional local traffic using the roads connecting to the POEs as well as crossborder travel.

Table 3-4
Total Population, 2000-2030
Baja California Municipalities ⁽¹⁾

	2000	2005	2030	AAGR ⁽²⁾	
				2000-2005	2005-2030
Tijuana	1,210,820	1,410,700	2,690,635	3.1%	2.6%
Tecate	77,795	91,021	185,987	3.2%	2.9%
Playas de Rosarito	63,420	73,305	210,952	2.9%	4.3%
Ensenada	370,730	413,481	711,251	2.2%	2.2%
Mexicali	764,602	855,962	1,410,754	2.3%	2.0%
Total	2,487,367	2,844,469	5,209,579	2.7%	2.5%

Source: SIDUE and IMIP

(1) Data represent the entire municipality, not just the 60-mile area of the Area of Influence

(2) AAGR = Annual Average Growth Rate

Employment

As shown in Table 3-5, approximately 1,120,300 people were employed in the five municipalities of Baja California in 2005. Employment is expected to more than double by 2030, increasing by 1,315,230, or 3.2 percent annually on average. In terms of absolute change, the largest numerical growth would occur in Tijuana, where the number of people employed is forecasted to increase by over 774,000. Ensenada and Mexicali will also experience large increases in employment. The fastest growth is expected to occur in Playas de Rosarito (5% annually), while the slowest growth would occur in Mexicali where a 1.9 percent annual growth rate is expected.

Table 3-5
Employment, 2005-2030
Baja California Municipalities ⁽¹⁾

	2005	2030	Change	AAGR ⁽²⁾
				2005-2030
Tijuana	579,239	1,353,638	774,399	3.5%
Tecate	35,434	102,224	66,790	4.3%
Playas de Rosarito	30,815	104,046	73,231	5.0%
Ensenada	159,414	369,699	210,285	3.4%
Mexicali	315,421	505,947	190,526	1.9%
Total	1,120,323	2,435,554	1,315,231	3.2%

Source: SIDUE

(1) Data represent the entire municipality, not just the 60-mile area of the Area of Influence

(2) AAGR = Annual Average Growth Rate

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Income

Estimates for per capita income were estimated for the State of Baja California, Tijuana (combined with Playas de Rosarito), and Mexicali. The 2005 per capita income was estimated at \$8,544 (\$93,040 in pesos) for Baja California; \$8,161 (\$88,871 in pesos) for Tijuana; and \$7,838 (\$85,360 in pesos) for Mexicali.³

Another measure of income is regional product (Producto Interno Bruto, PIB).⁴ Table 3-6 shows the regional product for Baja California and for its municipalities for 2005 and 2030. Regional product stood at \$274,265 MDP (millones de pesos or millions of pesos) in 2005 for Baja California. Tijuana represented more than half of the state's regional product in 2005. Regional product is expected to grow to \$539,550 MDP in 2030. Tijuana's share of regional product is estimated to remain constant representing 52.5 percent share of the Baja California total.

**Table 3-6
Regional Product (Millions of Pesos), 2005-2030
Baja California Municipalities**

	2005	2030	AAGR 2005-2030 **
Baja California	\$274,265	\$539,550	2.7%
Tijuana	\$143,989	\$283,264	2.7%
Tecate	\$9,599	\$18,884	2.7%
Playas de Rosarito	*	*	*
Ensenada	\$32,912	\$64,746	2.7%
Mexicali	\$87,765	\$172,656	2.7%

Source: SEDECO; compiled by SIDUE

* Considered part of Tijuana

** SIDUE applied a 2.7 percent growth rate to all areas to produce the 2030 estimate

³ Sources: SIDUE and Secretariat of Economic Development (SEDECO). The 2005 annual average exchange rate of 10.89 was used to convert pesos to U.S. dollars as reported by the U.S. Federal Reserve Board.

⁴ Source: SEDECO. Estimates for both PIB and per capita income were estimated using data from the Department of Economic Studies of BANAMEX Municipal. The distribution by municipality and projection was estimated by SEDECO. Data compiled by SIDUE.

Land Use

Table 3-7 illustrates existing and projected acres of residential, commercial, and industrial land use in Baja California municipalities. (Data were converted from hectares to acres for the analysis. Estimates for agricultural land use were not available.) Similar to the San Diego County, the biggest portion of land use for the population centers of the municipalities was for residential lands. Approximately 80 percent of existing acres is developed for residential land uses in four of the five municipalities. The percentage of commercial land use is similar for the four municipalities as well, accounting for about 9 to 10 percent of the land acres. Tecate is the exception as only 56 percent of the acres are developed for residential uses and a much larger portion (37%) is developed for commercial uses.

Tijuana residential lands are expected to increase by 4.3 percent per year. A new development in Valle de Las Palmas is anticipated to contribute to this fast rate of growth in residential lands.

Table 3-7
Land Use (Acres), 2005-2030
Baja California Municipalities ⁽¹⁾

	2005	2030	Change	AAGR ⁽²⁾
Residential				
Tijuana	30,783	87,369	56,585	4.3%
Tecate	1,869	4,351	2,482	3.4%
Playas de Rosarito	6,193	19,029	12,836	4.6%
Ensenada	10,888	20,185	9,296	2.5%
Mexicali	30,996	56,405	25,409	2.4%
Commercial				
Tijuana	3,809	10,105	6,296	4.0%
Tecate	1,230	2,864	1,634	3.4%
Playas de Rosarito	679	2,087	1,408	4.6%
Ensenada	1,274	2,362	1,088	2.5%
Mexicali	2,996	5,185	2,188	2.2%
Industrial				
Tijuana	4,502	13,444	8,942	4.5%
Tecate	248	577	329	3.4%
Playas de Rosarito	779	2,392	1,614	4.6%
Ensenada	1,541	2,842	1,301	2.5%
Mexicali	3,206	6,266	3,060	2.7%

Source: SIDUE and IMIP

(1) Data represent the population centers not the entire municipalities. The Mexicali residential land use estimates includes Mexicali and the urban areas in the Mexicali Valley (excluding San Felipe). The boundary of the land use zoning polygons will be defined with accuracy through the results of the regional environmental impact and GPS field work.

(2) AAGR = Annual Average Growth Rate

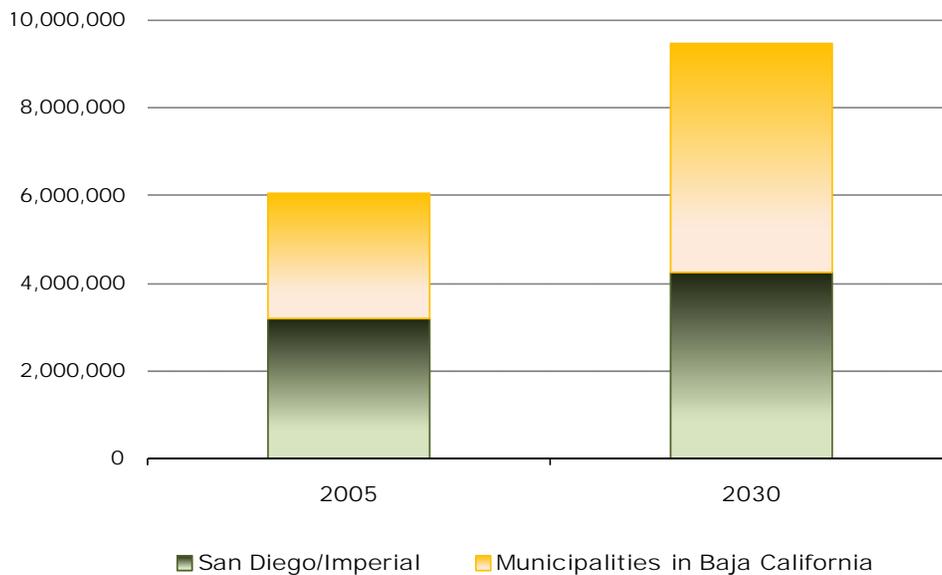
DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS COMBINED CALIFORNIA-BAJA CALIFORNIA AREA OF INFLUENCE

The following section analyzes population and employment data for the combined California-Baja California study area.

Population

As shown in Figure 3-1, total population in the combined California-Baja California study area is estimated at more than six million in 2005 and is expected to grow to almost 9.5 million by 2030. Together the Counties of San Diego and Imperial comprised 53 percent of the total population in the California-Baja California study area in 2005, while the combined municipalities of Baja California comprised 47 percent. However, by 2030, the Baja California municipalities are expected to comprise 55 percent of the area's population. San Diego County is expected to add more than 945,000 residents, while Tijuana is expected to add about 1,280,000 residents. Rapid growth projected in Tijuana is the major cause of the shift in population distribution in 2030.

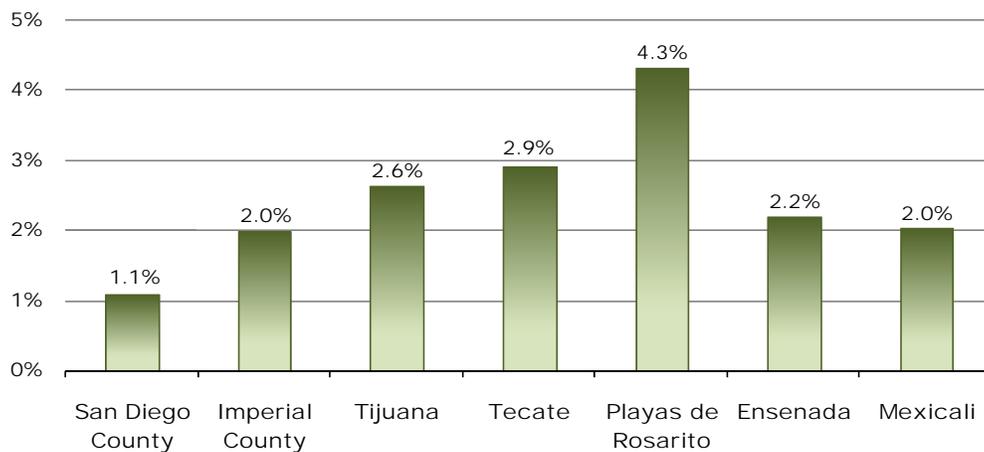
Figure 3-1
Distribution of Population, 2005-2030
San Diego and Imperial Counties and Baja California Municipalities



Source: SANDAG, SCAG, SIDUE, IMIP

Figure 3-2 shows the annual average growth rates between 2005 and 2030 for the counties and municipalities in the study area. The fastest population growth is forecasted for Playas de Rosarito, with a 4.3 percent average annual growth rate, while the slowest growth is forecasted for San Diego County, with a 1.1 percent average annual growth rate. In terms of absolute change, the largest increase in population is expected to occur in Tijuana (over 1.2 million) and the smallest increase would be in Tecate (95,000).

Figure 3-2
Annual Average Population Growth Rates, 2005-2030
San Diego and Imperial Counties and Baja California Municipalities



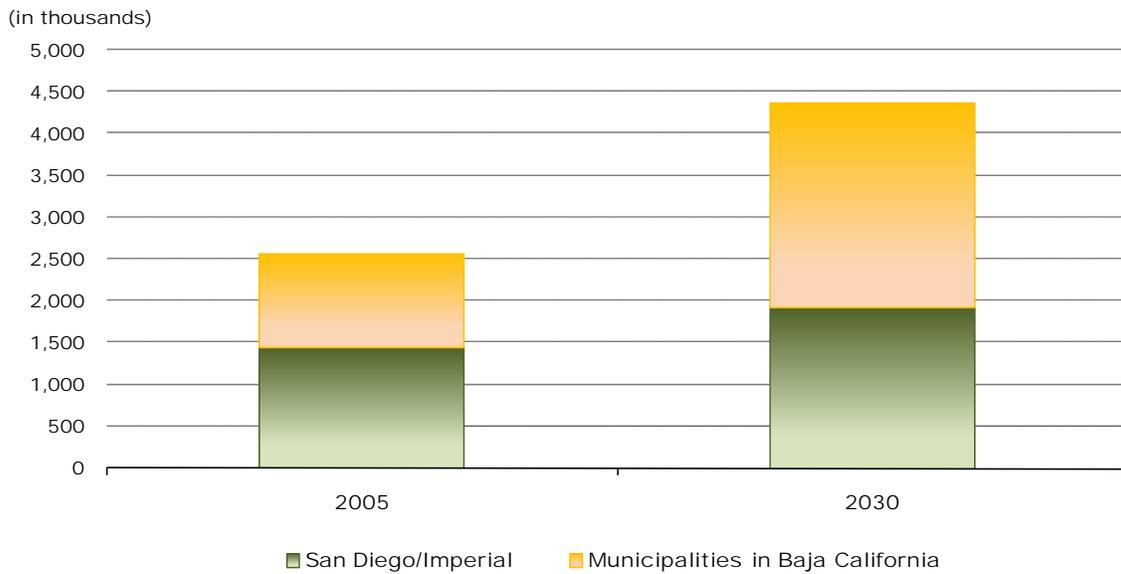
Source: SANDAG, SCAG, SIDUE, IMIP

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Employment

As shown in Figure 3-3, the total number of people employed in the combined California-Baja California study area was estimated at 2,568,300 in 2005. It is expected to expand to almost 4,373,000, an increase of more than 1,804,000, or 2.2 percent annually, between 2005 and 2030. As with projected population, the estimates indicate a shift in the composition of employment. The combined municipalities of Baja California comprised 44 percent of the total employment in the California-Baja California study area in 2005, while the counties of San Diego and Imperial comprised 56 percent. By 2030, the distribution of employment is projected to reverse and the combined municipalities of Baja California will comprise 56 percent of the area’s employed. The number of employed residents in San Diego County is expected to expand by more than 442,000 employed residents, while in Tijuana the number is anticipated to grow by 744,000.

**Figure 3-3
Distribution of Employment, 2005-2030
San Diego and Imperial Counties and Baja California Municipalities**

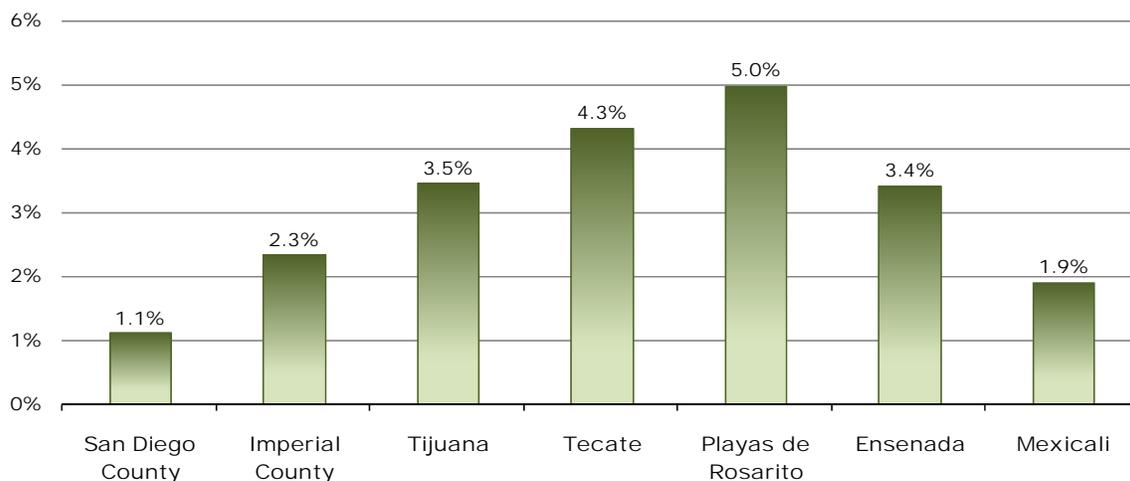


Source: SANDAG, SCAG, SIDUE, IMIP

As shown in Figure 3-4, out of the counties and municipalities in the study area, the fastest employment growth is forecasted for Playas de Rosarito, with a 5.0 percent annual growth rate, or 73,000 employees. The slowest growth is forecasted for San Diego County. While it will only expand at an average rate of 1.1 percent per year, that translates into an increase in employment of more than 441,000. In terms of absolute change, the largest increase in the number of persons employed is expected to occur in Tijuana (up 774,400) and the smallest increase will be in Imperial County (up 47,600).

The areas with the fastest growth rates are expected in Baja California. Tijuana and Mexicali are well known for large employment bases in the maquiladora industry. As employment, especially in export-oriented manufacturing industries, increases, it could impact the volume of passenger vehicle and truck crossings at the POEs.

Figure 3-4
Annual Average Employment Growth Rates, 2005-2030
San Diego and Imperial Counties and Baja California Municipalities



Source: SANDAG, SCAG, SIDUE, IMIP

SUMMARY AND CONCLUSIONS

Total population in the combined California-Baja California study area was estimated at more than six million in 2005 and is expected to grow to almost 9.5 million by 2030. At the same time, the total number of people employed in the combined California-Baja California study area is estimated to expand by approximately 1,804,000 persons from 2,568,300 in 2005 to almost 4,373,000 by 2030. The expansion of residents in the region will increase crossborder travel demand and continue to add pressure to the POE facilities and connecting roads. Adequate infrastructure capacity is critical to decrease traffic congestion and facilitate international trade and improve the quality of life for residents in the border region.

CHAPTER 4

CURRENT AND PROJECTED PORT OF ENTRY CONDITIONS AND RELATED TRANSPORTATION FACILITIES

INTRODUCTION

This chapter describes the current and projected conditions of the Ports of Entry (POEs) along the California-Baja California International Border and the related transportation facilities. It is organized into three sections. The first section describes the current and projected configuration and capacity and demand of the POEs along the California-Baja California International Border. The second section documents the connecting transportation facilities serving the POEs within the Focused Study Area.⁵ It includes a discussion of the current and projected capacity of the transportation facilities. The third section presents the short-term POE and transportation projects.

CALIFORNIA POE FACILITIES

There are six existing POEs along the California and Baja California International Border. They are: San Ysidro-Puerta México, Otay Mesa-Mesa de Otay, Tecate-Tecate, Calexico-Mexicali, Calexico East-Mexicali II, and Andrade-Los Algodones.⁶

In California, the San Ysidro, Otay Mesa, and Tecate border stations are located in San Diego County and the Calexico, Calexico East, and Andrade border stations are located in Imperial County. This section presents lane configuration, hours of operation, staffing levels, wait times, and border crossings by type for each California POE.

The U.S. Customs and Border Protection (CBP) provided information on the current and projected hours of operation and number of inspection lanes for all California POEs. Table 4-1 shows the northbound lane configuration by POE. This information will be referred to throughout this section to relate projected border crossing data with planned lane configurations.⁷

⁵ The "Focused Study Area" is the area ten miles north and ten miles south of the California-Baja California International Border.

⁶ The Virginia Avenue-El Chaparral gate, located west of the San Ysidro-Puerta México POE, is currently closed; however, plans exist to reopen this gate to southbound passenger vehicle traffic. Subsequent sections of the report refer to the POE as the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE."

⁷ The term "lane" as in passenger vehicle lane or pedestrian lane is used interchangeably with "inspection booth" in this report.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Table 4-1
Current and Projected Number of Northbound Lanes, 2005-2030
California-Baja California POEs**

	San Ysidro		Otay Mesa		Tecate		Calexico		Calexico East		Andrade	
	2005	2030	2005	2030	2005	2030	2005	2030	2005	2030	2005	2030
Number of Northbound Lanes												
Passenger Vehicle and Bus (1)	24	38	13	17	2	5	10	13	8	10	2	4
Pedestrian (2)	16	16	6	6	2	2	4	8	6	6	2	4
Truck (3)	n/a	n/a	8	10	1	2	n/a	n/a	3	5	n/a	n/a

Source: U.S. Customs and Border Protection

Note: n/a = not applicable

Note: Secure Electronic Network for Travelers Rapid Inspection (SENTRI) is a land border-crossing program that provides expedited Customs and Border Protection processing for pre-approved low-risk travelers. Free and Secure Trade (FAST) is a land border-crossing commercial program offering expedited clearance to pre-approved carriers and importers.

Notes for 2005:

- (1) San Ysidro: Includes 4 SENTRI lanes and 1 bus lane.
Otay Mesa: Includes 1 SENTRI lane and 1 bus lane.
Calexico: Includes 1 SENTRI lane and 1 bus lane.
- (2) San Ysidro: 16 double stacked inspection booths; includes 1 SENTRI lane.
- (3) Otay Mesa: 1 Free and Secure Trade (FAST) lane is a dedicated lane.
Calexico East: Includes 1 FAST lane.

According to CBP, lane projections shown in Table 4-1 were calculated for planning purposes by evaluating port size, location, and general capacity ratios. As projects move forward, exact lane needs will be reevaluated.

In 2005, the San Ysidro, Otay Mesa Passenger, and Calexico POEs operated 24 hours a day, seven days a week and CBP anticipates no changes in 2030. The Tecate Passenger facility operates from 6 a.m. to 12 a.m. and is expected to maintain the same hours of operation in 2030.⁸ Passenger inspections at Calexico East and Andrade take place between 6 a.m. and 10 p.m. and would keep the same hours in 2030. (The Imperial Valley Association of Governments (IVAG) reported that the Calexico East POE opens at 4 a.m. during the fall and winter to accommodate the agricultural industry.)

Cargo facilities at Otay Mesa, Tecate, and Calexico East operate reduced hours. Generally, freight is processed from 6 a.m. to 8 p.m. on weekdays with limited hours on weekends. Hours of operation also are adjusted seasonally. Planned hours of operation are not available for 2030.

⁸ Note: The Tecate passenger-vehicle facility is open to northbound traffic from 6 a.m. to 12 a.m., while the POE is open to southbound traffic from 5 a.m. to 11 p.m.

Northbound Average Wait Times

Estimates for northbound border wait times were provided by CBP and the Secretariat of Infrastructure and Urban Development of Baja California (SIDUE).

CBP provided average daily northbound wait times for passenger vehicles and trucks for 2005, as shown in Table 4-2. According to CBP, both passenger vehicle and truck wait times reflect the average wait to arrive to a primary inspection booth.

Table 4-2
Average Daily Northbound Wait Times (in Minutes), 2005
California-Baja California POEs ⁽¹⁾

Lane Type	San Ysidro	Otay Mesa	Tecate	Calexico	Calexico East	Andrade
Regular Passenger Vehicle	34	27	18	30	15	7
SENTRI	5	0	n/a	--	n/a	n/a
Regular Truck	n/a	13	3	n/a	4	n/a
FAST	n/a	2	n/a	n/a	0	n/a

Source: U.S. Customs and Border Protection

(1) Bus and Pedestrian wait times are not available. n/a = not applicable

For passenger vehicles, in relative terms, the highest delays are experienced at San Ysidro and at the Calexico POEs. On average, waits at Otay Mesa are approximately 20 percent lower than at San Ysidro while at Tecate they are about half those at San Ysidro. Delays at Calexico East also are 50 percent lower than at Calexico and at Andrade they are about one-fourth the delays at the Calexico POE.

The Technical Working Group (TWG) and the Policy Advisory Committee (PAC) expressed concerns that the average daily wait times provided by CBP did not reflect observed waits for all lane types. One concern mentioned was that low average daily wait times could be interpreted as little or no congestion at the California-Baja California POEs. Since peak border wait times are substantially higher than average daily wait times, the TWG representatives requested the study include peak border wait time data. SIDUE retrieved hourly border wait time data from the CBP Web site from August 21 through August 28 for selected hours. The data were not available for all hours of operation for each POE.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

The data collected by SIDUE are shown in Table 4-3. The TWG approved the use of the weekday Average Peak Wait Time collected by SIDUE from the CBP Border Wait Time Web site in the POE evaluation criteria (see Chapter 5).

**Table 4-3
Weekday Vehicle Wait Times
Northbound Travel (August 21-28, 2007)**

Passenger Vehicles

Port of Entry	Total Lanes	STANDARD LANES				SENTRI			
		Avg Peak Wait Time	Max Wait Time	Max Wait Time of Day	Max # Wait Lanes Open	Avg Peak Wait Time	Max Wait Time	Max Wait Time of Day	Max # Wait Lanes Open
San Ysidro	24	58	65	7 am	19	14	20	7-8 am, 4 pm	4-5
Otay Mesa Passenger	12	43	65	7 am	11	11	35	2 pm, 4 pm	1
Tecate	2	43	60	8-11am	2	--	--	--	--
Calexico West	10	49	75	7-9 am, 3 pm	8-9	35	60	8 am	1
Calexico East	8	39	45	7 am, 9 am	6-7	--	--	--	--
Andrade	2	27	45	11 am-1 pm	1-2	--	--	--	--

Commercial Vehicles

Port of Entry	Total Lanes	STANDARD LANES				FAST			
		Avg Peak Wait Time	Max Wait Time	Max Wait Time of Day	Max # Wait Lanes Open	Avg Peak Wait Time	Max Wait Time	Max Wait Time of Day	Max # Wait Lanes Open
Otay Mesa Commercial	8	94	110	1 pm, 2 pm	6	56	115	1 pm	1
Tecate	1	12	20	1 pm, 2 pm	1	--	--	--	--
Calexico East	3	26	60	2 pm	2	15	45	2 pm	2
Andrade	1	0	0	--	--	--	--	--	--

Source: Secretariat of Infrastructure and Urban Development of Baja California (SIDUE), U.S. Customs and Border Protection

Notes: Data was not available for all hours of operation for each crossing. Average peak wait time was calculated using the highest wait time from each day. Maximum wait time was determined by selecting the single highest wait time for each crossing for the entire period of study.

Although the peak hour data included in this dataset represents only one week of data, the TWG felt that the average peak wait times were more aligned with observed wait times, and therefore, approved its use in the evaluation criteria. However, it is recognized that on a typical weekday or weekend, observed waits for all lane types during peak periods are reported to be higher than the delays shown on the CBP Border Wait Times Web page.

Congestion and delays for freight movements and crossborder personal travel at the California-Baja California POEs have increased and have become more unpredictable. The San Diego Association of Governments (SANDAG); Imperial Valley Association of Governments (IVAG); and California Department of Transportation (Caltrans) conducted studies to estimate the economic impacts of border wait times.

Table 4-4 illustrates the 2007 total estimated economic losses due to border wait times and constrained border infrastructure. Current delays at the border were estimated to cost the California-Baja California economies \$6.78 billion in lost output and a loss of more than 62,400 jobs in 2007. At the national level, for the U.S.-Mexico economies, the output losses were estimated at \$8.63 billion and more than 73,900 jobs in 2007. Both output and job losses are projected to more than double in the next ten years if steps are not taken to improve border crossing and transportation infrastructure and management.

Table 4-4
2007 Total Estimated Economic Impacts Due to Border Wait Times
and Constrained Border Infrastructure by Geographic Area

Area	Total Output ⁽¹⁾	Total Jobs
San Diego County	-3.32	-41,678
Imperial County	-0.35	-3,935
Tijuana/Tecate/Playas de Rosarito/Ensenada	-1.77	-9,892
Mexicali	-0.45	-2,690
Statewide		
California	-4.56	-49,830
Baja California	-2.22	-12,582
Total California-Baja California	-6.78	-62,412
Nationwide		
United States	-5.35	-55,675
Mexico	-3.28	-18,258
Total U.S.-Mexico	-8.63	-73,933

Sources: SANDAG and Caltrans, Estimating Economic Impacts of Border Wait Times at the San Diego-Baja California Border Region (January 2006) and 2007 Update (September 2008).
 IVAG and Caltrans, Imperial Valley-Mexicali Economic Delay Study (February 2008)

(1) In billions of 2007 U.S. dollars

Staffing

In 2005, approximately 1,400 inspection positions in California were filled, while according to CBP, the optimum level needed is closer to 2,000 positions. (Optimum level of staffing includes onboard personnel, vacancies, and additional staff needed.)

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

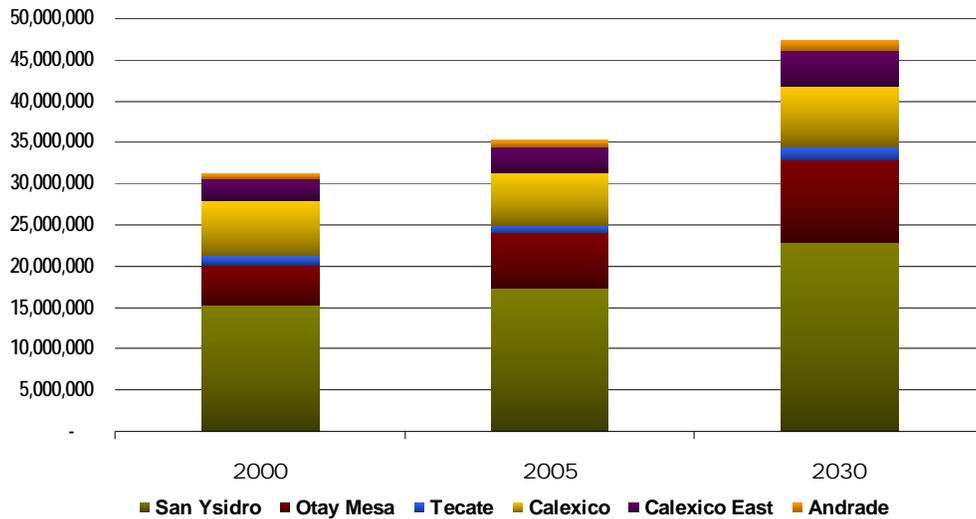
Current and Projected Northbound Crossborder Travel Demand

The following section describes current and projected northbound crossborder travel at the San Ysidro, Otay Mesa, Tecate, Calexico, Calexico East, and Andrade POEs. The analysis includes data on northbound passenger vehicle, truck, and rail crossings. Data for northbound pedestrian crossings include the years 2005 and projections for 2030. Data for passenger vehicle, truck, and rail crossings include the years 2000, 2005, and projections for 2030. The current and forecast data were provided by CBP. The analysis provided in the following sections is based on data provided by CBP.

Northbound Passenger Vehicles

Figure 4-1 shows the number of northbound vehicle crossings for 2000, 2005, and projections for 2030 (excluding bus crossings). In 2000, there were more than 31 million northbound passenger vehicle crossings with the San Ysidro POE processing almost half of the total (48.7%). The number of vehicle crossings grew to more than 35 million in 2005 and is expected to reach 47.2 million vehicles in 2030.

**Figure 4-1
Northbound Passenger Vehicle Crossings, 2000-2030
California-Baja California POEs**



Source: U.S. Customs and Border Protection

The San Ysidro POE is expected to continue to accommodate about half of those crossings in 2030 (22,843,400 crossings, or 48.4% of total crossings). The Otay Mesa POE would continue to capture an increasing share of vehicle crossings among California-Baja California POEs from about 4,845,400, or 15.6 percent, in 2000 to 9,774,400, or 20.7 percent, in 2030. At the Calexico POE, passenger vehicle crossings are projected to grow from 6,745,000 in 2000 to 7,290,000 in 2030. Although this is an increase, it is growing slower than other POEs, therefore, its share of passenger vehicle traffic this POE

would handle in 2030 is expected to decline from 21.7 percent in 2000 to 15.5 percent in 2030. Passenger vehicle crossings at the Calexico East POE are anticipated to expand from 2,550,600 in 2000 to 4,355,200 in 2030, increasing its share of passenger vehicle crossings from 8.2 percent to 9.2 percent in 2030. The Tecate and Andrade POEs are anticipated to continue to handle a fairly constant share of passenger vehicles and buses through 2030 (3.4% and 2.8%, respectively).

As shown previously in Table 4-1, CBP reported expansions in the number of northbound lanes at all California POEs. The largest expansion would take place at the San Ysidro POE with an increase of 14 northbound passenger vehicle lanes.⁹ Some of these lanes could be double-stacked (i.e., two inspection booths per passenger-vehicle lane) increasing capacity even more. The other California POEs would be expanded by two to four lanes each.

Northbound Pedestrian Crossings

Figure 4-2 on the following page illustrates northbound pedestrian crossings for 2005 and 2030. Overall, the number of people crossing on foot is anticipated to increase from about 16.5 million in 2005 to almost 19.1 million people in 2030, an increase of nearly 2.6 million people, or 15.7 percent.

In 2005, the San Ysidro POE accommodated the largest share of pedestrian traffic (8,156,350, or 49.5 percent of all pedestrian crossings), while Calexico accommodated 4,481,000, or 27.2 percent. In 2030, CBP anticipates that San Ysidro POE share would decline slightly to 48.6 percent and the Calexico POE share would decline to 22.9 percent of total pedestrian crossings as faster rates of growth are anticipated at other POEs.

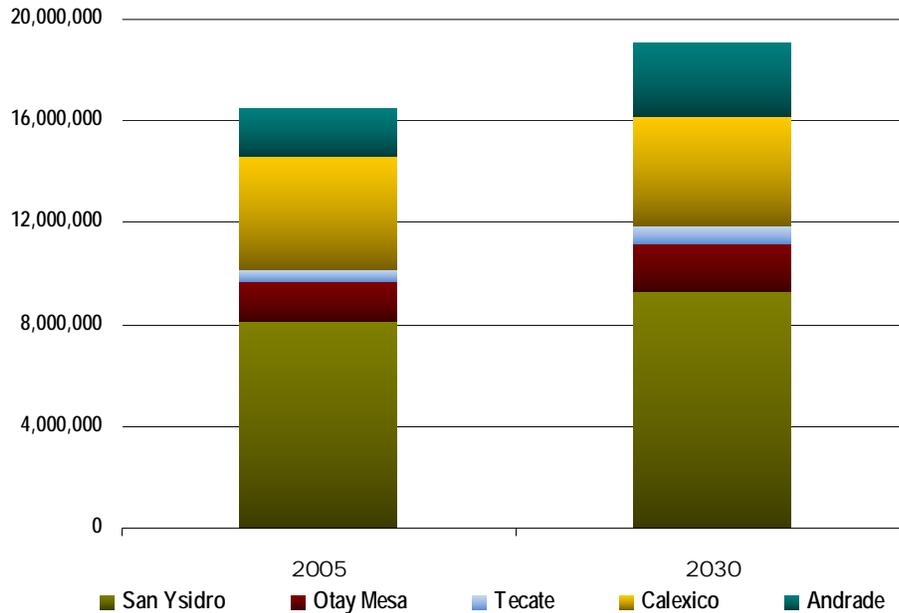
The Andrade POE accommodated the next largest share of pedestrian crossings. In 2005 approximately 1,856,300 pedestrians crossed northbound through this POE, representing 11.3 percent of total crossings. It is expected to experience the largest gain in pedestrian crossings between 2005 and 2030, an increase of more than 987,000 people, or 53 percent. It should exceed 2.8 million crossings by 2030, representing 14.9 percent of total pedestrian crossings and would continue to be the third busiest POE for pedestrian crossings.

The Otay Mesa POE processed approximately 1,496,200 pedestrians or 9.1 percent of the total in 2005, while the Tecate POE processed 471,000, or 2.9 percent of the total. By 2030, the Otay Mesa POE share would increase slightly to 10.1 percent (1,915,800 pedestrian crossings), while the Tecate POE would increase to 3.5 percent (662,900 crossings.)

⁹ According to CBP, 2030 lane projections displayed in Table 4-1 were calculated for planning purposes by evaluating port size, location, and general capacity ratios. As projects move forward, exact lane needs are reevaluated.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Figure 4-2
Northbound Pedestrian Crossings, 2005-2030
California-Baja California POEs ⁽¹⁾**



Source: U.S. Customs and Border Protection

(1) An estimated 1,456 pedestrians crossed northbound at Calexico East POE in 2005. This number is projected to increase to 14,107 in 2030. The estimates are too small to be reflected in the figure.

In 2005, the Calexico East POE handled the lowest volume of pedestrian crossings. Although CBP projects pedestrian crossings at this border station to increase dramatically from approximately 1,460 in 2005 to 14,100 in 2030, it would still represent less than 1 percent of total pedestrian traffic. This is not unexpected as the POE is located on the outskirts of the urban portion of the City of Calexico where services for pedestrians are limited.

Expansion in the number of Northbound pedestrian inspection booths are reported for both Calexico and Andrade POEs. No additional expansions were reported at the other California POEs, however, CBP will reevaluate exact number of inspection booths needed as project details are developed.

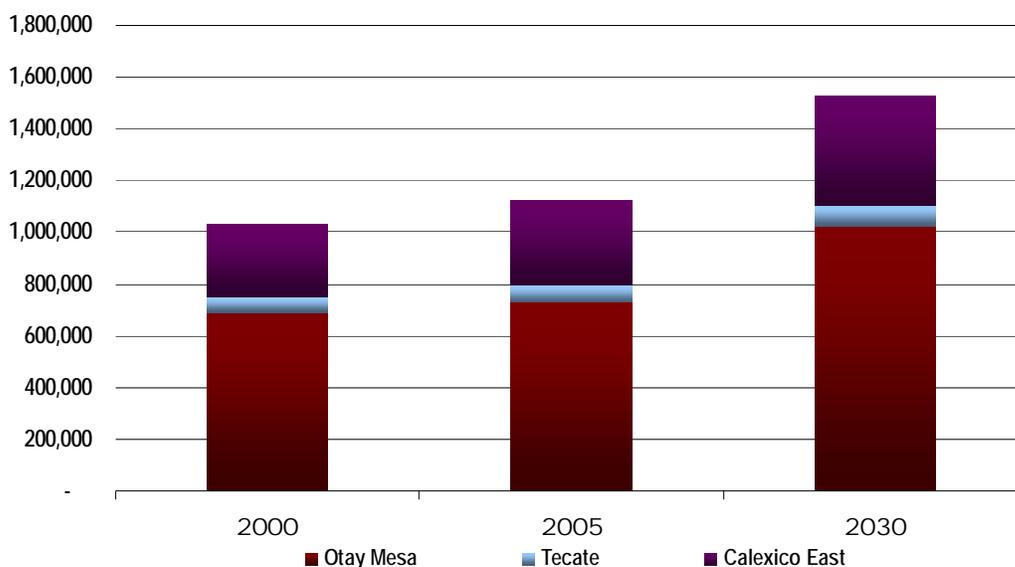
Northbound Truck Crossings

Northbound trucks cross at the Otay Mesa, Tecate, and Calexico East POEs. In addition, a few thousand trucks cross annually at the Andrade POE. Figure 4-3 illustrates the share of northbound truck crossings at the Otay Mesa, Tecate, and Calexico East POEs in 2000, 2005, and projected 2030. The figure shows that northbound truck crossings at the California-Baja California POEs have increased by over 90,000 vehicles, from 1.03 million to about 1.12 million vehicles between 2000 and 2005, and are expected to

reach more than 1.5 million trucks in 2030. The overall increase in truck crossings between 2005 and 2030 represents a growth of 36.4 percent, which is comparable to the 34.3 percent increase projected for passenger vehicle traffic.

In 2005, Otay Mesa POE processed 65.2 percent of the commercial vehicles (730,300) and CBP expects it to accommodate 1,024,300 by 2030, increasing its share of total northbound truck crossings from 65.2 percent to 67.0 percent. Tecate POE processed 69,600 trucks in 2005 or 6.1 percent of the total and is projected to accommodate about 80,200 truck crossings or about 5.2 percent of the truck traffic in 2030. Truck crossings at the Calexico East POE are projected to increase from 320,200 in 2005 to 423,800 in 2030 and essentially accommodate the same share of truck traffic among the three commercial POEs (from 27 to 28 percent in each time period). No truck projections were provided for the Andrade POE; therefore, the POE was not included in the analysis.

Figure 4-3
Northbound Truck Crossings, 2000-2030
California-Baja California POEs ⁽¹⁾



Source: U.S. Customs and Border Protection

(1) No trucks cross at the San Ysidro and Calexico POEs. Fewer than 3,000 trucks crossed at the Andrade POE and no 2030 projections were provided; therefore it is not shown in the figure.

CBP anticipates expansion of truck lanes at the three commercial POEs in California. Otay Mesa POE would be expanded from eight to ten lanes and the Calexico East POE from three to five lanes. The configuration at Tecate POE would change from one to two truck lanes.

Additional Northbound Crossing Data

The Service Bureau received 2005 and 2030 estimates of northbound border crossings by mode (passenger vehicle, trucks, and pedestrian crossings) from CBP in January 2007. In addition, current and projected estimates for northbound border crossing by mode were provided by SIDUE; SANDAG; and Caltrans. These estimates are shown in Tables 4-5 and 4-6 and were provided to the U.S. Federal Highway Administration (FHWA) and Mexico's Secretariat of Communications and Transportation (SCT) for use in the Border Traffic Forecasting Peer Exchange group.¹⁰ In addition, the TWG approved the use of Caltrans' 2030 northbound border crossing projections (passenger and commercial vehicles) and SIDUE's 2030 northbound pedestrian crossing projections for use in the POE evaluation criteria.

At the June 21, 2007 TWG meeting, the participants requested CBP provide historical northbound pedestrian crossing data by POE. These data have been summarized and presented in Table 4-7.

¹⁰ At the January 2007 PAC meeting, the U.S. FHWA volunteered to lead the coordination of a Peer Exchange Process aimed at increasing the understanding of agencies' projection methodologies and possibly study the eventual harmonization of traffic projections between CBP, FHWA, General Services Administration (GSA), Caltrans, and SANDAG. Other agencies such as SIDUE also expressed interest in participating in this effort. The project has been funded and the effort has been included in the 2008-2010 Work Plan for the U.S./Mexico Joint Working Committee.

**Table 4-5
 Northbound Passenger and Commercial Vehicle Border Crossing Estimates by POE ⁽¹⁾
 2005 and 2030 — CBP, SANDAG, SIDUE, and Caltrans**

	PASSENGER VEHICLES				COMMERCIAL VEHICLES			
	CBP	SANDAG	SIDUE ⁽²⁾	Caltrans	CBP	SANDAG	SIDUE ⁽²⁾	Caltrans
San Ysidro / Puerta Mexico								
2005	17,208,106	16,938,835	17,208,106	17,208,106	--	--	--	--
2030	22,843,397	24,930,391	31,611,136	24,930,391	--	--	--	--
Change	5,635,291	7,991,556	14,403,030	7,722,285	--	--	--	--
% Change	32.7%	47.2%	83.7%	44.9%	--	--	--	--
Otay Mesa / Mesa de Otay								
2005	6,672,994	6,151,715	6,672,994	6,672,994	730,253	506,273	730,253	730,253
2030	9,774,397	11,918,959	33,059,748	11,918,959	1,024,270	980,904	981,353	899,000
Change	3,101,403	5,767,244	26,386,754	5,245,965	294,017	474,631	251,100	168,747
% Change	46.5%	93.8%	395.4%	78.6%	40.3%	93.8%	34.4%	23.1%
Otay Mesa East / Mesa de Otay II								
2005	--	--	--	N/A	--	--	--	N/A
2030	--	6,983,119	--	6,983,119	--	827,117	--	598,000
Change	--	--	--	--	--	--	--	--
% Change	--	--	--	--	--	--	--	--
Tecate / Tecate								
2005	1,023,854	--	1,028,854	1,028,854	69,586	--	69,586	69,586
2030	1,617,990	--	556,346	1,550,000	80,179	--	115,515	113,000
Change	594,136	--	-472,508	521,146	10,593	--	45,929	43,414
% Change	58.0%	--	-45.9%	50.7%	15.2%	--	66.0%	62.4%
Calexico / Mexicali								
2005	6,234,602	--	6,234,602	6,234,602	--	--	--	--
2030	7,289,991	--	4,206,804	7,560,000	--	--	--	--
Change	1,055,389	--	-2,027,798	1,325,398	--	--	--	--
% Change	16.9%	--	-32.5%	21.3%	--	--	--	--
Calexico East / Mexicali Oriente								
2005	3,271,961	--	3,271,961	3,271,961	320,212	--	320,212	320,212
2030	4,355,239	--	11,366,209	9,855,000	423,790	--	639,847	603,000
Change	1,083,278	--	8,094,248	6,583,039	103,578	--	319,635	282,788
% Change	33.1%	--	247.4%	201.2%	32.3%	--	99.8%	88.3%
Andrade / Algodones								
2005	729,637	--	729,637	729,637	2,733	--	2,733	2,733
2030	1,303,316	--	1,833,107	988,000	--	--	51,869	4,900
Change	573,679	--	1,103,470	258,363	--	--	49,136	2,167
% Change	78.6%	--	151.2%	35.4%	--	--	1797.9%	79.3%

Source: CBP, SIDUE, SANDAG, and Caltrans

(1) Data do not include buses.

(2) The SANDAG Service Bureau received combined northbound and southbound estimates from SANDAG. The Service Bureau assumed a 50-50 split in order to calculate northbound-only estimates and compare the data with other sources. For Tecate POE, SANDAG provided total number of vehicles only (not broken down into passenger vehicle, bus, and truck.) SANDAG does not produce estimates for Imperial County.

**Table 4-6
Northbound Pedestrian Border Crossing Estimates
by POE, 2005 and 2030
CBP, SANDAG, and SIDUE**

	PEDESTRIANS		
	CBP	SANDAG ⁽¹⁾	SIDUE
San Ysidro / Puerta Mexico			
2005	8,156,350	8,156,350	8,156,350
2030	9,258,689	16,514,012	11,986,675
Change	1,102,339	8,357,662	3,830,325
% Change	13.5%	102.5%	47.0%
Otay Mesa / Mesa de Otay			
2005	1,496,196	1,496,196	1,496,196
2030	1,915,839	2,189,813	2,198,829
Change	419,643	693,617	702,633
% Change	28.0%	46.4%	47.0%
Otay Mesa East / Mesa de Otay II			
2005	--	--	--
2030	--	1,288,549	--
Change	--	--	--
% Change	--	--	--
Tecate / Tecate			
2005	471,046	--	471,046
2030	662,873	--	931,680
Change	191,827	--	460,634
% Change	40.7%	--	97.8%
Calexico / Mexicali			
2005	4,481,014	--	4,481,014
2030	4,353,620	--	7,266,937
Change	-127,394	--	2,785,923
% Change	-2.8%	--	62.2%
Calexico East / Mexicali Oriente			
2005	1,456	--	1,456
2030	14,107	--	2,361
Change	12,651	--	905
% Change	868.9%	--	62.2%
Andrade / Algodones			
2005	1,856,273	--	1,856,273
2030	2,843,533	--	2,776,792
Change	987,260	--	920,519
% Change	53.2%	--	49.6%

Source: CBP, SANDAG, and SIDUE

(1) The SANDAG Service Bureau received combined northbound and southbound estimates from SANDAG. The Service Bureau assumed a 50-50 split in order to calculate northbound only estimates and compare the data with other sources. SANDAG does not produce estimates for Imperial County.

Table 4-7
Northbound Pedestrian Crossings, Fiscal Years 1994 - 2005
California-Baja California POEs

Fiscal Year	San Ysidro	Otay Mesa	Tecate	Calexico ⁽¹⁾	Calexico East ⁽²⁾	Andrade
1994	9,267,088	377,435	322,831	7,113,785	--	994,372
1995	8,191,607	364,325	273,125	6,727,378	--	1,113,538
1996	8,747,231	566,737	264,698	8,299,710	--	1,300,042
1997	8,698,852	629,487	288,728	7,870,491	18,514	1,350,200
1998	7,010,967	604,333	282,886	8,527,568	28,572	1,417,601
1999	7,406,921	697,791	280,897	8,425,394	19,769	1,596,552
2000	7,660,168	640,026	291,212	7,924,282	3,004	1,733,806
2001	7,913,415	666,042	294,181	7,783,272	2,696	1,817,308
2002	7,577,569	1,830,903	472,061	6,619,797	2,640	1,669,011
2003	7,874,109	1,442,874	424,030	7,192,067	1,643	1,823,165
2004	9,811,395	1,499,949	430,572	5,339,244	3,195	1,953,513
2005	8,773,167	1,540,469	469,032	4,609,385	1,659	1,871,982

Source: U.S. Customs and Border Protection

- (1) Decline in pedestrian crossings since FY 2003 is primarily due to a change in inspection counting.
- (2) Pedestrian traffic peaked in FY 1997 – FY 1999 when CBP redirected a large percentage of bus traffic from Calexico POE to Calexico East POE upon the opening of the Calexico East POE. CBP stopped redirecting bus traffic to Calexico East in FY 2000.

Northbound Rail Crossings and Rail Cars

The San Diego and Arizona Eastern (SD&AE) Railway originates in San Diego and terminates in Plaster City, Imperial County. The Main Line of the SD&AE Railway runs from downtown San Diego south to the San Ysidro-Tijuana border and connects to the Desert Line via the Tijuana-Tecate line. The Desert Line of the SD&AE Railway joins the north-south Union Pacific (UP) Railroad line between Niland and Calexico. South of Calexico, Ferrocarril Mexicano, S.A. de C.V. (Ferromex) operates the rail line providing service between Mexicali and several points in Mexico.

Northbound rail inspections are reported for the San Ysidro, Tecate, and Calexico POEs, as shown on Table 4-8. In order to be consistent with data received from agencies in Mexico, the table shows the POE where the crossing actually occurs. For instance, rail inspections are reported at Calexico East POE, but actual rail crossing occurs at Calexico POE. Likewise inspections are reported at Otay Mesa POE, but actual rail crossing occurs at San Ysidro POE. In addition, the Tecate POE has the responsibility for inspecting trains that cross the border via the SD&AE rail line in the town on Campo, which is located 13 miles east of the port.

**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

**Table 4-8
 Northbound Rail Crossings and Rail Cars, 2000-2030
 California-Baja California POEs ⁽¹⁾**

	Train Crossings			Rail Cars		
	2000	2005	2030	2000	2005	2030
San Ysidro	204	239	315	1,462	5,891	7,118
Tecate	77	73	580	-	64	380
Calexico	241	415	478	5,716	12,358	13,980

Source: U.S. Customs and Border Protection

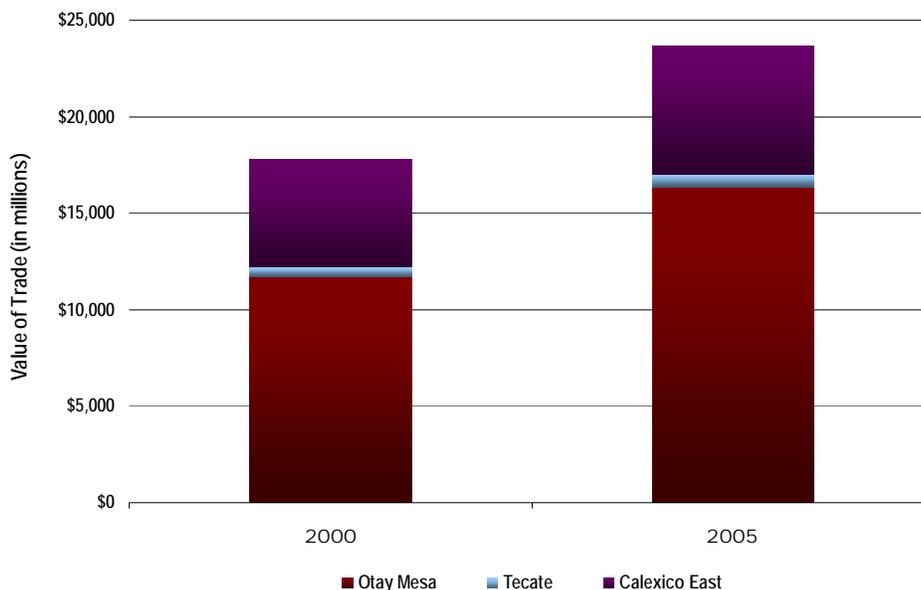
(1) No rail crossings at Otay Mesa, Calexico East, and Andrade POEs.

In 2005, there were 727 trains that crossed northbound. Of the 18,303 rail cars that crossed northbound, the Calexico POEs processed about two-thirds of the rail cars. Tecate handled less than one percent of the rail cars. The number of rail car crossings is projected to increase dramatically at Tecate POE by 2030, primarily due to the refurbishing of the Desert Line, which could provide an alternative for moving freight, as well as the expansion of seaport capacity at locations such as Ensenada, Mexico.

Goods Movement from Mexico to the United States

Freight movements by truck dominate the overall crossborder trade across California-Baja California POEs. As shown in Figure 4-4, the value of the goods transported by trucks crossing from Mexico into the United States was \$17.8 billion dollars in 2000 and it reached \$23.7 billion dollars in 2005. The Otay Mesa POE handled about two-thirds of the northbound value of freight (\$16.4 billion) while the Calexico East POE processed about 30 percent (\$6.6 billion). The Tecate POE inspected nearly 3 percent of the value of goods (\$665 million). Data for the Andrade POE was not provided.

Figure 4-4
Northbound Value of Goods by Truck, 2000-2005
California-Baja California POEs ⁽¹⁾



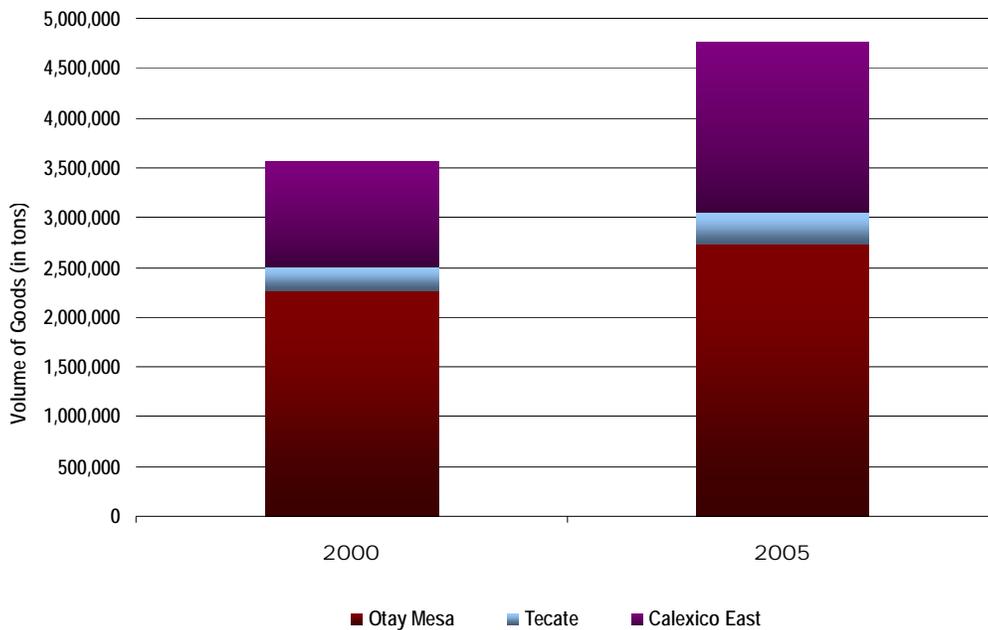
Source: U.S. Customs and Border Protection

(1) No truck crossings at San Ysidro and Calexico. Although there are limited numbers of truck crossings at Andrade POEs, no estimates of trade value were available.

**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

The volume of goods transported by northbound trucks has increased from 3.6 million tons in 2000 to 4.8 million tons in 2005, as illustrated in Figure 4-5. In the five-year period, the overall increase in tonnage is comparable to the overall growth in the northbound value of goods, or about 33 percent. However, the Otay Mesa POE appears to be handling an increasing volume of higher value and lower weight goods. In 2000, Otay Mesa processed 63 percent of the volume in tons while in 2005 that share dropped to 58 percent. Tecate's share has remained at about 7 percent, while the Calexico East POE has increased the tonnage processed from 30 percent in 2000 to 36 percent in 2005.

**Figure 4-5
 Northbound Volume of Goods by Truck, 2000-2005
 California-Baja California POEs ⁽¹⁾**



Source: U.S. Customs and Border Protection

(1) No truck crossings at San Ysidro and Calexico. Although there are limited numbers of truck crossings at Andrade POEs, no estimates of trade volume were available.

Projections for value or volume of goods crossing at California-Baja California POEs in 2030 were not provided.

In 2000, the value of the goods transported by rail from Mexico into the United States represented \$23.9 million dollars. The Calexico POE processed nearly all this trade value or about 96 percent while San Ysidro handled the remaining 4 percent. In 2005, the value of freight moving northbound by rail increased to \$39.1 million dollars. In 2000, San Ysidro handled heavier and lower value goods, inspecting about 11 percent of the volume in tons. Calexico processed about 89 percent of the tonnage moving by rail.

BAJA CALIFORNIA POE FACILITIES

Two border stations in Baja California—Puerta México and Mesa de Otay—are located in the Municipality of Tijuana, while the Tecate POE is located in the Municipality of Tecate. The El Chaparral POE is currently closed; however, plans exist to reopen the border station to accommodate southbound passenger vehicle traffic. This POE is located just west of the existing Puerta México POE in the Municipality of Tijuana. The Mexicali, Mexicali II, and Los Algodones POEs are located in the Municipality of Mexicali. This section examines data about these POEs including lane configuration, hours of operation, and border crossings by type.

Mexico’s General Customs Administration (Aduanas) provided information on the current and projected hours of operation and the Institute of Administration and Estimates of National Real Estate (INDAABIN) provided the number of inspection lanes for the Baja California POEs. Table 4-9, shows the southbound lane configuration by POE. This information will be referred to throughout this section to relate projected border crossing data with planned lane configurations. The number of bus and passenger vehicle lanes at Puerta México is projected to decrease from nine to zero by 2030. These estimates reflect existing plans to convert all vehicle lanes at Puerta México to northbound lanes only and reopen El Chaparral POE to southbound traffic. INDAABIN anticipates 15 passenger vehicle lanes (includes three bus lanes) at El Chaparral by 2030.

Table 4-9
Current and Projected Number of Southbound Lanes, 2005-2030 ⁽¹⁾
California-Baja California POEs

	Puerta Mexico		Mesa de Otay		Tecate		Mexicali		Mexicali II		Algodones		El Chaparral	
	2005	2030	2005	2030	2005	2030	2005	2030	2005	2030	2005	2030	2005	2030
Number of Southbound Lanes²														
Regular Passenger Vehicle	7	0	4	6	2	3	9	14	3	3	2	2	0	12
Bus	2	0	1	2	1	1	1	2	1	2	1	1	0	3
Pedestrian	6	6	2	2	2	4	2	4	1	1	2	4	n/a	n/a
Truck	n/a	n/a	4	8	2	4	n/a	n/a	2	2	1	0	n/a	n/a
FAST	n/a	n/a	1	1	0	1	n/a	n/a	1	1	n/a	n/a	n/a	n/a

Source: INDAABIN

(1) n/a = not applicable

(2) No SENTRI lanes reported in Baja California

In 2005, the Puerta México, Mesa de Otay Passenger, and Mexicali POEs operated 24 hours a day, seven days a week and Aduanas anticipates no changes in 2030. The Mexicali II POE is open for passenger crossings from 4 a.m. to 10 p.m., while Algodones POE operates from 6 a.m. to 10 p.m. the

**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

hours of operation should remain the same in 2030. The Tecate POE is open for passenger crossing from 5 a.m. to 11 p.m.¹¹

Cargo facilities at Tecate POE are open from 8 a.m. to 4 p.m. Monday through Friday and closed on the weekends. Cargo facilities at the Mesa de Otay and Mexicali II POEs operate at reduced hours.

Southbound Average Wait Times

Average wait times data were not available for the POEs in Baja California.

Staffing

Staffing data were not provided for all POEs in Baja California.

Current Southbound Crossborder Travel Demand

Aduanas provided data for southbound passenger vehicles, trucks, and rail cars crossing at the Puerta México, Mesa de Otay, Tecate, Mexicali, Mexicali II, and Los Algodones POEs for 2005. Data for 2000 and projected 2030 were not available for all POEs.

Southbound Passenger Vehicles

Table 4-10 shows the number of southbound passenger vehicle crossings for 2005. In 2005, there were over 33 million southbound passenger vehicles crossings, with the Puerta México POE processing more than half of the total. Mexicali POE processed 19.4 percent and Mesa de Otay processed 14.2 percent.

**Table 4-10
 Southbound Passenger Vehicle Crossings, 2005
 California-Baja California POEs**

	2005	% Share
Puerta Mexico	19,000,000	57.0%
Mesa de Otay	4,745,000	14.2%
Tecate	978,017	2.9%
Mexicali	6,487,654	19.4%
Mexicali II	1,593,343	4.8%
Algodones	546,736	1.6%
Total	33,350,750	

Source: Aduanas

¹¹ Note that the northbound hours of operation for passenger vehicle traffic are from 6 a.m. to 12 a.m.

As shown previously in Table 4-9, INDAABIN reported projected expansions in the number of southbound lanes at Baja California POEs. Currently Puerta México POE has seven passenger vehicle lanes and two bus lanes. Once El Chaparral POE is completed, 12 passenger lanes and three bus lanes will be available for southbound border crossers. Although no 2030 border crossing projections are available, it seems reasonable that the additional lanes will help accommodate the projected population growth in the area and keep southbound wait times to a minimum.

At the Mesa de Otay POE, the number of passenger vehicle lanes is expect to increase by two lanes by 2030 to accommodate the anticipated population growth. The Tecate POE is expected to expand the number of passenger lanes by one.

By 2030, the Mexicali POE is expected to have five additional passenger vehicle lanes and one additional bus lane to accommodate the projected growth in passenger vehicle crossings. One bus lane and no passenger vehicle lane expansions are projected for Mexicali II suggesting the POE may face challenges accommodating the additional growth anticipated in the Imperial-Mexicali Valley.

Southbound Pedestrian Crossings

According to Aduanas, southbound pedestrian crossings at POEs are not recorded.

Southbound Truck Crossings

Table 4-11 shows that southbound truck crossings are concentrated at the Mesa de Otay POE. Mesa de Otay processed almost two-thirds of all southbound truck crossings in 2005.

Table 4-11
Southbound Truck Crossings, 2005
California-Baja California POEs ⁽¹⁾

	2005	% Share
Mesa de Otay	632,000	65.9%
Tecate	36,540	3.8%
Mexicali II	291,059	30.3%
Total	959,599	100.0%

Source: Aduanas

(1) No truck crossings were reported for the Puerta México, Mexicali, and Algodones POEs

The INDAABIN anticipates doubling the number of truck lanes at Mesa de Otay POE from four to eight and at Tecate POE from two to four. No changes are anticipated at the Mexicali II POE.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Southbound Rail Crossings and Rail Cars

Southbound rail inspections were reported for the Puerta México and the Mexicali POEs. In 2005, almost 14,000 rail car crossings occurred, with the number of crossings split almost 50-50 between the two POEs (53% at Mexicali). The number of rail car crossings at the Mexicali POE is expected to increase from 7,451 car crossings in 2005 to 19,685 in 2030, a rate of 164 percent. No projections were reported for the Puerta México POE.

EVALUATION OF TRANSPORTATION FACILITIES

The California-Baja California Border Master Plan Scope of Work calls for examining the current capacity and demand of transportation facilities and POEs, identifying short-term transportation and POE needs, and analyzing the growth of travel demand. To accomplish these tasks, the SANDAG Service Bureau prepared a series of questionnaires that were completed by the TWG.

One of the questionnaires requested an inventory of transportation facilities serving international POEs within the Focused Study Area. Descriptive and performance data such as number of lanes, Average Annual Daily Traffic (AADT) and peak period traffic volumes, share of truck traffic, and Level of Service (LOS) were solicited for current conditions (2005) and for the forecast year 2030. Appendix C-1 summarizes the transportation facility information submitted by TWG members and traffic growth rates calculated by the SANDAG Service Bureau.¹²

Summary of Findings

This section summarizes highlights of the evaluation of the transportation facilities.

- Highways and arterials that operated at LOS E and LOS F in 2005:
 - ▶ I-805 between Telegraph Canyon Road and State Route (SR) 54: LOS F (p.m. peak)
 - ▶ SR 94 between SR 54 and Otay Lakes Road: LOS F (selected segments in p.m. peak)
 - ▶ Willow Street Bridge over the Sweetwater River (County of San Diego): LOS F
 - ▶ SR 98/Birch Street between Dogwood Road and Barbara Worth Road: LOS F (p.m. peak)
 - ▶ SR 111 between the Calexico-Mexicali POE and SR 98: LOS E (p.m. peak)
 - ▶ SR 98 between Navarro Avenue and SR 111: LOS E (two-lane segment in p.m. peak)
 - ▶ SR 98 between SR 111 and Cole Road: LOS E (two-lane segment in p.m. peak)

¹² Information was provided by Mexico's Secretariat of Communications and Transportation, California Department of Transportation, Secretariat of Infrastructure and Urban Development of Baja California, Southern California Association of Governments, San Diego Association of Governments, City of Chula Vista, County of San Diego, and the Municipality of Mexicali's Institute of Investigation and Planning.

- Highways and arterials projected to operate at LOS E and LOS F in 2030:
 - ▶ I-805 between Telegraph Canyon Road and SR 54: LOS E (p.m. peak)
 - ▶ SR 94 between SR 54 and Otay Lakes Road: LOS F (selected segments in p.m. peak)
 - ▶ SR 111 between the Calexico-Mexicali POE and SR 98: LOS F (p.m. peak)
 - ▶ SR 111 between SR 98 and I-8: LOS F (selected segments in p.m. peak)
- Highways and arterials projected to improve LOS in 2030:
 - ▶ I-805 between Telegraph Canyon Road and SR 54: from LOS F to LOS E (p.m. peak)
 - ▶ Tijuana-Mexicali Highway (Route 2): from LOS D to LOS B
 - ▶ SR 98 between SR 111 and Cole Road: from LOS E to LOS C (p.m. peak)
 - ▶ Second Street between SR 111 and Dogwood Road: from LOS D to LOS B (p.m. peak)
 - ▶ Cesar Chavez Blvd. between SR 111 and SR 98/Birch Street: from LOS D to LOS C (p.m. peak)
 - ▶ SR 98/Birch Street from Dogwood Rd. to Barbara Worth Rd.: from LOS F to LOS C (p.m. peak)
- Highways and arterials projected to worsen LOS in 2030:
 - ▶ I-805 between Palm Avenue and Telegraph Canyon Road: from LOS C to LOS D (p.m. peak)
 - ▶ SR 905 between I-5 and Beyer Boulevard: from LOS B to LOS C (p.m. peak)
 - ▶ SR 905 between I-805 and Otay Mesa Road: from LOS B to LOS D (p.m. peak)
 - ▶ SR 94 between SR 188 and Otay Lakes Road: from LOS B to LOS C-D (p.m. peak)
 - ▶ SR 111 between the Calexico-Mexicali POE and SR 98: from LOS E to LOS F (p.m. peak)
 - ▶ SR 111 between SR 98 and I-8: from LOS B to LOS D and LOS F (selected segments in p.m. peak)
 - ▶ SR 98 between Cole Road and SR 7: from LOS C to LOS E (p.m. peak)
 - ▶ I-8 between Forrester Road and SR 86: from LOS A-B to LOS C (p.m. peak)
 - ▶ Cole Road: Bowker Road-SR 98 and railroad tracks-Kloke Road: from LOS A to LOS B
 - ▶ Route 2 (Mexicali-Progreso): from LOS B to LOS C
 - ▶ SR 7 at the Calexico East-Mexicali II POE and SR 98: from LOS B to LOS D (p.m. peak)
 - ▶ SR 7 between SR 98 and I-8: from LOS A to LOS C (p.m. peak)
 - ▶ Truck shares are significantly higher in Imperial County than in San Diego County
- Overall, truck shares on Baja California highways are higher than in California highways
- Overall, traffic volumes on California highways are significantly higher than in Baja California highways
- Transportation facilities that would serve proposed POEs at Otay Mesa East in San Diego County and El Centinela in the Municipality of Mexicali were reported. However, highway or rail connections for Otay II and Mount Signal POEs were not.
- Data Issues:
 - ▶ In California, no projected truck share data are available for highways
 - ▶ In Baja California, LOS data are available mostly for long segments of highways only
 - ▶ In California, LOS data sometimes are not comparable due to reporting different peak periods in 2005 and 2030

Transportation Facilities Serving POEs

This chapter presents the California-Baja California transportation facility information grouped by POE. Some short-term projects submitted by the TWG have been completed.

■ *San Ysidro-Puerta México: Current Conditions (2005)*

In the San Diego region, I-5 directly serves as the north-south connector highway to the San Ysidro-Puerta México POE. Interstate 5 is an eight-lane freeway that accommodated between 69,000 and 175,000 AADT in 2005 in the nearly ten-mile segment between the international border and SR 54. The share of truck traffic ranged between 6 percent and 8 percent. Also in 2005, I-5 operated at a LOS between LOS A and LOS D in the morning peak period.

The San Diego & Imperial Valley railroad provides freight service between San Diego and Tijuana-Tecate and crosses the border east of I-5. The San Diego Trolley provides transit service along the I-5 corridor. Stations within the focused study area are in San Ysidro adjacent to the international border crossing, Beyer Blvd., Iris Ave., Palm Ave., Palomar St., H Street, and Bayfront/E St.

About half a mile north of the San Ysidro border station, I-805 also serves as a north-south connector to this POE via I-5. On average, between 68,000 and 222,000 vehicles traveled on this eight-lane freeway between I-5 and SR 54 in 2005. Trucks represented 4 percent to 7 percent of the total traffic. In the afternoon peak period, I-805 operated at LOS C in the six-mile segment south of Telegraph Canyon Road and at LOS F north of Telegraph Canyon Road.

In Tijuana, the Tijuana-Ensenada highway (Route 1) is one of the principal access corridors to the Puerta México-San Ysidro POE. In 2005, this two-lane facility accommodated an AADT of about 11,800 vehicles in the ten-mile segment beginning at Blvd. Díaz Ordaz. Trucks represented 20 percent of the traffic volume. When considering the 68-mile (110-km.) segment of Route 1 between Tijuana and Ensenada, AADT was about 8,500 vehicles in 2005, with a 16 percent truck share. The Tijuana-Ensenada segment operated at LOS B.

The Tijuana-Ensenada Toll Road (Route 1D) is the other facility that provides principal access to the Puerta México border station. Nearly 6,000 vehicles traveled on average on this four-lane highway in 2005 and 9 percent of those vehicles were trucks. The 61-mile (98.2-km) segment of Route 1D between Tijuana and the San Miguel toll booth accommodated 6,250 AADT and a 10 percent truck share. It operated at LOS B.

■ *San Ysidro-Puerta México: Projected Conditions (2030)*

This section presents information on projected road expansions, forecast traffic data to 2030, and comparisons of anticipated traffic growth and operations between 2005 and 2030.¹³

¹³ SCT used an annual average growth rate of three percent for its traffic projections. The same growth rate was applied by the SANDAG Service Bureau to the 2005 AADT data provided by SIDUE.

By 2030, the eight-lane segment of I-5 between the San Ysidro-Puerta México POE and SR 905 would carry 96,800 AADT (39% increase from 2005). In the afternoon peak period, LOS C is projected. Two high occupancy vehicle (HOV) lanes would be constructed on I-5 between SR 905 and SR 54. This capacity expansion would provide operations at LOS D in the afternoon peak period and accommodate an increase in traffic that would range from 28 percent to 52 percent.

Interstate 805 would be able to maintain LOS C in the afternoon peak along the eight-lane segment between the I-5 near the border and SR 905, while accommodating a 54 percent increase in traffic. The four-lane HOV/Managed Lane (ML) expansion of I-805 north of SR 905 would result in LOS ranging from LOS C to LOS E. The highest increase in volumes (48%) is projected in the segment between Palm Avenue and Telegraph Canyon Road, where LOS would worsen from LOS C to LOS D in the p.m. peak. The segment between Telegraph Canyon Road and SR 54 would experience an improvement in operations from LOS F to LOS E also in the afternoon peak.

No projections of truck shares are available for I-5 and I-805.

In 2030, the Tijuana-Ensenada highway (Route 1) is projected to carry an AADT of about 23,950 vehicles in the 10-mile segment from Blvd. Diaz Ordaz. Expansion of some segments of this highway from two- to four-lanes is anticipated. The 68-mile (110-km) segment of Route 1 between Tijuana and Ensenada would accommodate an AADT of 17,350 vehicles and maintain operations at LOS B. Truck share would increase from 16 percent to 20 percent.

Forecasts for the Tijuana-Ensenada Toll Road (Route 1D) show that about 12,100 vehicles would travel on this highway in the segment beginning at the Playas de Tijuana toll booth. The 61-mile (98.2-km) segment of Route 1D between Tijuana and the San Miguel toll booth would carry about 12,700 AADT and truck share is expected to growth substantially from 10 percent to 30 percent. An expansion from four to six lanes is anticipated to maintain projected operations at LOS B.

■ *Otay Mesa-Mesa de Otay POE: Current Conditions (2005)*

In San Diego, SR 905/Otay Mesa Road is the direct connector to the Otay Mesa-Mesa de Otay POE. Between I-5 and I-805, SR 905 is a four-lane freeway. In 2005, it carried between 48,500 and 62,000 AADT. Truck volumes represented 7 percent of the total traffic. The LOS of this segment of SR 905 ranged from LOS B to LOS C.

East of I-805, Otay Mesa Road accommodated 57,000 vehicles. The SR 905 extension between Airway Road and the Otay Mesa border station opened to traffic in late 2005. Trucks represent about 15 percent of the traffic. The freeway segments operated at LOS B; however, no LOS data were provided for the six-lane arterial segment.

Both I-805 and I-5, which were described previously, provide north-south linkages from and to the Otay Mesa border station.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Siempre Viva Road between La Media Road and SR 905 provides commercial vehicle access to the Otay Mesa border station. This two-lane arterial carried about 5,400 average daily vehicles in 2005. Trucks represented 5 percent of the total traffic. It operated at LOS D in the morning peak period.

In Tijuana, the Tijuana-Tecate highway (Route 2) provides access to the Mesa de Otay border station for both passenger and commercial vehicle traffic. In 2005, east of Libramiento Los Insurgentes, this two-lane highway carried nearly 9,500 AADT and trucks represented 17 percent of the total traffic. When considering the 113-mile (182.6-km) section of Route 2 between Tijuana and Mexicali, AADT was estimated at 4,250 vehicles with a truck share of 19 percent. Route 2 from Tijuana to Mexicali operated at LOS D.

Also, the four-lane Tijuana-Tecate toll road (Route 2D) serves the Mesa de Otay border station. The segment that begins at the toll booth in Ciudad Industrial carried about 3,200 average daily vehicles in 2005. Trucks represented 18 percent of the traffic. The 86-mile (138-km) segment between Tijuana and Mexicali accommodated an AADT of about 3,250 vehicles with a truck share of 21 percent. This segment operated at LOS B.

The Tijuana-Rosarito Corridor is a new four-lane expressway that also provides access to the Otay Mesa border station commercial and passenger facilities. It was inaugurated in late 2006.

In the unincorporated area of the County of San Diego, several arterials indirectly serve the Otay Mesa border station. North-south arterials include Enrico Fermi Drive between Siempre Viva Road and Paseo de la Amistad (two lanes, 3,400-6,600 AADT, LOS B-C) and Alta Road north of Lone Star Road (two lanes, 5,000 AADT, LOS C). East-west arterials include Airway Road between the City of San Diego limits and Enrico Fermi Drive (two lanes, 2,000 AADT, LOS B) and Otay Mesa Road between Michael Faraday Road and Enrico Fermi Drive (two lanes, 8,000 AADT, LOS D).

Other local arterials that indirectly serve the Otay-Mesa POE include roads that parallel state or interstate highways. East of I-805, the Heritage Road Bridge spans the Otay River between the cities of Chula Vista and San Diego. This three-lane north-south arterial carries about 11,600 daily vehicles and operates at LOS A. Also east of I-805, the Willow Street Bridge over the Sweetwater River is a two-lane north-south facility that accommodated an AADT of 17,500 vehicles at LOS F.

■ *Otay Mesa-Mesa de Otay POE – Projected Conditions (2030)*

By 2030, SR 905 would be completed as a six-lane freeway between I-5 and the Otay Mesa-Mesa de Otay POE. West of I-805, it is anticipated to carry 88,800 and 100,800 AADT. The expansion from four-lanes to six-lanes would allow this freeway to maintain LOS C in the afternoon peak period. East of I-805, volumes on SR 905 would range from nearly 149,000 to 173,000 vehicles west of Airway Road. LOS D is projected. The segment of SR 905 between Airway Road and the Otay Mesa POE would double its volumes to about 72,500 vehicles and maintain LOS B.

In addition, SR 125, a four-lane toll road that would connect to SR 905, opened in 2007 and additional toll lanes are planned by 2030. By 2030, traffic volumes could be up to 106,500 vehicles annually.

East of Libramiento Los Insurgentes, the Tijuana-Tecate highway (Route 2) is projected to carry nearly 19,300 AADT. The 113-mile (182.6-km.) section of Route 2 between Tijuana and Mexicali would accommodate an AADT of 8,640 vehicles and maintain a truck share of 19 percent. This highway would be widened to four-lanes and improve its LOS from LOS D to LOS B.

The Tijuana-Tecate toll road (Route 2D) east of the toll booth in Ciudad Industrial is projected to carry about 6,450 average daily vehicles in 2030. The 86-mile (138-km) segment between Tijuana and Mexicali would accommodate an AADT of about 6,600 vehicles and its truck share would remain at 21 percent. This highway would maintain a four-lane configuration and continue to operate at LOS B.

Traffic and LOS projections for the Tijuana-Rosarito Corridor are not available.

In unincorporated San Diego County, existing arterials that provide service to the Otay Mesa-Mesa de Otay indirectly are planned to be widened. North-south arterials such as Enrico Fermi Drive and Alta Road would be expanded from two- to four-lanes to accommodate projected Average Annual Growth Rates (AAGR) above 4.5 percent. These projects would result in improvements to LOS. East-west arterials also would be widened. Airway Road between the City of San Diego limits and Enrico Fermi Drive would be expanded to four lanes. It is projected to carry 13,000 AADT (8.1 percent AAGR) and operate at LOS A. Otay Mesa Road between Michael Faraday Road and Enrico Fermi Drive would be widened to six lanes and carry about 18,800 daily vehicles (3.6 percent AAGR).

Heritage Road Bridge would be expanded from three- to six-lanes by 2030. It is projected to carry about 33,000 average daily vehicles and continue to operate at LOS A. Willow Street Bridge would be expanded from two- to four-lanes and is projected to accommodate 22,400 average daily vehicles. Its LOS would improve from LOS F in 2005 to LOS C in 2030.

■ *Tecate-Tecate POE: Current Conditions (2005)*

In the San Diego region, SR 188 serves as north-south connector to the Tecate-Tecate POE. It is a two-lane highway that carried an AADT of 7,000 vehicles in 2005. Trucks represent 10 percent of the total traffic volume. It operated at LOS B in the afternoon peak period. SR 188 connects to SR 94, an east-west two-lane highway. Traffic volumes between the junction with SR 188 and Otay Lakes Road averaged between 6,500 and 8,700 daily vehicles, with an 8 percent truck share. This segment of SR 94 operated at LOS B in the afternoon peak period. The segment of SR 94 west of Otay Lakes Road carried between 8,200 and 23,000 AADT. Trucks represented 7 percent of the total traffic. In the afternoon peak period, LOS in this section of SR 94 ranged from LOS C to LOS F.

In Baja California, the four-lane Tijuana-Tecate highway (Route 2) connects to the passenger and cargo facilities at the Tecate-Tecate POE. West of the POE, Route 2 carried an AADT of approximately 4,250 vehicles in 2005, with a truck share of 17.9 percent. Nearly 4,400 daily vehicles traveled on the segment of Route 2 east of the Tecate POE. Trucks represented 26 percent of the total traffic. No LOS data is available for these two segments of Route 2. However, as described previously, Route 2 between Tijuana and Mexicali operated at LOS D in 2005.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

The Tijuana-Tecate toll road (Route 2D) also provides access to the Tecate border station. West of this POE, Route 2D carried nearly 3,200 daily vehicles. The truck share was 18 percent. East of the Tecate border station, Route 2D accommodated an average of 2,875 daily vehicles, of which 24 percent were trucks. In 2005, this toll road operated at LOS B between Tijuana and Mexicali. No LOS data is available for the segments east and west of the Tecate POE.

In addition to connecting with the east-west corridors, the Tecate-El Sauzal highway (Route 3) links the Tecate border station with the coastal Routes 1 and 1D (Tijuana-Ensenada). Route 3 is a two-lane facility that carried approximately 4,100 daily vehicles southwest of Avenida Hidalgo in Tecate. Truck traffic represented 21 percent of the total volumes. Overall, the 65-mile (105-km) highway accommodated nearly 3,250 daily vehicles in 2005, with a truck share of 17 percent. No LOS data is available for Route 3.

■ *Tecate-Tecate POE: Projected Conditions (2030)*

SR 188 is projected to accommodate 16,000 AADT in 2030 (3.5 percent AAGR). No widening is anticipated; however, LOS is expected to remain at LOS B in the afternoon peak period. SR 94 is projected to carry between 12,300 and 15,800 daily vehicles between the junction of SR 188 and Otay Lakes Road. No capacity expansion is planned and operations on this segment of SR 94 are projected to worsen from LOS B to LOS C-D in the afternoon peak. SR 94 west of Otay Lakes Road would be expanded to four lanes in selected segments. It is projected to carry between 12,300 and 39,700 AADT and would continue to operate at LOS C to LOS F in the afternoon peak period.

The Tijuana-Tecate highway (Route 2) is projected to be widened from two to four lanes. West of the Tecate-Tecate POE, Route 2 is anticipated to accommodate an AADT of approximately 8,600 vehicles. East of the POE, an AADT of about 8,900 daily vehicles is projected. Overall, Route 2 between Tijuana and Mexicali is forecast to carry 8,640 vehicles and improve its operations from LOS D to LOS B by 2030. Its truck share would be 19 percent.

West of the Tecate POE, the Tijuana-Tecate toll road (Route 2D) is projected to carry nearly 6,500 daily vehicles. East of the POE, Route 2D would accommodate an average of 5,800 daily vehicles. As described previously, by 2030, about 6,600 daily vehicles would travel on the Route 2D Tijuana-Mexicali segment, and its truck share would be 21 percent. This toll road would maintain a four-lane configuration and continue to operate at LOS B.

The Tecate-El Sauzal highway (Route 3) would remain as a two-lane facility. It is projected to carry nearly 8,400 daily vehicles southwest of Avenida Hidalgo in Tecate. The entire 65-mile (105-km) highway would accommodate nearly 7,800 daily vehicles by 2030. Its truck share would remain at 17 percent. No LOS projections are available for Route 3.

■ *Calexico-Mexicali: Current Conditions (2005)*

In Imperial County, SR 111 is a north-south four-lane freeway that provides direct connection to the Calexico-Mexicali POE. In 2005, SR 111 between the POE and SR 98 carried from 43,000 to 50,000 AADT and operated at LOS E in the afternoon peak period. Daily traffic volumes on the segment

between SR 98 and I-8 ranged from 33,500 to 37,000 vehicles and operated at LOS B in the p.m. peak period. Trucks represented 8 percent of the total traffic.

The east-west SR 98 has two to four lanes and indirectly serves both the Calexico POE and the Calexico East POE (via SR 7). Between Dogwood Road and Navarro Avenue, SR 98 carried 9,800 AADT and operated at LOS B in the p.m. peak period in 2005. The share of truck traffic was 5 percent. Daily volumes on the two- to four-lane segment of SR 98 between Navarro Avenue and SR 111 averaged 24,200 vehicles, of which 7 percent were trucks. The two-lane segment operated at LOS E and the four-lane segment at LOS C. Between SR 111 and Cole Road, SR 98 accommodated daily volumes that ranged from 6,900 vehicles (two-lane segment at LOS E) to 26,000 vehicles (four-lane segment at LOS B). Truck shares were 11 percent of the total volumes.

Interstate 8 is a four-lane freeway that also provides indirect access to the Calexico-Mexicali POE via SR 86 and SR 111. Between Forrester Road and Imperial Avenue, I-8 carried 19,300 daily vehicles and operated at LOS B in the p.m. peak period. The segment of I-8 between Imperial Avenue and SR 86 accommodated 32,000 daily vehicles at LOS A in the p.m. peak period. Truck volumes represented 11 percent of the total traffic in these two segments of I-8.

Cole Road is a four-lane east-west arterial just north of SR 98. Between Bowker Road and SR 98, Cole Road carried an AADT of approximately 11,200 vehicles. Between the railroad tracks and Kloke Road, daily volumes were about 2,850 vehicles. Both these segments of Cole Road operated at LOS A.

West of the POE, Second Street between SR 111 and Dogwood Road serves as an alternate exit from the Calexico border station to I-8. This two-lane arterial carried nearly 13,200 vehicles, of which 20 percent were trucks, and operated at LOS D in the p.m. peak period. Cesar Chavez Blvd. between SR 111 and SR 98/Birch Street serves as an alternate arterial to SR 111 from the POE to I-8 via Cole Road and Dogwood Road. It is also a two-lane arterial that accommodated 13,500 daily vehicles at LOS D in the peak period. Trucks represented 20 percent of the total traffic. State Route 98/Birch Street from Dogwood Road to Barbara Worth Road is a four-lane east west connector that directs traffic to primary and alternate POE access roads. Daily volumes reached 26,000 vehicles, with a 25 percent truck share. It operated at LOS F in the afternoon peak period.

In Baja California, direct north-south access to the Mexicali POE is provided by the eight-lane Blvd. Lopez Mateos. In 2005, this primary arterial carried about 1,000 vehicles in the afternoon peak period between the POE and Glorieta Sanchez Taboada. Avenida Colón is an east-west primary arterial that parallels the border. It also provides access to the Mexicali POE. The eight-lane segment between the POE and Glorieta Sanchez Taboada accommodated about 1,800 vehicles in the p.m. peak period. The four-lane segment between Calle Astros and the POE carried about 400 vehicles in the morning peak. Avenida Francisco Madero also serves as an egress route from the POE as well as the eight-lane Blvd. Rio Nuevo, south to Blvd. Anahuac.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

The Tijuana-Mexicali Highway (Route 2) provides indirect access to the Mexicali border station via Blvd. Lázaro Cárdenas. West of Glorieta Francisco Zarco, this two-lane highway carried nearly 5,000 daily vehicles in 2005. Truck shares were 17 percent of the total traffic.

West of the Mexicali POE, the two-lane Mexicali-Progreso segment of Route 2 carried nearly 1,500 daily vehicles and operated at LOS B. Truck share was 20 percent of the total traffic.

The Mexicali-San Felipe Highway (Route 5) is a north-south facility that also provides indirect access to the Mexicali POE via Blvd. Lázaro Cárdenas. This four-lane highway accommodated nearly 18,000 daily vehicles south of Glorieta Sanchez Taboada. Sixteen percent of the total volumes were trucks. The 118-mile (190-km) segment between Mexicali and San Felipe carried about 6,800 daily vehicles at LOS B. Trucks represented 15 percent of the total traffic.

Other primary arterials that serve the POE indirectly include Calzada Vildosola Castro between Glorieta Sanchez Taboada and Blvd. Lázaro Cárdenas via Blvd. Lopez Mateos and the Rio Nuevo extension that links directly to the Blvd. Rio Nuevo to access the POE. An internal loop (Anillo Interior) also serves the Mexicali POE via Blvd. Abelardo Rodríguez and Avenida Internacional.

■ *Calxico-Mexicali: Projected Conditions (2030)*

SR 111 between the POE and SR 98 is projected to carry an AADT of 63,500 vehicles. Its LOS would worsen from LOS E to LOS F in the afternoon peak period. Between SR 98 and I-8, daily traffic is forecasted to reach from 72,300 to 100,500 and operate between LOS D and LOS F in the p.m. peak period.

The current two-lane segments of SR 98 would be widened to four lanes. Between Dogwood Road and Navarro Avenue, SR 98 is projected to carry 24,000 AADT and maintain LOS B in the p.m. peak period in 2030. Volumes on SR 98 between Navarro Avenue and SR 111 would average 32,000 vehicles and either maintain or improve operations to LOS C. Between SR 111 and Cole Road, SR 98 is projected to increase volumes substantially to 39,000 daily vehicles and operate at LOS C.

Interstate 8 is projected to carry an AADT of 39,500 vehicles between Forrester Road and Imperial Avenue. The segment between Imperial Avenue and SR 86 would accommodate 73,600 daily vehicles. Both segments would operate at LOS C in the p.m. peak period.

Cole Road between Bowker Road and SR 98 is projected to carry an AADT of 22,000 vehicles. Between the railroad tracks and Kloke Road, daily volumes would reach 25,000 vehicles. Operations on both these segments of Cole Road would deteriorate from LOS A to LOS B.

West of the POE, Second Street between SR 111 and Dogwood Road would carry 21,500 vehicles. It would be widened to four lanes and improve its LOS from LOS D to LOS B in the afternoon peak period. Cesar Chavez Blvd. between SR 111 and SR 98/Birch Street also would be expanded to four lanes. It would accommodate 33,000 AADT and its LOS would improve from LOS D to LOS C. State Route 98/Birch Street from Dogwood Road to Barbara Worth Road would be widened to six lanes

and is projected to carry 47,500 daily vehicles. Its operations would improve from LOS F to LOS C in the p.m. peak period.

Traffic or LOS projections for arterials that serve the Mexicali POE in Baja California are not available.

The Tijuana-Mexicali Highway (Route 2) west of Glorieta Francisco Zarco is projected to carry about 10,000 daily vehicles in 2030. West of the Mexicali POE, the Mexicali-Progreso segment of Route 2 would accommodate about 3,000 daily vehicles and maintain its truck share at 20 percent of the total traffic. Its operations would deteriorate from LOS B to LOS C.

The Mexicali-San Felipe Highway (Route 5) is projected to carry approximately 36,500 daily vehicles south of Glorieta Sanchez Taboada. The 118-mile (190-km) segment Mexicali and San Felipe would accommodate nearly 14,000 daily vehicles and maintain operations at LOS B. Truck shares would remain unchanged at 15 percent of the total traffic.

■ *Calexico East-Mexicali II: Current Conditions (2005)*

In Imperial County, SR 7 directly serves as the north-south connector to the Calexico East-Mexicali II POE. In 2005, traffic volumes on this four-lane freeway averaged 15,600 daily vehicles between the POE and SR 98. This segment of SR 7 operated at LOS B in the afternoon peak period. Between SR 98 and I-8, SR 7 carried an AADT of 6,200 vehicles and operated at LOS A in the p.m. peak period. Truck traffic represented 12 percent of the total traffic on these two segments of SR 7.

As described previously, SR 98 is an east-west highway that indirectly serves both the Calexico POE and the Calexico East POE. On the two-lane segment between Cole Road and SR 7, SR 98 accommodated 15,000 daily vehicles at LOS C in the afternoon peak period. Truck shares were 27 percent of the total volumes.

In Mexicali, the Mexicali-San Luis Highway (Route 2) provides indirect access to the cargo facility at Mexicali II POE. East of Blvd. Lázaro Cárdenas, this four-lane highway carried about 7,400 daily vehicles in 2005. Truck shares were 16 percent of the total traffic. The Mexicali-La Rosita road also provides access to the Mexicali II cargo facility for trucks with origins in Tijuana and the interior of Mexico.

The 60-mile (97-km.) Mexicali-Estación Coahuila road is a two lane facility that provides indirect access to the Mexicali II POE. In 2005, it carried about 3,900 daily vehicles at LOS B. Truck volumes represented 11 percent of the total traffic.

The Aeropuerto de Mexicali branch road also serves the Mexicali II POE indirectly. This four-lane road accommodated nearly 3,500 daily vehicles and the share of trucks was 6 percent. It operated at LOS B.

The Mexicali-San Felipe Highway (Route 5), which was described previously, also provides indirect access to the Mexicali II POE via Blvd. Lázaro Cárdenas.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Primary arterials that also provide indirect access to the Mexicali II POE include Avenida Republica de Argentina between Calzada Justo Sierra and Blvd. Abelardo L. Rodríguez, Blvd. Abelardo L. Rodríguez between Calle Astros and Calzada Cetys, Calle Novena between Calzada Cetys and Calzada Vildosola Castro, and the Internal loop (Anillo Interior) via Blvd. Abelardo Rodríguez and Avenida Internacional.

■ *Callexico East-Mexicali II: Projected Conditions (2030)*

Traffic volumes on SR 7 are projected at 58,000 daily vehicles between the POE and SR 98. Operations on this segment would worsen from LOS B to LOS D in the p.m. peak period. Between SR 98 and I-8, SR 7 would experience a substantial increase in traffic to 52,000 AADT. Its LOS would deteriorate from LOS A to LOS C in the p.m. peak period.

State Route 98 between Cole Road and SR 7 would experience a significant increase in traffic to 59,000 daily vehicles and, despite a widening to four lanes, its LOS would worsen from LOS C to LOS E in the p.m. peak period.

The Mexicali-San Luis Highway (Route 2) east of Blvd. Lázaro Cárdenas is projected to accommodate approximately 15,100 daily vehicles in 2030.

Volumes on the Mexicali-Estación Coahuila road are projected at nearly 7,900 daily vehicles in 2030. Truck shares would remain constant at 11 percent of the total traffic and it would maintain LOS B.

The Aeropuerto de Mexicali branch road would accommodate nearly 7,100 daily vehicles and also maintain its share of truck traffic at 6 percent. It would continue to operate at LOS B.

Traffic or LOS projections for arterials that provide indirect access to the Mexicali II POE are not available.

■ *Andrade-Los Algodones POE: Current Conditions (2005)*

In Imperial County, SR 186 is a north-south two-lane highway that serves as direct connection to the Andrade-Los Algodones POE. In 2005, SR 186 between the POE and I-8 carried an AADT of 7,100 vehicles and operated at LOS B in the afternoon peak period. Trucks represented 7 percent of the total traffic. Interstate 8 provides east-west access to this POE.

In Baja California, the four-lane Sonoyta-Mexicali highway provides the main access to the Los Algodones POE. It carried about 6,500 daily vehicles at LOS C. Truck traffic represented 16 percent of the total volumes.

The two-lane Carretera Islas Agrarias-Los Algodones (Route 8) between the Los Algodones POE and Carretera Mexicali-Abasolo serves the POE via 6th and 1st streets.

Traffic volumes on the 63-mile (101-km.) Mexicali-Algodones highway, which provides indirect access to the POE, averaged 3,600 daily vehicles, with a truck share of 11 percent. It operated at LOS B.

The 34-mile (55-km.) road between Islas Agrarias and Los Algodones carried nearly 2,700 daily vehicles at LOS B. Trucks represented 9 percent of the total traffic.

■ *Andrade-Los Algodones POE: Projected Conditions (2030)*

State Route 186 between the POE and I-8 is projected to carry 11,000 daily vehicles and maintain LOS B in the p.m. peak period.

Traffic volumes on the Sonoyta-Mexicali highway would reach nearly 13,200 daily vehicles and would continue to operate at LOS C. The Mexicali-Algodones highway would carry about 7,400 vehicles. Truck shares would remain constant at 11 percent and its LOS would be unchanged at LOS B.

The road between Islas Agrarias and Los Algodones is projected to carry about 5,400 daily vehicles and maintain its operations at LOS B. Truck shares would continue at 9 percent of the total volumes.

■ *Proposed Otay Mesa East-Otay II POE: Current Conditions (2030)*

Planning for SR 11 is underway as a four-lane highway that would connect to the proposed Otay Mesa East-Otay II POE. This 2.7-mile highway is projected to carry an AADT of 45,300 vehicles in 2030 and operate at LOS A.

In the unincorporated area of the County of San Diego, several arterials are being planned in the community of East Otay Mesa, which would serve the new POE indirectly. Planned east-west facilities include Otay Mesa Road from Piper Ranch Road to Loop Road (4-6 lanes), Lone Star Road from City of San Diego limits to Loop Road (4-6 lanes), Siempre Viva Road from the City of San Diego limits to Loop Road (4 lanes), and Via de la Amistad from the City of San Diego limits to Alta Road (2 lanes). North-south arterials include Alta Road from Lone Star Road to Siempre Viva Road and Enrico Fermi Drive from Lone Star Road to SR 11.

■ *Proposed El Centinela Border Station: Projected Conditions (2030)*

Direct access to the proposed POE at El Centinela would be provided by a new road connecting the border station and the Tijuana-Mexicali highway. In addition, a new primary arterial would link the proposed POE to Blvd. Rio Nuevo as well as a new rail line that would connect the POE to the Punta Colonet seaport south of Ensenada.

SHORT-TERM TRANSPORTATION AND POE PROJECTS

In order to identify the short-term POE and transportation projects called for in the Scope of Work, the SANDAG Service Bureau created two questionnaires to request project information (1-5 year timeframe or 2007-2012) from the TWG. Only those transportation projects that serve a POE and are located within the "Focused Study Area" were requested.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Figures 4-6 through 4-9 illustrate the location of projects submitted in the San Diego County/Tijuana-Tecate region and Figure 4-10 through 4-12 illustrate the projects located in the Imperial County/Mexicali-Algodones region.¹⁴ Some short-term projects submitted by the TWG have been completed.

Short-Term Projects

- *Transportation Facility Projects*

Data requested from the TWG for transportation improvement projects included: project location, description of the current facility configuration and planned improvements, Level of Service (LOS) and Annual Average Daily Traffic (AADT) before and after project completion (2030), accident rate, direct or indirect linkage to POE, truck volumes or share, year the project becomes operational, current phase of the project, cost data and funding status, and a qualitative assessment of environmental, community and economic benefits of the project.

Appendix C-2 includes the listing of submitted transportation facility projects.

- *POE Projects*

Data requested for POE projects included the project description, the anticipated throughput by type of inspection lane after project completion, year of project completion, current phase of the project, cost data and funding status, and a qualitative assessment of environmental, community and economic benefits of the project.

Appendix C-3 includes the listing of submitted POE projects. Partial data was received for short-term border station projects.

As described earlier, the San Ysidro border station handles about half of the northbound passenger vehicle and bus crossings in California-Baja California and experiences the longest waits. Short-term projects include the San Ysidro border station modernization (San Ysidro-Puerta México/Virginia Avenue-El Chaparral) and expansion project with some phases of this project anticipated to open to traffic in 2010. Phasing of this POE project needs to be harmonized with the I-5/I-805 highway modifications that would be required to accommodate the POE expansion project.

A short-term capital project also is planned at El Chaparral POE to accommodate passenger vehicle traffic from the United States into Mexico. Fifteen lanes are anticipated. At Puerta México, the border station would be reconfigured to allow crossings from Mexico into the United States only. Completion of these projects is expected in 2012.

¹⁴ Information was provided by U.S. Customs and Border Protection, U.S. General Services Administration, Mexico's Secretariat of Communications and Transportation, Institute of Administration and Estimates of National Real Estate, California Department of Transportation, Secretariat of Infrastructure and Urban Development of Baja California, Southern California Association of Governments, San Diego Association of Governments, City of Chula Vista, County of San Diego, and the Municipality of Mexicali's Institute of Investigation and Planning.

Operational improvements at the San Ysidro border station include a pilot project to operate stacked booths, expansion of SENTRI lanes (four lanes), upgrades to the primary bus passenger and secondary inspection areas, and signage upgrades at the POE approach from Mexico and within the inspection facility.

At the Otay Mesa Passenger POE, expansion of two Secure Electronic Network for Travelers Rapid Inspection (SENTRI) lanes is planned in 2008. This facility experiences the third highest wait times.

At the Otay Mesa Commercial facility, a project to expand the FAST lanes is anticipated to be completed in 2007. A study to evaluate the feasibility of expanding the import lot facilities is planned.

At the Mesa de Otay POE, a new fiscal corridor to provide commercial vehicle access for empty trucks to the Mexican export facility is planned to be completed in 2007.

At the Tecate POE (U.S.), construction of rail inspection facilities is planned. These facilities would be able to serve the increase in rail crossings projected by 2030. While in 2005 there were 73 rail crossings, nearly 600 crossings are anticipated in 2030.

Land acquisition for relocating the commercial inspection facilities in Tecate, Mexico, is planned for 2008. The project to build the new commercial POE is anticipated to be completed in 2010. Coordination on access from Mexico's new Customs facility to the Commercial Vehicle Enforcement Facility (CVEF) in the U.S. import lot also is proposed by CBP.

At the Calexico East POE, CBP reported the addition of a SENTRI lane as a planned project. According to SIDUE, the Secretariat of Communications and Transportation (SCT) and SIDUE also plan a complementary SENTRI lane expansion at the Mexicali II border station.

At the Andrade POE, projects include renovations of the facility and upgrades to pedestrian processing and traffic control improvements. This POE is the third busiest in terms of pedestrian crossings.

Feasibility studies for the proposed Otay Mesa East-Otay II POE are planned both in the United States and Mexico. These studies were completed in 2008. In the United States, in conjunction with the feasibility study, a master site and space plan of the existing Otay Mesa border station also was conducted.

No completion dates were reported for most of the short-term projects.

[THIS PAGE INTENTIONALLY LEFT BLANK]

CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN

Figure 4-7
 California-Baja California Border Master Plan
 San Diego County – Municipality of Tijuana Projects (2007-2012) – Inset Map

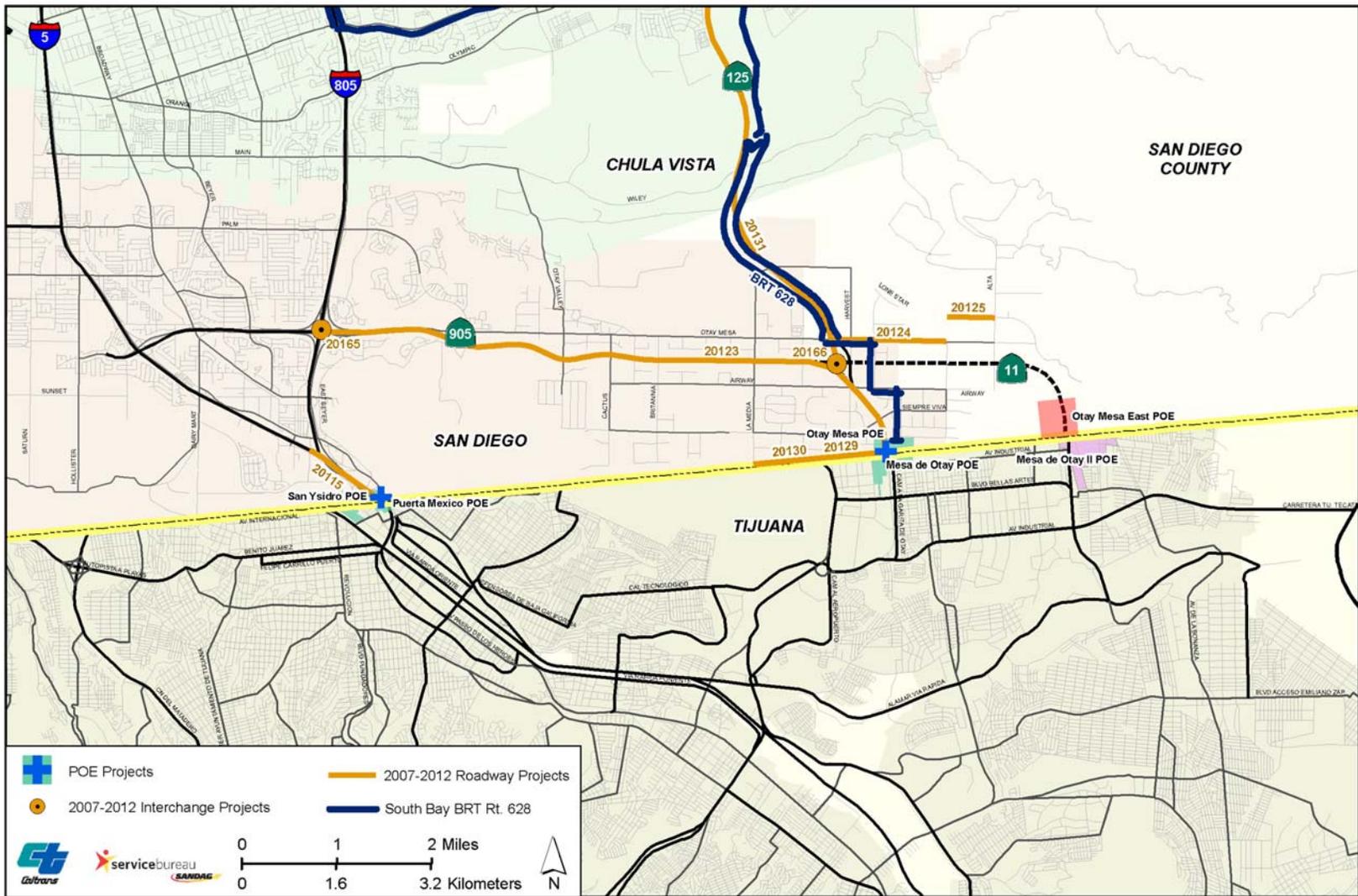
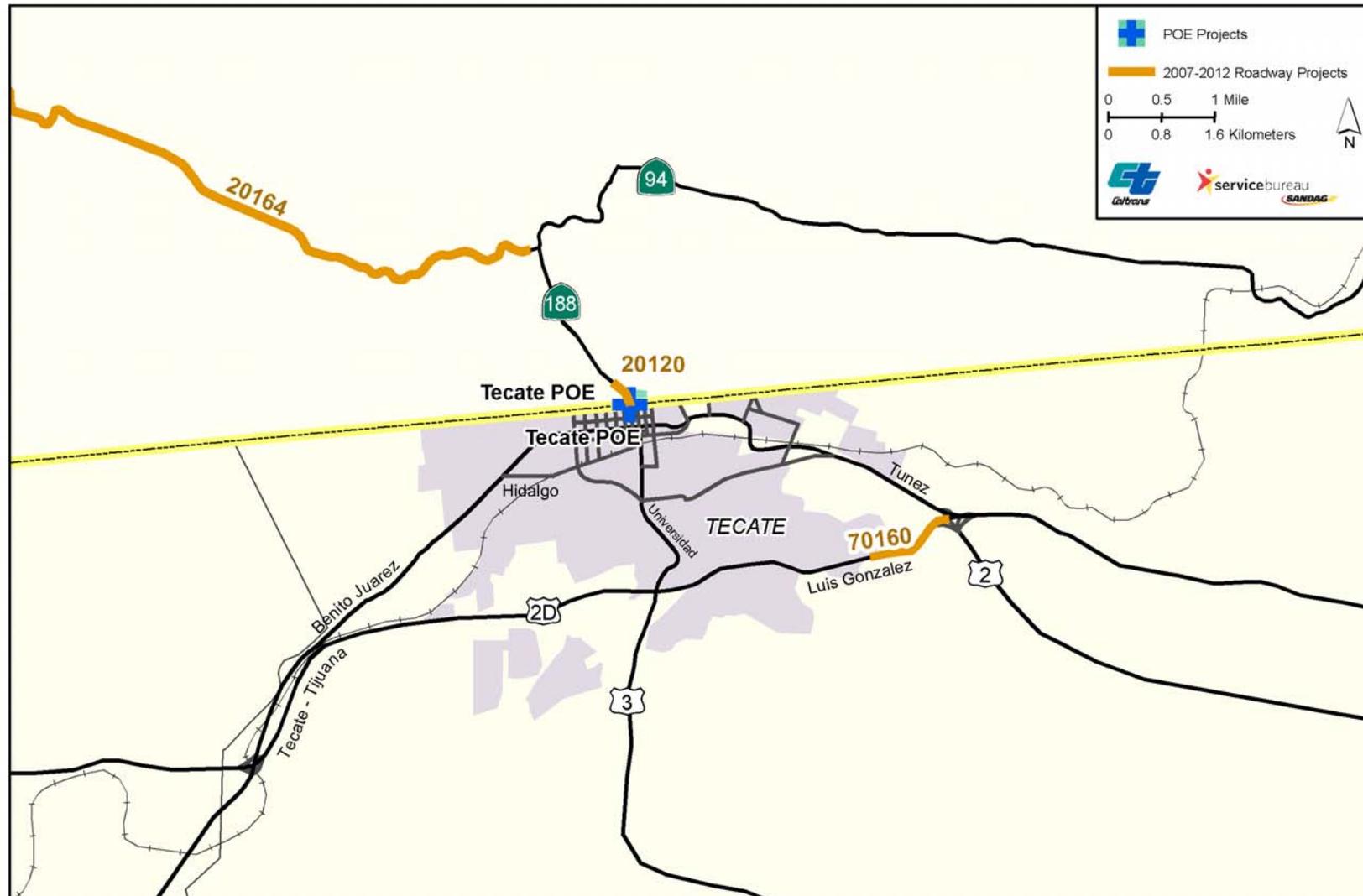


Figure 4-8
California-Baja California Border Master Plan
Tecate Projects (2007-2012)



**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

**Figure 4-9
 California-Baja California Border Master Plan
 San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2012)**

2007 – 2012 ROADWAY PROJECTS

San Diego County Projects

Project ID	Description
20115:	I-5/I-805. Modify Access to POE from Willow Road
20120:	SR 188 Truck Bypass Lanes
20122:	I-805 Ramp Meters and HOV Bypass Lanes from Telegraph Canyon to Bonita Road
20123:	SR 905 Freeway from I-805 to Mexico
20124:	Otay Mesa Road Widening from SR 125 to Enrico Fermi Drive
20125:	Lone Star Road from Alta Rd. to 0.5 Miles West
20129:	Otay Truck Route from Otay Mesa POE to Drucker Lane
20130:	Otay Truck Route Widening from Drucker Lane to La Media
20131:	SR 125 Toll, Gap, and Connector from SR 905 to SR 54
20164:	SR 94 Operational Improvements from Melody Road to SR 188

Tijuana / Tecate Projects

Project ID	Description
70156:	Tijuana-Tecate Road Widening from del Florido to Toyota
70160:	Widening of Mexicali-Tecate Freeway

2007 – 2012 INTERCHANGE PROJECTS

San Diego County Projects

Project ID	Description
20135:	I-5 and E Street Split Grade Intersection
20136:	I-5 and H Street Split Grade Intersection
20138:	I-5 and E Street Interchange Improvements
20139:	I-5 and H Street Interchange Improvements
20140:	I-805 and SR 54 Interchange Improvements
20165:	SR 905 and I-805 Interchange Improvements
20166:	SR 905 and SR 125 Interchange Construction

2007 – 2012 BRT PROJECTS

San Diego County Projects

Project ID	Description
20127:	South Bay BRT Route 628 -- Otay Ranch to Downtown San Diego

Figure 4-9 (cont'd)
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2007-2012)

 2007 – 2012 POE PROJECTS

San Diego County Projects

Project ID	Description
20126:	San Ysidro POE -- Border Bicycle Parking
20176:	San Ysidro POE -- Stacked Booth Pilot
20177:	San Ysidro POE -- SENTRI Lane Expansion
20178:	San Ysidro POE -- Secondary Inspection Upgrades
20179:	San Ysidro POE -- Signage Upgrade
20180:	San Ysidro POE -- Bus Passenger Inspection
20181:	Otay Mesa POE -- SENTRI Lane Expansion
20182:	Otay Mesa POE -- FAST Lane Expansion
20183:	Otay Mesa POE -- Otay Mesa Feasibility Study
20185:	Otay Mesa POE -- Otay Mesa POE Master Site Plan
20184:	Otay Mesa East POE -- Otay Mesa East Feasibility Study
20119:	Tecate POE -- CHP Truck Inspection Facility
20186:	Tecate POE -- Rail Inspection Facilities
20187:	Tecate POE -- New CVEF Facility

Tijuana / Tecate Projects

Project ID	Description
70157:	Mesa de Otay POE -- Commercial Lane Extension
70158:	Mesa de Otay II POE -- Feasibility Study
70196/197:	Puerta México-EI Chaparral POE -- Reconfiguration
70159:	Tecate POE -- Acquisition of Land

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

[THIS PAGE INTENTIONALLY LEFT BLANK]

Figure 4-10
 California-Baja California Border Master Plan
 Imperial County – Municipality of Mexicali Projects (2007-2012)

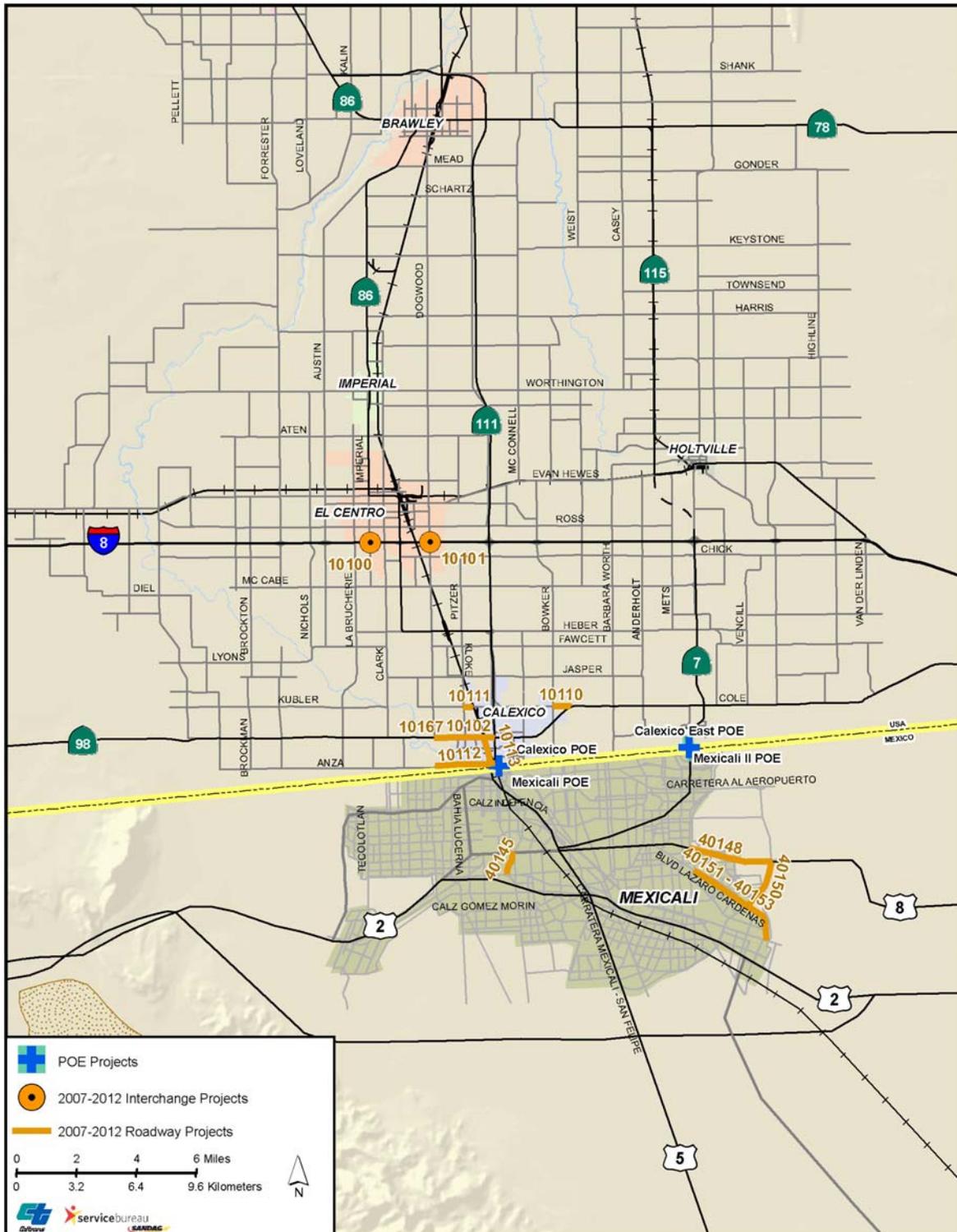


Figure 4-11
California-Baja California Border Master Plan
Andrade - Algodones Projects (2007-2012)



Figure 4-12
California-Baja California Border Master Plan
Imperial County – Municipality of Mexicali Project Lists (2007-2012)

 **2007 – 2012 ROADWAY PROJECTS**

Imperial County Projects

Project ID Description

10102: SR 98 from Navarro Road to SR 111
10104: SR 186 at Andrade CVEF
10110: Cole Road from Bowker Road to SR 98
10111: Cole Road from Kloke Road to the railroad
10112: Second Street Expansion from SR 111 to Dogwood Road
10113: Cesar Chavez Boulevard Expansion from SR 111 to SR 98/Birch Street
10167: SR 98 West from Dogwood to SR 111

Mexicali Projects

Project ID Description

40145: Rio Nuevo Extension from Lazaro Cárdenas to Blvd. Héctor Terán Terán
40148: Mexicali-Algodones Road Widening from Calle Novena to Islas Agrarias
40150: Beltway Around Eastern Periphery from Lazaro Cárdenas to Islas Agrarias
40151/152/153: Mexicali-San Luis Rio Colorado Road

 **2007 – 2012 INTERCHANGE PROJECTS**

Imperial County Projects

Project ID Description

10100: Imperial Avenue and I-8 Interchange
10101: Dogwood Avenue and I-8 Interchange
10105: SR 186 and I-8 Interchange

 **2007 – 2012 POE PROJECTS**

Imperial County Projects

Project ID Description

10190: Calexico West POE -- Repair Sink Hole at Primary Inspection
10191: Calexico East POE -- SENTRI Lane Expansion
10192: Andrade POE -- Upgrades to Pedestrian Crossing and Facilities Renovations
10193: Andrade POE -- Traffic Control Barriers
10194: Andrade POE -- Site Expansion

CHAPTER 5

EVALUATION CRITERIA FOR PORT OF ENTRY AND RELATED TRANSPORTATION FACILITIES

This chapter presents the development of the criteria utilized to rank port of entry (POE) projects and transportation facility projects and includes the methodology for ranking submitted projects featured in Appendix D.

CRITERIA DEVELOPMENT

The California-Baja California Border Master Plan identified mid- and long-term transportation and POE operational and infrastructure needs and applied evaluation criteria to prioritize projects. The SANDAG Service Bureau and the Technical Working Group (TWG) developed criteria for ranking POE and Transportation projects, which were approved by the Policy Advisory Committee (PAC).

Regional transportation plans and the Binational Transportation Border Infrastructure Needs Assessment Study (BINS) project, approved by the U.S.-Mexico Joint Working Committee (JWC), were utilized as reference materials. Features of various methodologies were incorporated to create transportation facility criteria that fit within the framework of the California-Baja California Border Master Plan and available data from stakeholders.

Evaluation criteria were developed to prioritize POE projects and three types of transportation projects: roadways, interchanges, and rail. Data was gathered for mid- and long-term (operational between 2013 and 2030) transportation facilities and POE projects specific to the focused study area.

Project submissions were received from eight agencies: U.S. Customs and Border Protection; California Department of Transportation (Caltrans); State of Baja California Secretariat of Infrastructure and Urban Development of Baja California (Secretaría de Desarrollo Urbano del Estado or SIDUE); San Diego Association of Governments (SANDAG); County of San Diego; City of Chula Vista; City of El Centro; and Municipal Planning Institute of Tijuana (Instituto Municipal de Planeación de Tijuana or IMPlan). The remaining agencies did not have projects to submit or coordinated with another submitting agency: U.S. Department of State; U.S. General Services Administration; U.S. Federal Highway Administration; Southern California Association of Governments; Imperial Valley Association of Governments; City of Calexico; Mexico's Secretariat of Foreign Relations (Secretaría de Relaciones Exteriores or SRE); Mexico's Institute of Administration and Estimates of National Real Estate (Administration and Estimates of National Real Estate (Instituto de Administración y Avalúos de Bienes Nacionales or INDAABIN); Mexico's General Customs Administration (Aduanas); Mexico's Secretariat of Communications and Transportation (Secretaría de Comunicaciones y Transporte or SCT); Mexico's Secretariat of Social

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Development (Secretaría de Desarrollo Social or SEDESOL); Direction of Urban Administration of the Municipality of Mexicali; and the Municipality of Tecate.

POE Projects: Evaluation Criteria

Two sets of criteria and scores were developed to evaluate POE projects. The first set, POE Criteria, (shown in Table 5-1 on the following page) is based on current POE travel and trade demand, current POE congestion, and projected change in POE travel demand. The applicable criteria differ by POE project type, but the maximum possible score by type was normalized to 100 points. This approach allowed for a level playing field for all project types while highlighting the differences between POE projects of the same type. The second set, Project Criteria (shown in Table 5-2 on the following page) pertains specifically to each project, and the same number of criterion is scored for all projects. Each individual criterion is weighted.

Each POE criterion received a maximum of three points, with the exception of the cost-effectiveness criterion, which received a maximum score of five points due to the wide range of project costs between projects types. Score ranges were created to correlate with a score distribution of one to three or one to five points for the measures of cost-effectiveness, truck percentage share, and average annual daily traffic improvement. A full description of all POE criteria is included in Appendix D-1.

As shown in Table 5-2, the Project Criteria were weighted with project performance receiving up to 70 percent of the total score, with two main components: project cost-effectiveness (up to 40 percent of the score) and environmental/community and economic benefits (up to 30 percent of the score). Project readiness receives up to 30 percent of the total score.

A total of 20 POE projects were submitted by CBP, Caltrans, and SIDUE. Of the submitted POE projects, seven contained sufficient data for ranking. The approved POE criteria were applied to rank these projects. A missing data element received zero points for the relevant criterion. The POE project with the highest overall score is listed first. The POE project rankings are discussed in Chapter 6 and also listed in Appendix D-2. The detailed POE scores and submitted data can be seen in Appendices D-3 and D-4. POE projects in early conceptual stages of development, for which quantitative and or qualitative information was not available, were inventoried without a priority ranking and are listed in Appendix D-16.

Table 5-1
 POE Evaluation Criteria

Focus	Criteria	Description	Score	Criteria to be Scored by POE Project Type									
				Existing Pax POE	Existing Cargo POE - Truck	Existing Cargo POE - Rail	New Pax POE	New Truck POE	New Rail POE	New Pax & Cargo POE			
Current POE Demand (Travel and Trade)	CURRENT	1. Crossborder Truck Traffic	Number of Trucks that crossed the POE in 2005	NB & SB	1-3		▲						
		2. Crossborder Tonnage of Goods by Truck	Volume of Goods in tons transported by truck in 2005	NB	1-3		▲						
		3. Crossborder Value of Goods by Truck	Value of Goods in tons transported by truck in 2005	NB	1-3		▲						
		4. Crossborder Passenger Vehicle Traffic	Number of Passenger Vehicles and Buses that crossed the POE in 2005	NB & SB	1-3	▲							
		5. Crossborder Pedestrian Traffic	Number of Pedestrians that crossed the POE in 2005	NB	1-3	▲							
		6. Crossborder Rail Traffic	Number of Rail Cars that crossed the POE in 2005	NB & SB	1-3			▲					
		7. Crossborder Tonnage of Goods by Rail	Volume of Goods in tons transported by rail in 2005	NB	1-3			▲					
		8. Crossborder Value of Goods by Rail	Value of Goods in tons transported by rail in 2005	NB	1-3			▲					
Current Congestion at POE	CURRENT	9. Truck Wait Times at POE	Truck wait times in minutes in 2007 or wait times at nearest POE in 2007 (for new POEs)	NB	1-3		▲			▲		▲	
		10. Passenger Vehicle Wait Times at POE	Passenger Vehicle Wait times in minutes in 2007 or wait times at nearest POE in 2007 (for new POEs)	NB	1-3	▲			▲			▲	
		11. Pedestrian Wait Times at POE	Pedestrian Wait times in minutes in 2005 or wait times at nearest POE in 2005 (for new POEs)	SB	1-3	▲			▲			▲	
Projected Change in POE Demand (Travel)	PROJECTED	12. Change in Crossborder Truck Traffic	a. Numerical Change in Number of Trucks between 2005 and 2030	NB	1-3		▲			▲		▲	
			b. Percent Change in Number of Trucks between 2005 and 2030	NB	1-3		▲						
		13. Change in Crossborder Passenger Vehicle Traffic	a. Numerical Change in Number of Passenger Vehicles and Buses between 2005 and 2030	NB	1-3	▲			▲				▲
			b. Percent Change in Number of Passenger Vehicles and Buses between 2005 and 2030	NB	1-3	▲							
		14. Change in Crossborder Pedestrian Traffic	a. Numerical Change in Number of Pedestrians between 2005 and 2030	NB	1-3	▲			▲				▲
			b. Percent Change in Number of Pedestrians between 2005 and 2030	NB	1-3	▲							
		15. Change in Crossborder Rail Traffic	a. Numerical Change in Number of Rail Cars between 2005 and 2030	NB	1-3			▲				▲	
b. Percent Change in Number of Rail Cars between 2005 and 2030	NB		1-3			▲							
Total Number of Variables to be Scored by POE Project Type						8	6	5	4	2	1	6	
Maximum Points by POE Project Type (to be normalized to 100 points by POE project type)						24	18	15	12	6	3	18	

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Table 5-2
POE Project Evaluation Criteria**

Focus		Description	Score	Criteria to be Scored by POE Project Type							Weight	Maximum Points
				Existing Pax POE	Existing Cargo POE - Truck	Existing Cargo POE - Rail	New Pax POE	New Truck POE	New Rail POE	New Pax & Cargo POE		
Cost-Effectiveness	16. Project Cost-Effectiveness	Cost of POE project divided by daily number of projected new users (trucks and rail cars for commercial POEs, passenger vehicles and pedestrians for passenger or tourist POEs)	1-5	▲	▲	▲	▲	▲	▲	▲	6	30
Projected Project Performance	17. Environmental Project Benefit	Environmental benefit of the POE project (air quality, habitat mitigation)	1-3	▲	▲	▲	▲	▲	▲	▲	5	15
	18. Community and Economic Project Benefit	Community and economic benefit of the POE project (safety, access, job and output creation)	1-3	▲	▲	▲	▲	▲	▲	▲	5	15
	19. Impact on Other Modes	Positive impact on other modes of transportation or inspection procedures at the subject or adjacent POEs	0-2	▲	▲	▲	▲	▲	▲	▲	5	10
Project Readiness	20. Current Phase of Project	Conceptual Planning, Advanced Planning (Plans and Specifications), Presidential Permit	1-3	▲	▲	▲	▲	▲	▲	▲	10	30
Total Maximum Points											100	

Transportation Projects: Evaluation Criteria

The approved transportation facility criteria include one set of criteria for roadways and interchanges (containing slight differences in calculations) and another set of criteria for rail projects.

Roadways and Interchange Criteria

Eleven criteria were developed for ranking roadway and interchange projects. The criteria were grouped into three criteria types totaling 100 possible points: Congestion/capacity (up to 39 percent of the score); cost-effectiveness (up to 33 percent of the score); and project readiness, POE connectivity, and regional benefits (up to 28 percent of the score), as shown in Table 5-3 below. A full description of the criteria is included in Appendix D-6.

**Table 5-3
 Roadway and Interchange Evaluation Criteria by Type**

Criteria Type	Criteria	Total Weighted Points
Congestion/Capacity	1. Level of Service	39
	2. Average Annual Daily Traffic Improvement	
	3. Accident Rate	
	4. Truck Percent Share	
	5. POE Congestion	
Cost-Effectiveness	6. Cost-Effectiveness	33
Project Readiness, POE Connectivity, Regional Benefit	7. Current Phase of Project	28
	8. POE Connection	
	9. Multimodal Benefit	
	10. Environmental Benefit	
	11. Community and Economic Benefit	
Total		100

Each criterion was scored separately, weighted by criteria type, and then an overall score for each project was calculated. The project with the highest overall score was listed first and is considered to have the highest need. A missing data element received zero points for the relevant criterion.

CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN

The SANDAG Service Bureau received submissions of 73 roadway and 20 interchange projects from Caltrans, County of San Diego, City of Chula Vista, City of El Centro, SIDUE, and IMPlan. Of the projects submitted, 68 roadway projects and 16 interchange projects contained sufficient data for ranking. The ranked roadway and interchange projects are discussed in Chapter 6 and can be seen in Appendix D-7 and D-10. The detailed roadway and interchange scores and submitted data can be seen in Appendices D-8 and D-9 and D-11 and D-12, respectively. Roadway and interchange projects in early conceptual stages of development, for which quantitative and or qualitative information was not available, were inventoried without a priority ranking and are listed in Appendix D-16.

Rail Criteria

Eight criteria were developed to rank rail projects. The criteria are grouped into three criteria types: Congestion/capacity (up to 42 percent of the score); cost-effectiveness (up to 36 percent of the score); and project readiness, POE connectivity, and regional benefits (up to 22 percent of the score), as shown in Table 5-4. A detailed description of the individual criterion, points, and weighting is included in Appendix D-6.

Table 5-4
Rail Evaluation Criteria by Type

Criteria Type	Criteria	Total Weighted Points
Congestion/Capacity	1. Capacity Improvement	42
	2. POE Congestion	
	3. Local Circulation Congestion	
Cost Effectiveness	4. Cost Effectiveness	36
Project Readiness, POE Connectivity, Regional Benefit	5. Current Phase of Project	22
	6. POE Connection	
	7. Environmental Benefit	
	8. Community and Economic Benefit	
Total		100

Each criterion was scored separately, weighted by criteria type, and then an overall score for each project was calculated. A missing data element received zero points for the relevant criterion. The project with the highest overall score was listed first and is considered to have the highest need.

The SANDAG Service Bureau received submissions of 100 rail projects from Caltrans, SANDAG, and the City of El Centro. Of the projects submitted nine contained sufficient data for ranking. The list of ranked

rail projects is discussed in Chapter 6 and is also included in Appendix D-13. The detailed rail scores and submitted data can be seen in Appendices D-14 and D-15. Ninety-one rail projects in early conceptual stages of development, for which quantitative and or qualitative information was not available were inventoried without a priority ranking and are listed in Appendix D-16.

SUMMARY AND CONCLUSIONS

The development of criteria for ranking POE and transportation projects has allowed the Border Master Plan to create, maybe for the first time, a list of prioritized projects within a binational study area. This methodology was applied to prioritize projects in both California and Baja California. Not all projects submitted contained sufficient data for ranking. Future updates of the Border Master Plan can incorporate additional data for these projects as more information becomes available from planning and implementation activities. The ranked lists serve as a guideline to identify projects of importance within the California-Baja California border region.

CHAPTER 6

ANALYSIS AND PRIORITIZATION OF MID- AND LONG-TERM TRANSPORTATION AND PORT OF ENTRY PROJECTS

INTRODUCTION

This chapter of the California-Baja California Border Master Plan examines mid- and long-term (2013-2030) port of entry (POE), roadway, rail, and interchange projects serving the POEs, which were submitted by the California-Baja California Technical Working Group (TWG). The projects are organized by POE and include project rankings. The analysis intends to identify whether planning and implementation of POE and connecting transportation facilities are taking place in a coordinated manner or whether there are any gaps or inconsistencies in the projects and/or project schedules.

The following analysis highlights existing and future conditions of each POE along the California-Baja California International Border including the connecting transportation facilities. The section is organized according to the results of POE rankings. For each POE, the section summarizes the POE and related transportation projects and discusses consistencies or gaps in the planning and implementation processes. (Refer to Appendix D for detailed data on the projects and rankings.)

Figures 6-1 through 6-5 show the location of the mid- and long-term projects in the San Diego-Tijuana/Tecate vicinity, while Figures 6-6 through 6-8 illustrate the location of the projects in the Imperial County-Mexicali vicinity.

A total of 11 POE projects submitted by the TWG were ranked. The projects were submitted by U.S. Customs and Border Protection (CBP), with concurrence from U.S. General Services Administration (GSA); Secretariat of Infrastructure and Urban Development (SIDUE), with concurrence from the Secretariat of Communications and Transportation (SCT), and the Institute of Administration and Appraisals of National Real Estate (INDAABIN); and by the California Department of Transportation (Caltrans). The projects were individually ranked and then grouped by POE. The individual project rankings were then used to establish a priority order for the POEs. The projects are presented in the following POE ranked order:

- Otay Mesa East-Mesa de Otay II (new POE)
- San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE
- Calexico-Mexicali POE
- Otay Mesa-Mesa de Otay POE
- Tecate-Tecate POE
- Calexico East-Mexicali II POE
- Andrade-Los Algodones POE

**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

OTAY MESA EAST-MESA DE OTAY II POE

Caltrans, in partnership with SIDUE, as well as federal agencies on both sides of the border, is sponsoring the development of a new border crossing—the Otay Mesa East-Mesa de Otay II POE. This POE will be located approximately two miles east of the existing Otay Mesa-Mesa de Otay POE and will serve both passengers and commercial vehicles.

Proposed POE Projects for the Otay Mesa East-Mesa de Otay II POE

**Table 6-1
 POE Projects
 Otay Mesa East-Mesa de Otay II POE**

Project No.	Project Name	Description	Type	Cost (in U.S. \$)	Phase	Completion Year	Rank
4020001	Otay Mesa East – new POE	Construct new POE facility	New passenger and commercial POE	\$350,000,000	Presidential Permit	2014	1
4070002	Mesa de Otay II – new POE	Construction of a new tourist and commercial border crossing	New passenger and commercial POE	\$109,990,800	Advanced Planning	2013	2

As shown in Table 6-1, the Otay Mesa East-Mesa de Otay II POE is a proposed new POE that would accommodate passengers and commercial traffic. A presidential permit is in process in the United States. In Mexico, this project is in the advanced planning phase. The proposed projects are ranked 1st and 2nd out of 11 POE projects evaluated.

Proposed Transportation Projects for the Otay Mesa East-Mesa de Otay II POE

The TWG was asked to submit mid- and long-term (2013-2030) transportation projects and to designate the POE primarily served by the project. Planned arterial and highway projects are shown in Table 6-2, while interchange projects are shown in Table 6-3 according to the ranking results following the approved evaluation criteria.¹⁵

¹⁵ The City of Chula Vista did not submit the La Media Road Bridge for evaluation because its completion would likely occur after 2030. The La Media Road Bridge is included in the City of Chula Vista’s Circulation Element.

Table 6-2
Roadway Projects
Otay Mesa East-Mesa de Otay II POE

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1070012	International Otay II Blvd.	Mesa de Otay II POE to Tijuana-Tecate Toll Rd.	Construction of an 8-km roadway for northbound trucks for access to the Mesa de Otay II border crossing	\$8,249,300	Conceptual Planning	2013	8
1070021	International Otay II Blvd.	Tijuana-Tecate Toll Rd. to Alamar	Construction of a 1.5-km arterial for northbound trucks from Tijuana-Tecate Toll Road to Alamar Blvd.	\$916,590	Conceptual Planning	2013	8
1070011	Las Torres Blvd.	Highway Tijuana - Tecate to Mesa de Otay II POE	Construction of a 2-km roadway with a 38-meter right-of-way	\$2,749,770	Conceptual Planning	2014	15
1070008	Ave. International East	Silvestre Revueltas Street to 12 Norte St.	Extension of 4-lane roadway for truck circulation and 500 meters of additional access to Mesa de Otay II	\$1,833,180	Conceptual Planning	2014	18
1020022	Enrico Fermi Dr.	Otay Mesa Rd. to SR 11	Enhanced arterial from Otay Mesa Rd. to SR 11	\$7,000,000	Conceptual Planning	2030	24
1020021	Enrico Fermi Dr.	Lone Star Rd. to Otay Mesa Rd.	Arterial from Lone Star Rd. to Otay Mesa Rd.	\$6,000,000	Conceptual Planning	2030	27
1020034	Siempre Viva Rd.	Alta Rd. to Loop Rd.	Arterial from Alta Rd. to Loop Rd.	\$9,000,000	Conceptual Planning	2030	27
1020035	Siempre Viva Rd.	Loop Rd. to Roque Rd	Arterial from Loop Rd. to Roque Rd.	\$3,000,000	Conceptual Planning	2030	27
1020014	Airway Rd.	City of SD to Enrico Fermi Drive	Arterial from City of SD to Enrico Fermi Dr.	\$3,000,000	Conceptual Planning	2030	31
1020025	Lone Star Rd.	Piper Ranch to Sunroad Blvd.	Arterial from Piper Ranch to Sunroad Blvd.	\$12,000,000	Conceptual Planning	2030	31
1020033	Siempre Viva Rd.	City of SD to Alta Rd.	Arterial from City of SD to Alta Rd.	\$6,000,000	Conceptual Planning	2030	33
1020030	Otay Mesa Rd.	Sanyo Rd to Enrico Fermi	Arterial from Sanyo Rd. to Enrico Fermi	\$9,000,000	Conceptual Planning	2030	34
1020028	Lone Star Rd.	Enrico Fermi Rd. to Alta Rd.	Arterial from Enrico Fermi Rd. to Alta Rd.	\$6,000,000	Conceptual Planning	2030	35
1020023	Enrico Fermi Dr.	SR 11 to Airway Rd.	Enhanced Arterial from SR 11 to Airway Rd.	\$7,000,000	Conceptual Planning	2030	44
1020026	Lone Star Rd.	Sunroad Blvd. to Vann Center Blvd.	Arterial from Sunroad Blvd. to Vann Center Blvd.	\$3,000,000	Conceptual Planning	2030	44

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Table 6-2 (cont'd)
Roadway Projects
Otay Mesa East-Mesa de Otay II POE**

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1020027	Lone Star Road	Vann Center Blvd to Enrico Fermi Dr.	Arterial from Vann Center Blvd to Enrico Fermi D.	\$6,000,000	Conceptual Planning	2030	44
1020029	Lone Star Rd.	Otay Mesa Rd. to Siempre Viva Rd.	Arterial from Otay Mesa Rd. to Siempre Viva Rd.	\$12,000,000	Conceptual Planning	2030	48
1020017	Alta Rd.	Old Otay Mesa Rd. To Donovan State Prison	Arterial from Old Otay Mesa Rd. to Donovan State Prison	\$8,000,000	Conceptual Planning	2030	48
1020019	Alta Rd.	Otay Mesa Rd. to Airway Rd.	Arterial from Otay Mesa Rd. to Airway Rd.	\$6,000,000	Conceptual Planning	2030	51
1020038	Via de la Amistad	City of SD/Enrico Fermi to Alta Rd.	Collector	\$3,000,000	Conceptual Planning	2030	54
1020005	SR 11	SR 905 to Mexico	Construct 4 toll lanes	\$377,850,000	Advanced Planning	2014	59
1020015	Airway Rd.	Enrico Fermi Rd. to Alta Rd.	Arterial from Enrico Fermi Rd. to Alta Rd.	\$6,000,000	Conceptual Planning	2030	61
1020016	Airway Rd.	Alta Rd. to Loop Rd.	Arterial from Alta Rd. to Loop Rd.	\$6,000,000	Conceptual Planning	2030	61
1020018	Alta Rd.	Lone Star Rd. to Otay Mesa Rd.	Arterial from Lone Star Rd. to Otay Mesa Rd.	\$6,000,000	Conceptual Planning	2030	61
1020032	Otay Mesa Rd.	Alta Rd. to Loop Rd.	Arterial from Alta Rd. to Loop Rd.	\$9,000,000	Conceptual Planning	2030	61
1020020	Alta Rd.	Airway Rd. to Siempre Viva Rd.	Arterial from Airway Rd. to Siempre Viva Rd.	\$6,000,000	Conceptual Planning	2030	65
1020024	Enrico Fermi Dr.	Airway Rd. to Siempre Viva Rd.	Arterial from Airway Rd. to Siempre Viva Rd.	\$1,500,000	Conceptual Planning	2030	66
1020031	Otay Mesa Rd.	Enrico Fermi Rd to Alta Rd.	Arterial from Enrico Fermi Rd. to Alta Rd.	\$6,000,000	Conceptual Planning	2030	67

**Table 6-3
 Interchange Projects
 Otay Mesa East-Mesa de Otay II POE**

No.	Project Name	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
2070001	Bridge and node over the toll road from Tijuana - Tecate with access to Blvd. de las Torres	Construction of 40-meter bridge with a 200-meter intersection over the toll road from Tijuana - Tecate with access to the Blvd. de las Torres	\$7,332,720	Conceptual Planning	2014	4
2060002	Freeway node at the Tecate-Tijuana toll road	Completion of the roadway intersection	\$3,809,520	Advanced Planning	2013	4
2070006	International Otay II Blvd. - Tijuana-Tecate toll road node	Construction of interchange to connect Mesa de Otay II POE	\$7,332,720	Conceptual Planning	2014	8
2070007	International Otay II Blvd. - Alamar node	Construction of International Otay II Blvd. - Alamar node	\$7,332,720	Conceptual Planning	2014	10

Assessment of Projects

Binational coordination of planning and implementation activities for the proposed Otay Mesa East-Mesa de Otay II POE and the connecting roads is ongoing through the Technical Commission for the Infrastructure and Ports of Entry Committee of the San Diego-Tijuana Border Liaison Mechanism. Both countries are conducting required studies to implement the new POE.

The schedules for completion of the U.S. and Mexico's projects at the Otay Mesa East-Mesa de Otay II POE appear not to be fully coordinated since the project in Mexico is planned for completion in 2013 while the POE in the United States is scheduled for completion in 2014.

In terms of roadway connections in San Diego County, the new POE would be linked to SR 905 and SR 125 toll road via the future SR 11, which would be a direct connector to the POE. This project is tied to the construction of the POE, and therefore, scheduled for completion in 2014. This project ranked 59 out of 68 roadway projects evaluated, primarily due to a low-cost efficiency score.

Many new local roads in the County of San Diego are planned to provide parallel routes to SR 11 and primary connections serving the local community. Virtually all of these local roads are planned to be constructed by 2030.

In Mexico, two new roads are planned to provide access to the proposed POE: the first road, International Otay II Boulevard, is designed to serve northbound trucks from Mexico to the POE. This roadway project was submitted in two segments to connect the POE to the Tijuana-Tecate toll road and from the toll road to Alamar Vía Rápida. (Alamar is a new roadway that is described later in this chapter under the Otay

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Mesa-Mesa de Otay POE section.) Both segments are planned for completion in 2013 (ranked 8th). The next new roadway is the six-lane Las Torres Boulevard, which will directly connect to the POE and is planned for completion in 2014 (ranked 15th). This road will carry primarily southbound truck traffic from the POE into Mexico. (Depending on the final configuration of the Mexican federal compound, some passenger vehicles may be allowed to share this roadway, but the primary passenger-vehicle access to and from the POE will be Bellas Artes.)

Another project directly serving the proposed Mesa de Otay II POE is the extension of Avenue International East. This roadway currently exists from Mesa de Otay POE to the east, ending just short of the proposed POE. It will be extended to facilitate truck traffic between the two POEs. This project ranked 18th and is scheduled for completion in 2014.

A few interchanges are planned in Mexico to facilitate traffic and connect the roadways from the Mesa de Otay II border station with other roads that carry traffic locally and between the new POE and the Tecate-Tecate POE. One new interchange (bridge and node over the Tijuana-Tecate toll road with access to Las Torres Boulevard) will connect directly with Las Torres Boulevard and is timed to be completed at the same time as Las Torres Boulevard (2014). It ranked 4th out of all 16 interchange projects ranked.

The new interchange project at International Otay II Boulevard and Tijuana Tecate toll road connects International Otay II Boulevard to the toll road and is scheduled for completion in 2014. It ranked 8th. Another new intersection is planned at International Otay II Boulevard and the new roadway Alamar Vía Rápida. It is timed to be completed in 2013, the same time as both new roadways are finished. It ranked 10th.

The freeway node and the Tecate-Tijuana toll road is an improvement to an existing interchange to facilitate passenger-vehicle and truck traffic between the Mesa de Otay II POE and the Tecate POE. (Approximately 40 percent of the annual average daily traffic on this interchange is used by trucks.) The project is scheduled for completion in 2013 and appears to be timed with the opening of Mesa de Otay II border station. In terms of ranking, it is tied for 4th.

SAN YSIDRO-PUERTA MÉXICO POE

The San Ysidro-Puerta México POE serves pedestrians and passenger vehicles (including buses). It does not serve commercial vehicles; however, a rail line crosses at this POE. The POE is open seven days a week and 24 hours a day.

Proposed POE Projects for the San Ysidro-Puerta México/Virginia Avenue- El Chaparral POE

Table 6-4
POE Projects
San Ysidro-Puerta México/Virginia Avenue/El Chaparral POE

Project No.	Project Name	Description	Type	Cost (in U.S. \$)	Phase	Completion Year	Rank
4020003	San Ysidro POE re-design	POE expansion improvements, increase number of passenger lanes, associated roadway improvements to access I-5 at the POE	Existing Passenger POE	\$565,000,000	Advanced Planning	2014	3

As shown in Table 6-4, one POE project was submitted for the POE for ranking. It is important to note that the counterpart to this POE project in Mexico was proposed as a short-term project earlier in the study and a brief description is included in the discussion below.

The redesign the San Ysidro-Puerta México/Virginia-El Chaparral POE is proposed to alleviate congestion at the POE. This project is being coordinated with Mexico to convert the existing southbound lanes into northbound lanes to help facilitate northbound traffic into the United States. Some of these lanes could be double-stacked (i.e., two inspection booths per passenger-vehicle lane). When double-stacking is taken into account, San Ysidro is expected to have 50 regular passenger-vehicle inspection booths, 6 SENTRI lanes, 2 bus lanes, and 12 pedestrian lanes. Part of this project includes the associated roadway improvements to access the POE, including southbound access from Interstate 5 (I-5) through the federal facility at Virginia Avenue. This project ranked 3rd out of all 11 POE projects ranked by the TWG.

In Mexico, southbound passenger-vehicle traffic is currently processed through nine lanes (includes two bus lanes) at Puerta México. As described above, these lanes will be converted to northbound lanes. Southbound traffic will be accommodated through the Virginia Avenue/El Chaparral gate, located just west of the existing San Ysidro/Puerta México POE. El Chaparral will have 15 southbound passenger-vehicle lanes (including three bus lanes) and one return to the U.S. lane. It also includes the construction of covered areas for bus and auto inspections. This project is expected to be completed in 2012, and, therefore, it was not ranked as part of this process as the project falls within the short-term time frame.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Proposed Transportation Projects for the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE

The TWG was asked to submit mid- and long-term (2013-2030) transportation projects and to designate the POE primarily served by the project. Table 6-5 lists the planned arterial and highway projects that serve the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE. Table 6-6 presents interchange projects while Table 6-7 shows rail projects. All projects are shown according to the ranking results following the approved evaluation criteria.

**Table 6-5
Roadway Projects
San Ysidro-Puerta México/El Chaparral POE**

Project No.	Project Name	Limits	Description	Cost (In U.S. \$)	Phase	Year Open to Traffic	Rank
1070010	Incorporation of International Ave. West to vía Rápida	International Blvd. to Centro de Gobierno – Civic Center	Construction of a .7-km roadway section to incorporate International Ave. West to the Vía Rápida	\$2,291,480	Conceptual Planning	2014	2
1070007	Ramp on western crest of the Tijuana River channel	Pedestrian Bridge to Bridge Mexico	Construction of a ramp and retaining wall 600 meters in length from slope to crest west of the Tijuana River channel in order to connect the Chaparral border crossing with Tijuana	\$2,291,480	Conceptual Planning	2013	6
1020003	I-5	SR 905 to SR 54	Construct 2 high occupancy vehicle (HOV) lanes	\$202,000,000	Conceptual Planning	2020	14
1070006	Ramp in eastern crest of the Tijuana River Channel	Pedestrian bridge to bridge Mexico	Construction of a ramp and retaining wall 600 meters in length from slope to crest east of the Tijuana river channel in order to connect the “Chaparral” border crossing to Tijuana	\$2,291,480	Conceptual Planning	2013	18
1070003	Vehicular bridge over the channel of the Tijuana River	Vía Rápida East to vía Rápida West	Construction of a 1-lane bridge adjacent existing bridge in the Tijuana River channel	\$3,666,360	Conceptual Planning	2013	22
1070004	Vehicular bridge over the channel of the Tijuana River	Vía Rápida East, at the same elevation as calle Frontera to vía Rápida West	Construction of a 2-lane (same direction) vehicular bridge over the Tijuana River channel in order to connect the “El Chaparral” border crossing to Tijuana	\$7,332,720	Conceptual Planning	2013	22

**Table 6-5 (cont'd)
 Roadway Projects
 San Ysidro-Puerta México/El Chaparral POE**

Project No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1070005	Expansion of the via Rápida East Tijuana	Pedestrian bridge to bridge Mexico	Construction (expansion) of 2 lanes 600 meters in length in the via Rápida east to connect the El Chaparral border crossing to Tijuana	\$1,833,180	Conceptual Planning	2013	24
1070009	Double deck International Ave. West	Intersection of via Rápida East to access to Playas de Tijuana	Construction of a double deck for International Ave. West with a length of 10 km. for access to El Chaparral	\$146,654,450	Conceptual Planning	2014	26
1020010	I-805	Palomar St. to SR 94	Construct 4 managed lanes from Palomar St. to SR 94	\$884,000,000	Advanced Planning	2030	39
1020004	I-5	SR 54 to I-8	Construct 2 HOV lanes	\$934,000,000	Conceptual Planning	2020	40
1020009	I-805	SR 905 to Palomar St.	Construct 4 managed lanes from SR 905 to Palomar St.	\$288,000,000	Conceptual Planning	2030	42

**Table 6-6
 Interchange Projects
 San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE**

Project No.	Project Name	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
2070003	Cuauhtemoc-Padre Kino node	Construction of the Cuauhtemoc-Padre Kino node	\$4,582,950	Conceptual Planning	2018	3
2020003	I-805 – Main St./ Auto Park Dr. undercrossing	Revise interchange	\$20,000,000	Conceptual Planning	2015	7
2020002	I-805 / Palm Ave. overcrossing	Revise interchange	\$60,000,000	Advanced Planning	2014	8
2020001	I-5 from north of SR 54 to J St. overcrossing	Interchange improvements, local road improvements, & new structures	\$375,000,000	Conceptual Planning	N/A	15

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Table 6-7
Rail Projects
San Ysidro-Puerta México/El Chaparral POE**

Project No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
3020018	Blue Line Trolley service	San Ysidro to Downtown San Diego	Increase in Blue Line Trolley service (headways: peak 7.5, off-peak 7.5 mins.)	\$165,625,000	Conceptual Planning	2014	2
3020001	South Line	International Border to Broadway	Sidings, passing, Mexico connectivity, Coronado Line rehab	\$92,187,500	Advanced Planning	2015	3
3020004	Desert Line	Division to Plaster City	Basic service	\$15,800,000	Conceptual Planning	--	4
3020003	Amtrak Intercity Rail Yard	San Diego	Construction of a maintenance facility	\$33,000,000	Conceptual Planning	--	5

Assessment of Projects

Binational coordination of planning and implementation activities for the San Ysidro-Puerta México POE reconfiguration and expansion is accomplished through the San Ysidro-Puerta México Technical Commission for the Infrastructure and Ports of Entry Committee of the San Diego-Tijuana Border Liaison Mechanism. The schedules for completion of the U.S. and Mexico's projects at the San Ysidro-Puerta México/Virginia Avenue-El Chaparral POE appear not to be fully coordinated since the project in the United States, and the associated freeway improvements are anticipated to open to traffic in 2014, while the project in Mexico is planned for completion in 2012. The Service Bureau understands that the U.S. GSA could advance the reconfiguration of the southbound lanes to Virginia Avenue/El Chaparral to meet Mexico's planned schedule (2012) if funding became available.

The Service Bureau understands that part of the POE proposal at the San Ysidro border station is the transfer of the I-5 right-of-way south of Camino de la Plaza from Caltrans to GSA. Thus, the realignment of the I-5 to access the Virginia Avenue-El Chaparral POE would occur on the federal compound. Thus, no separate project to realign I-5 was provided by Caltrans.

In San Diego, two projects on I-5 were submitted to construct high occupancy vehicle (HOV) lanes. The first segment is from SR 905 to SR 54, and the second segment is from SR 54 to I-8. Both segments are planned for completion in 2020. The SR 905 to SR 54 project ranked 14th out of 68 projects evaluated, while the SR 54 to I-8 segment ranked 40th.

The two projects on I-805 are for the construction of four managed lanes. One segment is from SR 905 to Palomar Street (ranked 42nd) and the other is from Palomar Street to SR 94 (ranked 37th). Both segments are planned for completion in 2030. However, the first phase of this project will add one HOV

lane in each direction and is scheduled to be completed in 2012. These projects on I-5 and I-805 are designed to improve freeway capacity for crossborder travel, as well as to serve anticipated population growth in the area. The interchange projects submitted on these freeways also are geared to improve capacity through reconfigurations. The interchange projects on I-805 are scheduled for completion in 2014 and 2015. Completion dates for the I-5 interchange projects were not provided.

In San Diego, four rail projects were submitted. The first is the Blue Line Trolley service to increase frequency of services from 7.5 minutes peak and 15 minutes off-peak to 7.5 minutes in both peak and off-peak hours for travel between the San Ysidro border station and downtown San Diego.¹⁶ It ranked 2nd out of nine rail projects and is planned for completion in 2014.

Three freight rail projects were submitted. The first is the South Line, which ranked 3rd and is planned to be completed in 2015.¹⁷ The second is the Desert Line basic service. This project ranked 4th; no completion date was submitted. The third is the Amtrak Intercity Rail Yard, which ranked 5th. No completion date was submitted.

In Mexico, it appears that although the Virginia Avenue-El Chaparral POE would be opened to traffic in 2012, the local roads connecting the El Chaparral POE to the City of Tijuana will not be completed until 2013 or 2014.

In Mexico, the reconfiguration of the POE and the new location of the border crossing for southbound passenger vehicles require improvements on several local roadways in order to move the traffic from El Chaparral POE into the City of Tijuana or toward Playas de Tijuana and onto the Tijuana-Ensenada Toll Road.

The construction of a new vehicular bridge is planned in order to carry the southbound traffic from El Chaparral across the Tijuana River Channel to the City of Tijuana arterial network. This project, ranked 22, primarily carries the traffic from the POE to Playas de Tijuana and to the Tijuana-Ensenada Toll Road. Another bridge project will allow motorists to cross the Tijuana River Channel and head south into the Tijuana arterial network. This bridge project also ranked 22nd. Associated with these projects is the construction of a ramp on the western crest of the Tijuana River channel (ranked 6th) and of another ramp on the eastern crest of the channel (ranked 18th). Also, the expansion of the Vía Rápida East from three to five lanes would facilitate circulation. It ranked 24th and connects El Chaparral crossing to the City of Tijuana arterial network. All of these projects are timed to be opened to traffic in 2013. These projects seem to be well coordinated.

¹⁶ The Blue Line Trolley project extends beyond the ten-mile focus study area of this study. The mile posts, costs, and ridership numbers reflect only the portion of the route located within the ten-mile boundary.

¹⁷ The South Line project extends beyond the ten-mile focus study area of this study. The mile posts, costs, and carload estimates reflect only the portion of the route located within the ten-mile boundary.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

An additional project related to the El Chaparral border station is the construction of a double deck for International Ave. West from Vía Rápida East to access Playas de Tijuana. This project ranked 26th and is scheduled for completion in 2014. Another new road segment is proposed to connect International Ave. West to the Vía Rápida, which carries vehicles into the City of Tijuana. This new roadway ranked 2nd out of all 68 roadway projects and is expected to be complete in 2014.

In Mexico, one interchange is planned at Cuauhtémoc and Padre Kino. Padre Kino is a northbound roadway that connects to the Puerta México border station. It ranked 3rd and is scheduled for completion in 2018.

CALEXICO-MEXICALI POE

The Calexico-Mexicali POE serves pedestrians, passenger vehicles and rail. The POE operates 7 days a week and 24 hours a day. No commercial trucks cross at this facility since the Calexico East-Mexicali II POE opened in 1997; however, there is freight rail service that operates regularly.

Proposed POE Projects for the Calexico-Mexicali POE

**Table 6-8
POE Projects
Calexico-Mexicali POE**

Project No.	Project Name	Description	Type	Cost (In U.S. \$)	Phase	Completion Year	Rank
4040001	Mexicali -Calexico west expansion and improvement of the customs facilities	Improve and expand the Mexicali-Calexico border crossing	Existing Passenger POE	\$11,182,400	Conceptual Planning	2013	4
4010004	Calexico redesign	Move southbound traffic to vacated commercial facility; and reconfigure northbound traffic to facilitate pedestrian and bus movements	Existing Passenger POE	\$225,000,000	Advanced Planning	2013	5

Two projects are shown in Table 6-8. The expansion projects at the Calexico-Mexicali POE are proposed to alleviate current congestion at the border crossing. Prior to the opening of Calexico East-Mexicali II POE in 1997, commercial vehicles crossed at the Calexico-Mexicali POE. Currently, the POE serves passenger vehicles and pedestrians. In Calexico, plans are to construct a new facility on the vacated commercial site (west of the railroad tracks) to process north and southbound passenger vehicles. Pedestrian and buses would be processed at the existing facility. The Calexico border station currently has ten passenger, one SENTRI, one bus, and four pedestrian northbound lanes. The project would expand to 16 passenger-vehicle lanes/booths with possible double-stacking (includes two SENTRI and

one bus lane) and six pedestrian lanes. This project ranked 5th out of all 11 POE projects that were evaluated.

In Mexico, detailed plans of the lane configurations and changes were not provided, but it is understood that the federal government will make improvements to the federal inspection facilities located in Mexicali and reconfigure the roadways within the Mexican federal compound to connect to the new passenger-vehicle facility in Calexico. The POE improvement project ranked 4th out of the 11 POE projects.

Proposed Transportation Projects for the Calexico-Mexicali POE

The TWG was asked to submit mid- and long-term (2013-2030) transportation projects and to designate the POE primarily served by the project. Projects are shown in Tables 6-9 through 6-11 according to the ranking results following the approved evaluation criteria. Table 6-9 lists arterial and highway projects. Table 6-10 presents interchange projects while Table 6-11 shows rail projects.

Table 6-9
Roadway Projects
Calexico-Mexicali POE

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1040003	Extension of the central axis	Lázaro Cárdenas Blvd. to Gómez Morin Road	Construction of a 3.5-km. primary roadway like the extension of the Rio Nuevo roadway	\$5,545,370	Advanced Planning	2014	12
1040004	Terán-Terán Blvd.	San Felipe highway to Tijuana highway	Improvement of the existing 8-km. roadway	\$7,607,700	Advanced Planning	2013	12
1040002	Western periphery	Intersection with the proposed International roadway west to Tijuana highway	Construction of a 7-km. primary roadway	\$10,724,110	Conceptual Planning	2018	16
1040001	Colon Ave. West	Leyes de Reforma Bridge to a proposed roadway on the western periphery	Construction of a 4-km., primary roadway with 2 lanes in both directions	\$3,849,680	Conceptual Planning	2014	20
1010015	Imperial Ave.	I-8 to Aten Rd.	Improve to 6-lane primary arterial	\$26,200,000	Conceptual Planning	2030	40
1010011	Dogwood	SR 98 to Mead Rd.	Improve to 5-lane primary arterial	\$182,400,000	Conceptual Planning	2030	42

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Table 6-9 (cont'd)
Roadway Projects
Calexico-Mexicali POE**

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1010018	SR 111	SR 98 to I-8	Upgrade 4-lane expressway to 6-lane freeway and interchanges at Jasper Rd, McCabe Rd., and Heber Rd.	\$456,000,000	Advanced Planning	2015	44
1010009	Imperial Ave. (McCabe Rd. to I-8)	McCabe Rd. to I-8	Improve and construct a 6-lane primary arterial	\$28,200,000	Conceptual Planning	2016	50
1010001	I-8	Forrester Rd. to SR 111	Add 2 general purpose lanes	\$188,700,000	Conceptual Planning	--	51
1010016	8th St. overpass	Wake Ave. to Centinela	Widen to 4 lanes	\$4,000,000	Advanced Planning	2013	51
1010005	SR 111	I-8 to SR 78	Add 2 general purpose lanes and construct interchanges	\$500,000,000	Conceptual Planning	--	54
1010019	SR 98	SR 98 to Cesar Chavez Blvd.	Widen from 2 to 4 lanes at grade railroad crossing at SR 98 and Cesar Chavez Blvd.	\$50,000,000	Conceptual Planning	2016	54
1010017	SR 98 East	SR 111 to SR 7	Widen from 2 to 4 lanes	\$150,000,000	Advanced Planning	2016	57

**Table 6-10
Interchange Projects
Calexico-Mexicali POE**

No.	Project Name	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
2010004	Jasper Rd. / SR 111	Construct new freeway interchange	\$43,000,000	Advanced planning	2015	10
2010001	Austin Rd. / I-8 interchange	Construct interchange at Austin Rd. / I-8 (LRTP No. 9)	\$30,000,000	Conceptual planning	N/A	12
2010002	Bowker Rd. / I-8 interchange	Construct interchange at Bowker Rd. / I-8 (LRTP No. 19)	\$30,000,000	Conceptual planning	N/A	13

Table 6-11
Rail Projects
Calexico-Mexicali POE

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
3010083	McCabe Dogwood grade separation	Intersection McCabe and Dogwood	Grade separation of rail- road intersection with McCabe Rd. and Dog- wood Ave.	\$45,000,000	Conceptual Planning	2020	8
3010084	City of El Centro grade separations	City of El Centro	Grade separations at various locations	\$160,000,000	Conceptual Planning	2030	8

Assessment of Projects

Binational coordination of planning and implementation activities for the proposed Calexico-Mexicali POE and the connecting roads is accomplished through the Calexico-Mexicali Technical Commission for the Infrastructure and Ports of Entry Committee of the San Diego-Tijuana Border Liaison Mechanism. The project completion dates are coordinated as projects in both the United States and in Mexico are planned for completion in 2013.

In terms of transportation facilities, SR 111 is the direct connection to the POE in Calexico. The U.S. GSA is studying the options for moving the south and northbound passenger-vehicle traffic through the vacated federal compound. Details have not been made available to the Service Bureau whether the north and southbound passenger vehicles would move through the federal facility and connect to SR 111 or to Cesar Chavez Boulevard or both. According to Caltrans staff, expansion of SR 111 is unlikely due to right-of-way constraints, as this four-lane state route is lined with businesses on both sides of the roadway. However, operational improvements to SR 111 to accommodate additional passenger-vehicle traffic would be possible. Another challenge with this option is that the roadway through the federal facility to SR 111 would have to cross the railroad tracks. This could cause delays and backups for both north and southbound traffic.

The Service Bureau understands that another option is to realign Cesar Chavez Boulevard to directly connect to the Calexico border station. A short-term project was submitted (completion 2012) to expand Cesar Chavez Boulevard from SR 111 to SR 98/Birch from two to four lanes. At this point a specific project to realign Cesar Chavez Boulevard to the POE was not provided and may be pending the outcome of the POE design.

A challenge to the efficient operation of the Calexico border station is the location of the railroad. Vehicles already experience delays waiting for trains to pass as they travel southbound into Mexico. Currently, the train crossing does not interfere with northbound passenger vehicles traveling into the United States from Mexico, nor does it interfere with existing roadways that directly connect to the POE in Mexicali. However,

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

in order to reconfigure the northbound passenger vehicle lanes along Colon Avenue to connect with the new passenger vehicle entrance, the railroad does come into play. The Service Bureau understands that INDAABIN and SIDUE are examining alternatives for dealing with the railroad crossing so that passenger vehicles can efficiently access the new northbound entrance.

Two projects were submitted for improvements on SR 111: an upgrade from four to six lanes between SR 98 and I-8 and associated interchanges (planned completion date 2015) and addition of two general purpose lanes between I-8 and SR 78 (no planned completion date provided). On I-8 the addition of two general purpose lanes from Forrester Road to SR 111 is proposed, but no completion date was provided. These projects provide highway access to the Calexico-Mexicali POE and increase capacity to accommodate population growth in Imperial County. The projects are ranked 44, 54, and 51, respectively.

Two projects were submitted for SR 98. One is a widening from two to four lanes at the railroad crossing at SR 98 and Cesar Chavez Boulevard. It also ranked 54th and is scheduled for completion in 2016. The other project is the widening of SR 98 East from two to four lanes. This roadway will expand the capacity between SR 111 and SR 7, which connects to Calexico East-Mexicali II POE. It ranked 57th out of 68 roadway projects evaluated and is scheduled to be open for traffic in 2016. (Note: SR 98 West widening from Dogwood Road to SR 111 was submitted as a short-term project to be completed in 2012 and therefore, was not ranked.)

Various other projects were submitted that will improve capacity to serve local population growth and crossborder travel. These include improvements on two segments of Imperial Avenue (ranked 40th and 50th), Dogwood Road (ranked 42th), and 8th Overpass (ranked 51st).

In Imperial County, a few interchange projects were submitted to improve capacity of the roadway system and generally serve population growth in the county. The new freeway interchange at Jasper Road and SR 111 ranked 10th and is scheduled for completion in 2015. The other two interchange projects (Austin Road and I-8 and Bowker Road and I-8) are in the conceptual planning phase, and no completion dates were provided.

Table 6-11 lists two rail, grade separation projects proposed to alleviate congestion to local roads in the City of El Centro. The two projects are scheduled for completion in 2020 and are tied in 8th place out of nine rail projects evaluated.

Note: Two additional rail projects are grade separation improvements at SR 98 east of Cesar Chavez Boulevard and at Cesar Chavez Boulevard at the Calexico-Mexicali POE. Due to insufficient data, these projects are not ranked, but are included in the inventory of rail projects listed in Appendix D-16.

In Mexicali, the roadway improvement projects are geared at capacity improvements on arterials that connect the Mexicali and Mexicali II border crossings. The extension of the Central axis is a new north-south, four-lane road from Lázaro Cárdenas Boulevard to Gómez Morin Road that will intersect with Terán Terán Blvd. It ranked 12th and is scheduled for completion in 2014. Improvements on Terán Terán Blvd. from four to six lanes between the Tijuana-Mexicali and the Mexicali-San Felipe highways is proposed to accommodate traffic more efficiently between Mexicali and Mexicali II border stations. This project's ranking tied for 12th and is planned for completion in 2013. Another new road being planned is

one on the western periphery. It runs north and south and will help facilitate border crossing traffic by offering an alternative route from the Mexicali POE to the Tijuana-Mexicali highway. It ranked 16th and is planned for completion in 2018. The Colon Avenue West is a new east-west road that will connect to the proposed western periphery road previously mentioned. This roadway ranked 19th and is expected to be opened to traffic in 2014.

Many of the projects planned for increasing capacity and improving the flow of traffic appear to be timed with the opening of the new passenger vehicle crossing facility at the POE. The Service Bureau understands that INDAABIN and SIDUE are examining alternatives for reconfiguring the northbound passenger vehicle lanes to connect to the new northbound entrance.

No interchange or rail projects serving this POE in Mexico were submitted.

OTAY MESA-MESA DE OTAY POE

The Otay Mesa-Mesa de Otay POE was opened in 1985 for northbound passenger and commercial vehicle traffic and southbound passenger vehicles. In 1994, it began processing southbound commercial vehicles when the Virginia Avenue-El Chaparral gate ceased operations. It provides service for pedestrians, passenger vehicles (including bus), and commercial vehicles. The POE includes separate operations for cargo and passenger vehicles. The passenger crossing facility is open seven days a week and 24 hours per day. Cargo facilities operate reduced hours.

Proposed POE Projects for the Otay Mesa-Mesa de Otay POE

Table 6-12
POE Projects
Otay Mesa-Mesa de Otay POE

Project No.	Project Name	Description	Type	Cost (in U.S. \$)	Phase	Completion Year	Rank
4020005	Otay Mesa expansion-commercial facility	Improve commercial throughput with additional lanes	Existing Commercial POE-Truck	--	Conceptual Planning	--	6
4020004	Otay Mesa expansion-passenger facility	Improve passenger throughput with additional lanes	Existing Passenger POE	--	Conceptual Planning	--	8

As shown in Table 6-12, U.S. CBP proposes to improve passenger and commercial throughput by expanding the number of lanes at the existing Otay Mesa POE. The commercial facility currently has 12 commercial lanes, while the passenger facility has 13 passenger vehicle lanes. The additional number of lanes to be operational in 2030 is pending the outcome of a feasibility study. The commercial facility

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

project ranked 6th out of 11 POE projects evaluated, while the passenger facility project ranked 8th. These projects are in the conceptual phase. The anticipated completion dates or cost estimates were not provided.¹⁸

Proposed Transportation Projects for the Otay Mesa-Mesa de Otay POE

The TWG was asked to submit mid- and long-term (2013-2030) transportation projects and to designate the POE primarily served by the project. Table 6-13 lists the roadway and projects that serve the POE. Interchange and railway projects are shown in Tables 6-14 and 6-15, respectively.

**Table 6-13
Roadway Projects
Otay Mesa-Mesa de Otay POE**

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1070020	Alamar vía Rápida	Central bus station to Tijuana-Rosarito 2000 Blvd.	Construction of the vía Rápida Alamar with 3 lanes in both directions for 10 km. and side roads	\$36,663,610	Advanced Planning	2013	1
1070014	Industrial Blvd.	Airport access road to Terán Blvd.	Improvement of the primary, 6-km. roadway with access to the Otay I and II border crossings	\$1,833,180	Advanced Planning	2014	2
1020012	SR 905	I-805 to border	Add 2 general purpose lanes	\$200,000,000	Conceptual Planning	2030	16
1020007	SR 125	Telegraph Cyn. to San Miguel Rd.	Add 4 toll lanes from Telegraph Cyn. to San Miguel Rd.	\$130,000,000	Conceptual Planning	2030	37
1020008	SR 125	San Miguel Rd. to SR 54	Add 4 toll lanes from San Miguel Rd. to SR 54	\$40,000,000	Conceptual Planning	2030	37
1020002	Willow Street Bridge	Sweetwater Rd. to Bonita Rd.	Widen or replace bridge across Sweetwater River	\$17,052,000	Advanced Planning	2013	58

¹⁸ Although these POE projects are evaluated separately for technical reasons, CBP considers the lane expansions at the commercial and passenger facilities to be one project.

Table 6-13 (cont'd)
Roadway Projects
Otay Mesa-Mesa de Otay POE

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1020001	Heritage Road Bridge	Main Street to south of the Otay River	Bridge across Otay Valley	\$40,446,000	Conceptual Planning	2023	59
1020013	Otay Mesa southbound truck route	Britannia Blvd. to Otay Mesa POE	Widening and realignment	\$23,000,000	Advanced Planning	2014	68

Table 6-14
Interchange Projects
Otay Mesa-Mesa de Otay POE

No.	Project Name	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
2070002	Airport node - Bellas Artes	Construction of airport - Bellas Artes node with access to the Otay I border crossing	\$5,499,540	Conceptual Planning	2018	1
2070005	Industrial Avenue - Terán Terán node	Optimization of Industrial Ave. intersection -Terán Terán, access to Otay I and II border crossing	\$7,332,720	Conceptual Planning	2013	2
2070004	Bellas Artes-Magisterial node	Construction of the Bellas Artes-Magisterial node, access to the Mesa de Otay II border crossing	\$7,332,720	Conceptual Planning	2014	14
2020006	SR 905/Heritage Rd. interchange (Phase 4)	Construct Heritage Rd. interchange	\$54,300,000	Conceptual Planning	2018	16

**Table 6-15
 Rail Projects
 Otay Mesa-Mesa de Otay POE**

No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
3020002	Otay Mesa to Sorrento Mesa bus rapid transit	Otay Mesa to Sorrento Mesa	BRT service from Otay Mesa to Sorrento Mesa via I-805 /I-15 / SR 52 (Rt. 680)	\$65,274,100	Conceptual Planning	2014	1

Assessment of Projects

Improvements to the passenger and the cargo facilities at Otay Mesa-Mesa de Otay POE will add commercial and passenger lanes to increase operational efficiencies. Details about the timing of these projects and specifics on the future number of lanes and/or other improvements were not provided as the efforts are pending the completion of a feasibility study.

Development around the Otay Mesa-Mesa de Otay POE precludes major POE expansions at this location in Mexico as the POE is located between the Tijuana International Airport and the industrial complex for maquiladoras. As such, the mid- and long-term improvements proposed in this effort are primarily improvements to increase efficiency rather than major capacity increases to the POE and the connecting roads. No POE projects were submitted by TWG representatives in Mexico.

In terms of connecting roadways in San Diego County, the major roadway improvements are scheduled for completion during the short-term period and therefore, are not included in this analysis. For instance, SR 905/Otay Mesa Road is the principal east-west connector to the Otay Mesa-Mesa de Otay POE, and it provides the only access to the Otay Mesa POE. A project is underway to construct a six-lane freeway from I-805 to the Otay Mesa POE by 2010 (included on short-term list). Interstate 805 is the main north-south corridor serving the POE. Also included on the short-term list is the recently opened SR 125 toll road, also called the South Bay Expressway. It is a new north-south corridor linking the border area to Chula Vista communities and the rest of the San Diego regional highway network.

The future expansion of SR 905, which will result in an eight-lane freeway, ranked 16 out of 68 roadway projects. Two projects on SR 125 were submitted to also add lanes to the existing toll road. These tied projects ranked 37th. All three highway projects are scheduled for completion in 2030. These projects will help build capacity for future growth of the local community, as well as facilitate crossborder traffic.

Three local roadways projects were submitted. The Willow Street Bridge (ranked 58th with a 2013 completion date) and the Heritage Road Bridge (ranked 59th with a 2023 completion date) provide alternative access to the POE through the City of Chula Vista to the City of San Diego. The Otay Mesa Southbound Truck Route widening and realignment will help increase capacity for commercial vehicles at the border.

Some segments of this roadway were included on the short-term list. Primarily due to some missing data elements, this project was ranked 68 out of 68 roadway projects. The planned completion date is 2014.

In terms of interchange projects in San Diego County, the construction of an interchange at SR 905 and Heritage Road is planned for 2018 and ranked 16th.

A bus rapid transit project (BRT) was submitted and evaluated as a rail project. The BRT from Otay Mesa to Sorrento Mesa is proposed to operate similar to light rail service and carry passengers between the Otay Mesa area and Sorrento Mesa in the northern part of the City of San Diego. It ranked 1st out of the nine railroad projects evaluated and is planned for completion in 2014.

In Tijuana, major expansions on roadways connecting to the Mesa de Otay POE are limited due to existing industrial, commercial, and residential development near the POE. To increase connectivity between Mesa de Otay and the proposed Mesa de Otay II border stations, the construction of Alamar Vía Rápida, a new six-lane roadway, is planned. This roadway ranked 1st out of 68 roadway projects evaluated and is planned for completion in 2013. In addition, improvements are planned for Industrial Boulevard to facilitate access between Mesa de Otay and the proposed Mesa de Otay II POEs. This project ranked 2nd and is scheduled to be opened to traffic in 2014.

A few interchanges are proposed in Mexico to facilitate access to the port. Bellas Artes is a roadway that runs east-west between Mesa de Otay and the proposed Mesa de Otay II border stations. It serves as the primary passenger-vehicle access to the POE. The construction of interchanges at Magisterial and Bellas Artes and at Boulevard Aeropuerto and Bellas Artes will help facilitate the flow of traffic and serve both POEs. The projects are scheduled for completion in 2014 and 2018, respectively. The Aeropuerto-Bellas Artes interchange ranked 1st out of 16 interchange projects evaluated, while Bellas Artes-Magisterial ranked 14th. A proposed interchange at Industrial Avenue and Terán Terán will optimize the intersection of these two roadways and facilitate the traffic between Mesa de Otay and Mesa de Otay II border stations. The project ranked 2nd and is scheduled for completion in 2013.

TECATE-TECATE POE

The Tecate-Tecate POE was initially opened in 1932. The facility in the United States was renovated and expanded in 2004 and 2005. It provides service for pedestrians, passenger vehicles, commercial vehicles, and rail (the rail line crosses at Campo, located east of the POE). The passenger-vehicle facility is open to northbound traffic from 6 to 12 a.m., while the POE is open to southbound traffic from 5 a.m. to 11 p.m. Cargo facilities operate reduced hours.

**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

Proposed POE Projects for the Tecate-Tecate POE

**Table 6-16
 POE Projects
 Tecate-Tecate POE**

Project No.	Project Name	Description	Type	Cost (in U.S. \$)	Phase	Completion Year	Rank
4060001	Tecate POE cargo expansion and improvement	Cargo route inside the United States to transport imports and exports and expansion of the cargo facility on the Mexican side of the border	Existing commercial POE-truck	\$9,165,900	Conceptual Planning	2013	7

Table 6-16 lists a commercial facility project at the Tecate-Tecate POE. The project is for the construction of a commercial vehicle customs facility in Mexico (700 meters to the east of the existing POE) and access roads to connect it to the POE. It ranked 7th out of 11 POE projects evaluated. Note that in California, major upgrades to the Tecate border station were completed in 2005 and a new Commercial Vehicle Enforcement Facility (CVEF) is currently under construction and is anticipated to open in late 2008.

Proposed Transportation Projects for the Tecate-Tecate POE

The TWG was asked to submit mid- and long-term (2013-2030) transportation projects and to designate the POE primarily served by the project. Projects are shown according to the ranking results following the approved evaluation criteria in Tables 6-17 through 6-19, including roadway projects and interchange and railway projects.

**Table 6-17
 Roadway Projects
 Tecate-Tecate POE**

Project No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1060001	Defensores Blvd.	Mixcoac Street to Tecate-Tijuana freeway	Construction of a .5-km. primary road segment and intersection with the Tecate-Tijuana freeway	\$384,970	Advanced Planning	2015	6
1060002	Tecate-Tijuana Freeway	Rancho La Puerta to Paso el Águila node	A 3-km expansion of the Tecate-Tijuana freeway	\$4,078,830	Advanced Planning	2015	8
1060003	Tecate-Mexicali Freeway	Rancho Santa Lucia to San José	A 0.7-km expansion of a Tecate-Mexicali freeway segment	\$834,100	Advanced Planning	2015	8

**Table 6-18
 Interchange Projects
 Tecate-Tecate POE**

Project No.	Project Name	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
2060001	Tecate-Mexicali freeway and Las Torres Blvd. highway node	Tecate-Mexicali and Las Torres Blvd. highway node	\$3,574,700	Conceptual Planning	2015	4

**Table 6-19
 Rail Projects
 Tecate-Tecate POE**

Project No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
3020005	Desert Line	Division to Plaster City	Modernization	\$166,100,000	Conceptual Planning	--	5
3020017	Desert Line	Division to Plaster City	Double-tracking	\$2,130,000,000	Conceptual Planning	--	5

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

Assessment of Projects

The POE project submitted is aimed at improving the flow of commercial vehicle traffic at this POE. Long-term potential projects, such as additional development of the Ensenada seaport, could potentially affect cargo traffic at the Tecate-Tecate POE. The expansion of the cargo facility in Mexico is scheduled for completion in 2013. Improvements were made to the POE in the United States in 2005, so no mid- or long-term POE projects were submitted.

In terms of connecting roadway projects, no mid- or long-term roadway projects were submitted in San Diego County. (Note that a project to construct the California Highway Patrol CVEF and a project to construct a truck bypass lane at SR 188 were submitted as short-term projects and therefore are not included in this analysis.)

In Mexico, a new primary road segment, Defensores Boulevard, connecting the POE and the Tecate-Tijuana freeway is planned. This project ranked 6th out of all 68 roadway projects evaluated. The project proposes to construct a four-lane arterial to improve access to the POE. In addition, lane improvements from two to four lanes are planned for the Tecate-Mexicali freeway (both ranked 8th out of 68). All three projects are scheduled for completion in 2015; however, SIDUE anticipates that they will open much sooner to be more closely aligned with the POE improvement. These projects are deemed necessary to improve the access to the POE and will help facilitate traffic once the future cargo facility is completed in Mexico.

In Mexico, an interchange project was submitted at Tecate-Mexicali (free road) and Las Torres Boulevard highway to facilitate traffic between the POE and Mexicali. Its planned completion date is coordinated with the planned highway improvement (2015), and the project ranked 4th out of 16 interchange projects evaluated.

In California, two projects to modernize and double-track the Desert Line are proposed. Improvements are necessary in order to increase the market potential of this route for international and interstate movement of goods. The projects both ranked 5th out of nine railroad projects evaluated.

CALEXICO EAST-MEXICALI II POE

The Calexico East-Mexicali II POE was completed in 1997 and provides service for pedestrians, passenger vehicles, and commercial vehicles. Northbound passenger-vehicle inspections take place between 6 a.m. and 10 p.m. (The Imperial Valley Association of Governments (IVAG) reported that the Calexico East POE opens at 4 a.m. during the fall and winter to accommodate the agricultural industry.) Southbound passenger-vehicle inspections take place from 4 a.m. to 10 p.m.

Proposed POE Projects for the Calexico East-Mexicali II POE

Table 6-20
POE Projects
Calexico East-Mexicali II POE

Project No.	Project Name	Description	Type	Cost (in U.S. \$)	Phase	Completion Year	Rank
4010005	Calexico East expansion	Expand primary vehicle lanes	Existing Passenger POE	--	Conceptual Planning	--	9

As shown in Table 6-20, a POE project is proposed to improve passenger throughput at the Calexico East-Mexicali II POE by expanding the number of passenger lanes at the existing facility. In Imperial County, the passenger facility currently has eight passenger lanes, one SENTRI lane, one bus lane, and four pedestrian lanes. The project would expand the number of northbound, regular passenger lanes to 12. No changes are proposed to increase the number of bus lanes. The project is in the conceptual phase, and the cost estimate and anticipated completion date were not provided.¹⁹The passenger facility project ranked 9th out of 11 projects evaluated. No POE projects were submitted for this POE in Mexico.

Proposed Transportation Projects for the Calexico East-Mexicali II POE

The TWG was asked to submit mid- and long-term (2013-2030) transportation projects and to designate the POE primarily served by the project. Proposed roadway projects are shown according to the ranking results following the approved evaluation criteria in Table 6-21 below. No interchange or railway projects were submitted.

Table 6-21
Roadway Projects
Calexico East-Mexicali II POE

Project No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Year Open to Traffic	Rank
1040005	Gómez Morin Rd.	Cetys Rd. to Mexicali-S.Felipe highway	Improvement of the existing 6.5-km. roadway	\$7,653,530	Advanced Planning	2015	4

¹⁹ Since the technical analysis conducted for the California-Baja California Border Master Plan was completed, Caltrans/IVAG released a comprehensive report on the future expansion of this POE. New information can be incorporated in future updates.

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Table 6-21 (cont'd)
Roadway Projects
Calexico East-Mexicali II POE**

Project No.	Project Name	Limits	Description	Cost (in U.S. \$)	Phase	Completion Year	Rank
1040006	Gómez Morin Rd.	Capitan Carrillo Ave. to Rep. de Argentina St.	Improvement of the existing 1.5-km. roadway	\$1,019,250	Advanced Planning	2015	4
1040008	Beltway around eastern periphery	Islas Agrarias Highway to Blvd. Aeropuerto	Expansion of the existing 7 km.-roadway	\$8,917,510	Advanced Planning	2015	20
1040007	Beltway around eastern periphery	Lázaro Cárdenas Blvd. to San Felipe highway	Construction of a 7.5-km primary roadway	\$4,628,780	Conceptual Planning	2015	27
1010008	SR 115	Evan Hewes highway to SR 78	Add 2 general purpose lanes	\$146,800,000	Conceptual Planning	--	35

Assessment of Projects

Lane additions are proposed at the Calexico East border station in order to reduce congestion. No completion dates were provided. The roadway enhancements discussed below are planned to increase overall capacity for future population growth and development in the border region.

In terms of connecting roads in Imperial County, SR 7 is a four-lane highway that connects the Calexico border station to SR 98 to I-8. This highway was opened in 2005 and is reported to be accommodating the current traffic volumes at adequate levels of service, and, therefore, no project enhancements are proposed for this facility within the ten-mile focus study area.

State Route 115 connects to SR 7. Caltrans is studying a potential project at SR 115 to increase capacity of the highway which could provide an alternative route for commercial shipments processed through the POE. No anticipated completion date was provided for this roadway project. It ranked 35th out of 68 roadway projects evaluated.

Future developments that could potentially increase crossborder traffic at the POE include housing development and future commercial and industrial development near the border station in Imperial County and future expansion of the maquiladora operations in Mexicali. (The Service Bureau understands that major development anticipated in the vicinity of the POE in the County of Imperial (gateway development) has not materialized as quickly as anticipated, but future development is possible.) Plans to

accommodate additional traffic are geared to future lane expansions to accommodate additional crossborder traffic and no major reconfigurations are planned at this time.

In Mexico, several roadway projects are planned to facilitate access to the border crossing. Lane expansions from four to six lanes are planned on two segments of Gómez Morin Road to improve the flow of traffic from the Calexico East-Mexicali II POE to the San Felipe Highway. These tied projects ranked 4th and are expected to be completed in 2015. In addition, lane improvements on the existing beltway around the eastern periphery (ranked 20th) plus the construction of a new, four-lane beltway will facilitate traffic from the POE (ranked 27th). Both projects are expected to be completed by 2015.

ANDRADE-LOS ALGODONES POE

The Andrade-Los Algodones POE was built in 1970 and serves pedestrians, passenger vehicles, and to a lesser extent, commercial vehicles. The POE, which is located in Imperial County and eastern Mexicali, is open from 6 a.m. to 10 p.m. in both directions.

Proposed POE Projects for the Andrade-Los Algodones POE

Table 6-22
POE Projects
Andrade-Los Algodones POE

Project No.	Project Name	Description	Type	Cost (in U.S. \$)	Phase	Completion Year	Rank
4010003	Andrade POE expansion	Move vehicle lanes to Arizona border	Existing passenger POE	--	Conceptual Planning	--	10
4040004	Los Algodones - Andrade tourist-commercial crossing modernization	Modernize the tourist and commercial border crossing facilities	Existing Passenger POE	--	Conceptual Planning	--	11

Two projects are shown in Table 6-22 to reconfigure and modernize the POE. The Andrade border station in Imperial County has two passenger vehicle, two pedestrian, and one informal commercial vehicle lanes. In the United States, Caltrans submitted a project for this POE to move vehicle lanes to the Arizona border. This POE is important for tourism, especially with winter visitors who often cross on foot. Detailed information on the project in Mexico was not provided.

Proposed Transportation Projects for the Andrade-Los Algodones POE

No transportation facility projects were submitted for this proposed POE.

Assessment of Projects

The Andrade-Los Algodones POE projects are in the conceptual planning phase. No detailed information was provided. No cost estimates or completion dates were provided. In the United States, expansion of the POE is limited due to environmentally sensitive lands to the east. Expansion to the west would impact existing, private parking facilities and would require access improvement to SR 186.²⁰

In terms of roadway connections in Imperial County, SR 186 is a two-lane, conventional highway that connects to the POE and provides access to I-8. No mid- and long-term projects were submitted for this roadway; however, two short-term projects to widen the shoulder for inspections and reconstruct the interchange at I-8 were submitted earlier in the study. The environmental studies for widening the shoulder and preliminary engineering for the interchange are scheduled for completion in 2008 and 2009, respectively.

In Algodones, local roadways connect traffic to Mexicali or the State of Sonora (MX-2). No roadway projects were submitted in Mexico.

SUMMARY AND CONCLUSIONS

Binational coordination of planning and implementation activities for the Calexico-Mexicali POE, the San Ysidro–Puerta México/Virginia Avenue–El Chaparral POE, and the proposed new Otay Mesa East–Mesa de Otay II POE are accomplished through the Technical Commissions Infrastructure and Ports of Entry Committee of the Border Liaison Mechanism.

Planning for the Calexico-Mexicali POE appears to be well-aligned. The project completion dates are coordinated as projects in both the United States and in Mexico are planned for completion in 2013. The associated roadway improvements in the United States are designed to serve crossborder as well as population growth in the local communities. In Mexico, the construction of new roadways and improvements on existing arterials are geared at capacity improvements connecting the Mexicali I and the Mexicali II border stations.

The schedules for completion of the U.S. and Mexico's projects at the San Ysidro-Puerta México/Virginia Avenue–El Chaparral POE appear not to be fully coordinated since the project in the United States and the associated freeway improvements are anticipated to open to traffic in 2014, while the project in Mexico is planned for completion in 2012. However, it is understood that GSA could advance the reconfiguration of the southbound lanes to Virginia Avenue/El Chaparral to meet Mexico's planned schedule of 2012 if funding became available. The expansion of several roads, construction on new bridges and ramps are planned in Tijuana to facilitate traffic via the POE reconfiguration. These projects

²⁰ Caltrans-District 11, California/Mexico Border Briefing, March 2006.

are timed to be completed in 2013 and 2014, one to two years after Mexico plans to complete its work on the reconfiguration of the POE.

Both countries are conducting the required studies to implement the proposed Otay Mesa East-Mesa de Otay II POE. The schedules for completion of the U.S. and Mexico's projects at the new POE do not appear to be fully coordinated since the project in Mexico is planned for completion in 2013 while the POE in the United States is scheduled for completion in 2014. In terms of roadway connections, SR 11, which is a direct connector to the POE and would link to SR 905 and the SR 125 Toll Road, is tied to the construction of the POE with a planned completion date of 2014. Thus, the principal access road and the opening of the U.S. border station should be fully aligned.

In Mexico, two new roads are planned to provide access to the proposed POE: International Otay II Blvd. (designed to serve northbound trucks from Mexico to the POE) is planned for completion in 2013 and Las Torres Blvd. (designed to carry primarily southbound truck traffic from the POE into Mexico) is scheduled for completion in 2014. Other improvements to facilitate traffic are also being planned.

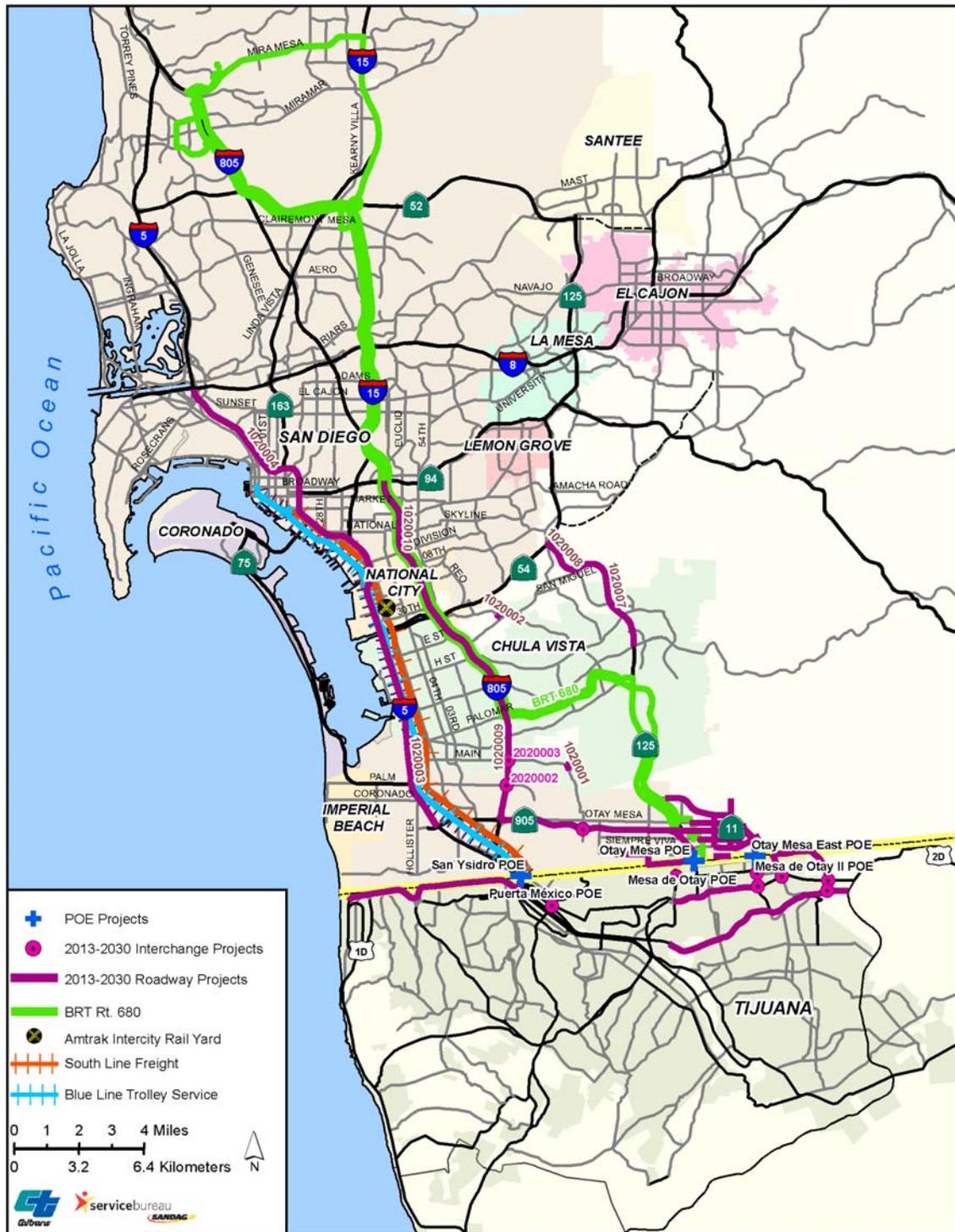
The construction of a commercial facility is proposed at the Tecate, Baja California border station. Work is planned for completion in 2013. There was no mid- or long-term counterpart project submitted as major modernization and expansion of the Tecate, California border station was completed in 2005 and the new CEVF facility should be completed in 2008. One new road and two roadway improvements are planned in Mexico to facilitate traffic to and from the POE. The new road, Defensores Blvd. is planned for completion in 2015; however, SIDUE anticipates that it will open much sooner to be more closely aligned with the POE improvement.

The remaining three POEs—Otay Mesa-Mesa de Otay POE, Calexico East-Mexicali II POE, and Andrade-Los Algodones POE—all have projects that are in the conceptual planning stage and no completion dates were provided. More detailed information is anticipated as feasibility studies are completed and plans are finalized. Opportunities exist for additional coordination and alignment as more project details are determined.

Development of a new POE or improvement to an existing POE is a complex and lengthy undertaking that requires close coordination and collaboration with governmental agencies on both sides of the border. Projects include POE projects in each country and roads connecting the border stations to the regional transportation network. The California-Baja California Border Master Plan process can be used to help prioritize infrastructure projects and enhance coordination of planning and implementation of POE and transportation projects in both the United States and Mexico.

[THIS PAGE INTENTIONALLY LEFT BLANK]

Figure 6-1
 California-Baja California Border Master Plan
 San Diego County – Municipality of Tijuana Projects (2013-2030)



CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN

Figure 6-2
 California-Baja California Border Master Plan
 San Diego County – Municipality of Tijuana Projects (2013-2030) – Inset Map

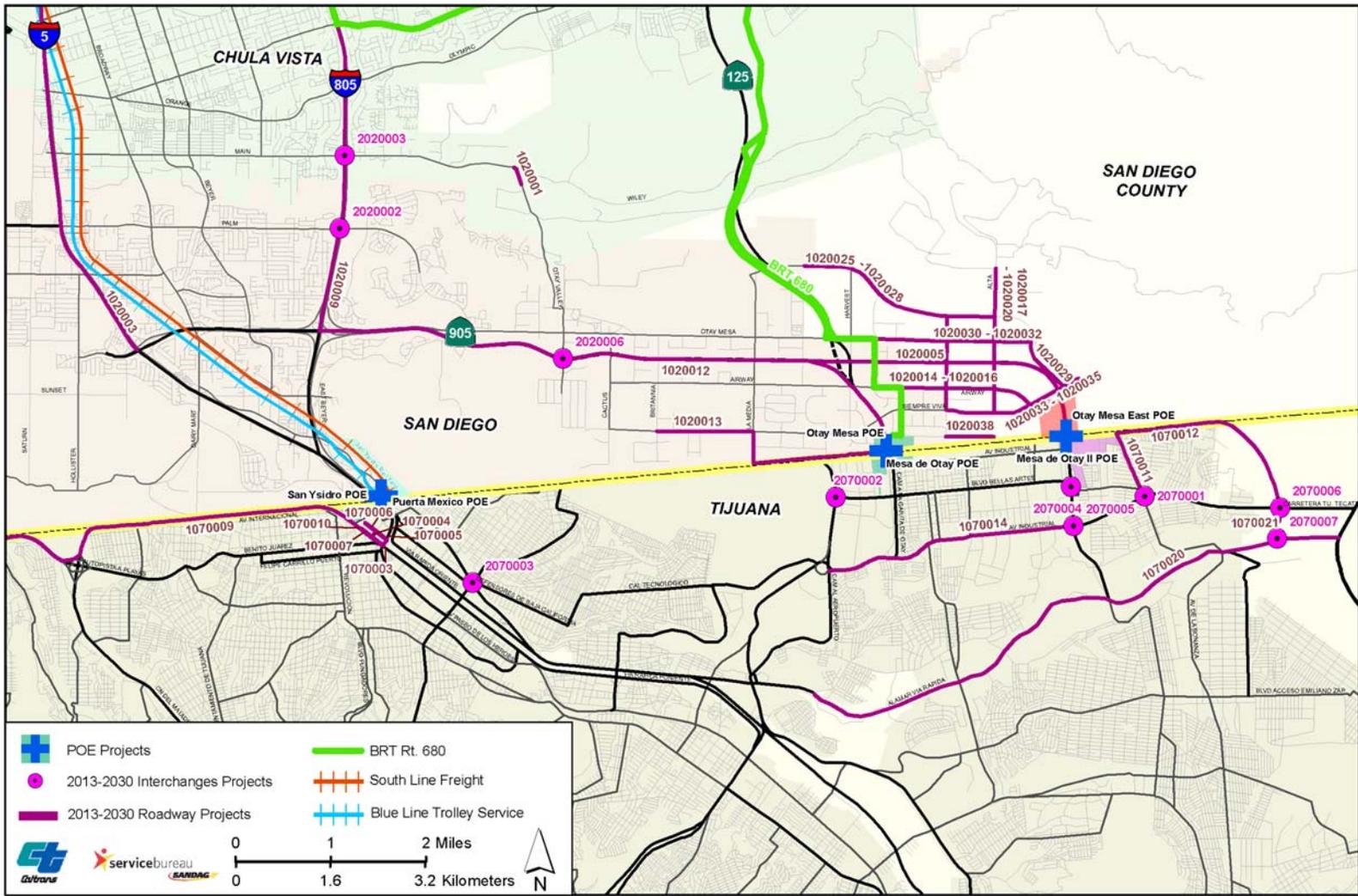


Figure 6-3
California-Baja California Border Master Plan
Tecate Projects (2013-2030)

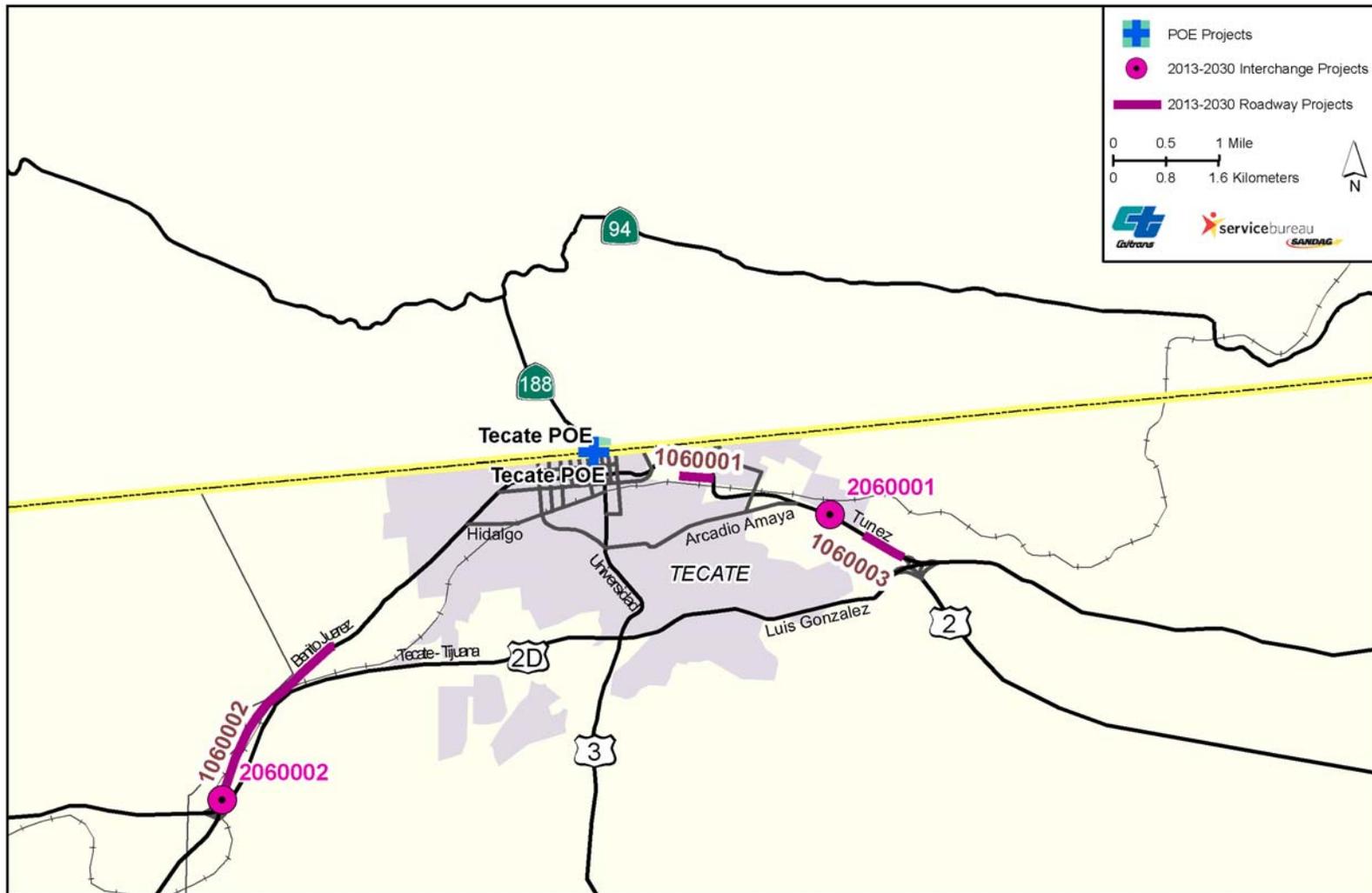


Figure 6-4
California-Baja California Border Master Plan
Desert Line Projects (2013-2030)

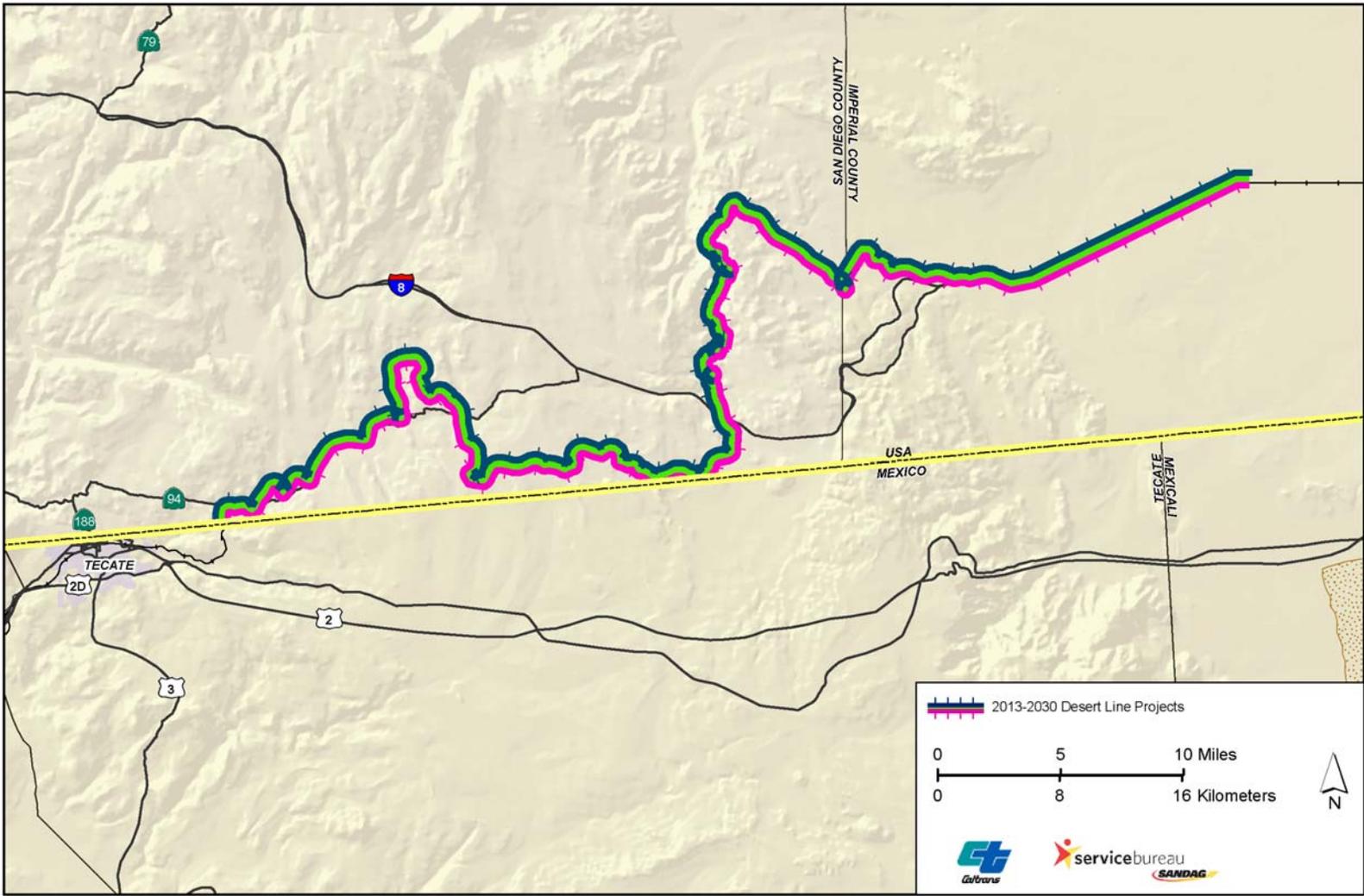


Figure 6-5
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2013-2030)

2013 – 2030 ROADWAY PROJECTS

San Diego County Projects

Project ID	Description
1020001:	Heritage Road Bridge from Main Street to South of the Otay River
1020002:	Willow Street Bridge from Sweetwater Road to Bonita Road
1020003:	I-5. 2 HOV Lanes from SR 905 to SR 54
1020004:	I-5. 2 HOV Lanes from SR 54 to I-8
1020005:	SR 11. 4 Toll Lanes from SR 905 to Mexico
1020007:	SR 125. 4 Toll Lanes from Telegraph Canyon to San Miguel Road
1020008:	SR 125. 4 Toll Lanes from San Miguel Road to SR 54
1020009:	I-805. 4 Managed Lanes from SR 905 to Palomar Street
1020010:	I-805. 4 Managed Lanes from Palomar Street to SR 94
1020012:	SR 905. 2 General Lanes from I-805 to Mexico
1020013:	Otay Mesa Southbound Truck Route. Widening and Realignment from Britannia Boulevard to Otay Mesa POE
1020014:	Airway Road Arterial from City of San Diego to Enrico Fermi Drive
1020015:	Airway Road Arterial from Enrico Fermi Dr. to Alta Road
1020016:	Airway Road Arterial from Alta Road to Loop Road
1020017:	Alta Road Arterial from Old Otay Mesa Road to Donovan State Prison
1020018:	Alta Road Arterial from Lone Star Road to Otay Mesa Road
1020019:	Alta Road Arterial from Otay Mesa Road Airway Road
1020020:	Alta Road Arterial from Airway Road to Siempre Viva Road
1020021:	Enrico Fermi Drive Arterial from Lone Star Road to Otay Mesa Road
1020022:	Enrico Fermi Drive Enhanced Arterial from Otay Mesa Road to SR 11
1020023:	Enrico Fermi Drive Enhanced Arterial from SR 11 to Airway Road
1020024:	Enrico Fermi Drive Arterial from Airway Road to Siempre Viva Road
1020025:	Lone Star Road Arterial from Piper Ranch to Sunroad Boulevard
1020026:	Lone Star Road Arterial from Sunroad Boulevard to Vann Center Boulevard
1020027:	Lone Star Road Arterial from Vann Center Boulevard to Enrico Fermi Drive
1020028:	Lone Star Road Arterial from Enrico Fermi Drive to Alta Road
1020029:	Lone Star Road Arterial from Otay Mesa Road to Siempre Viva Road
1020030:	Otay Mesa Road Arterial from Sanyo Road to Enrico Fermi Drive
1020031:	Otay Mesa Road Arterial from Enrico Fermi Drive to Alta Road
1020032:	Otay Mesa Road Arterial from Alta Road to Loop Road
1020033:	Siempre Viva Road Arterial from City of San Diego to Alta Road
1020034:	Siempre Viva Road Arterial from Altar Road to Loop Road
1020035:	Siempre Viva Road Arterial from Loop Road to Rogue Road
1020038:	Via de la Amistad. Collector from City of San Diego/Enrico Fermi Drive to Alta Road

Tijuana / Tecate Projects

Project ID	Description
1070003:	Single Lane Bridge over Tijuana River Channel from Vía Rápida East to Vía Rápida West
1070004:	Two Lane Bridge over Tijuana River Channel from Vía Rápida East to Vía Rápida West
1070005:	Expansion of Vía Rápida East from the Pedestrian Bridge to Bridge México

**CALIFORNIA-BAJA CALIFORNIA
BORDER MASTER PLAN**

**Figure 6-5 (cont'd)
California-Baja California Border Master Plan
San Diego County – Municipalities of Tijuana and Tecate Project Lists (2013-2030)**

2013 – 2030 ROADWAY PROJECTS (CONT'D)

Tijuana / Tecate Projects

Project ID	Description
1070006:	Ramp on Eastern Crest of the Tijuana River Channel
1070007:	Ramp on Western Crest of the Tijuana River Channel
1070008:	Avenue International East from Silvestre Revueltas Street to Calle 12 Norte
1070009:	Double Deck International Avenue West from Vía Rápida East to access Playas de Tijuana
1070010:	Incorporation of International Avenue West to Vía Rápida
1070011:	Las Torres Boulevard from Highway Tijuana-Tecate to International Otay II Boulevard
1070012:	International Otay II Boulevard from Otay II POE to Tijuana-Tecate Toll Road
1070014:	Industrial Boulevard from Airport Access Rd. to Terán Boulevard
1070020:	Alamar Vía Rápida from Central Bus Station to Tijuana - Rosarito 2000 Boulevard
1070021:	International Otay II Boulevard from Tijuana-Tecate Toll Road to Alamar
1060001:	Defensores Boulevard from Mixcoac Street to Tecate -Tijuana Freeway
1060002:	Tecate - Tijuana Freeway from Rancho La Puerta to Paso el Águila node
1060003:	Tecate - Mexicali Freeway from Rancho Santa Lucia to San José

2013 – 2030 RAIL PROJECTS

Project ID	Description	
3020001:	South Line -- Sidings, Passings, Mexico Connectivity, Coronado Line Rehab, San Ysidro Rail Yard	
3020004:	Desert Line -- Basic Service	
3020005:	Desert Line -- Modernization	
3020017:	Desert Line -- Double Tracking	
3020018:	Blue Line Trolley Service -- Increase Frequency of Blue Line Service	
3020003:	Amtrak Intercity Rail Yard	

2013 – 2030 INTERCHANGE PROJECTS

San Diego County Projects

Project ID	Description
2020001:	I-5 from North of SR 54 to J St. Overcrossing -- Interchange Improvements, Local Road Improvements and New Structures (Not Shown)
2020002:	I-805 / Palm Avenue Overcrossing -- Revise Interchange
2020003:	I-805 - Main Street / Auto Park Drive Undercrossing -- Revise Interchange
2020006:	SR 905 / Heritage Road Interchange (Phase 4) -- Construct Interchange

Figure 6-5 (cont'd)
 California-Baja California Border Master Plan
 San Diego County – Municipalities of Tijuana and Tecate Project Lists (2013-2030)

 **2013 – 2030 INTERCHANGE PROJECTS (CONT'D)**

Tijuana / Tecate Projects

Project ID	Description
2070001:	Bridge and Node over the Tijuana-Tecate Toll Road with Access to Boulevard de las Torres -- Construction of 40 Meter Bridge with a 200 Meter Intersection
2070002:	Airport Node-Bellas Artes -- Construction of Airport -Bellas Artes Node with Access to the Otay I Border Crossing
2070003:	Cuauhtemoc-Padre Kino Node -- Construction of the Cuauhtemoc-Padre Kino Node
2070004:	Bellas Artes-Magisterial Node -- Construction of the Bellas Artes-Magisterial Node with Access to the Otay II Border Crossing
2070005:	Industrial Avenue-Terán Terán Node -- Optimization of Intersection
2070006:	International Otay II Boulevard --Tijuana-Tecate Toll Road Node
2070007:	International Otay II Boulevard and Alamar Node -- Construction of node at International Otay II Boulevard and Alamar
2060001:	Tecate-Mexicali Freeway and Las Torres Boulevard -- Highway Node
2060002:	Freeway Node and the Tecate-Tijuana Toll Road -- Completion of the Roadway Intersection

 **2013 – 2030 BRT PROJECTS**

San Diego County Projects

Project ID	Description
3020002:	BRT Route 680 -- Otay Mesa to Sorrento Mesa

 **2013 – 2030 POE PROJECTS**

San Diego County Projects

Project ID	Description
4020001:	Otay Mesa East POE -- Construct New POE Facility
4020003:	San Ysidro POE -- POE Re-design
4020004:	Otay Mesa POE -- Modernization. Additional Passenger Lanes
4020005:	Otay Mesa POE -- Modernization. Additional Commercial Lanes

Tijuana / Tecate Projects

Project ID	Description
4070002:	Mesa de Otay II POE -- Construct New POE Facility
4060001:	Tecate POE -- Cargo Expansion and Improvement

[THIS PAGE INTENTIONALLY LEFT BLANK]

Figure 6-6
 California-Baja California Border Master Plan
 Imperial County – Municipality of Mexicali Projects (2013-2030)

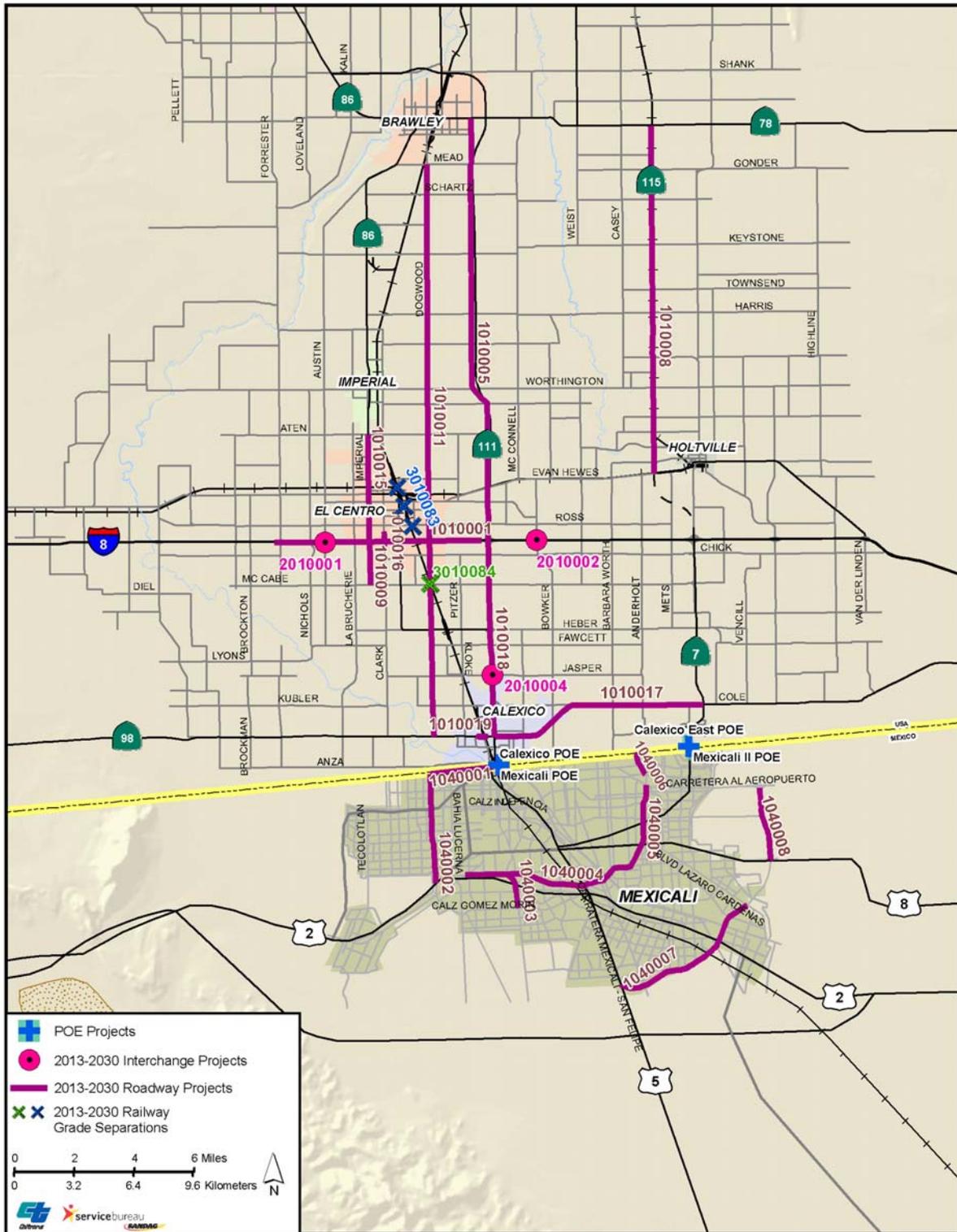


Figure 6-7
California-Baja California Border Master Plan
Andrade - Algodones Projects (2013-2030)

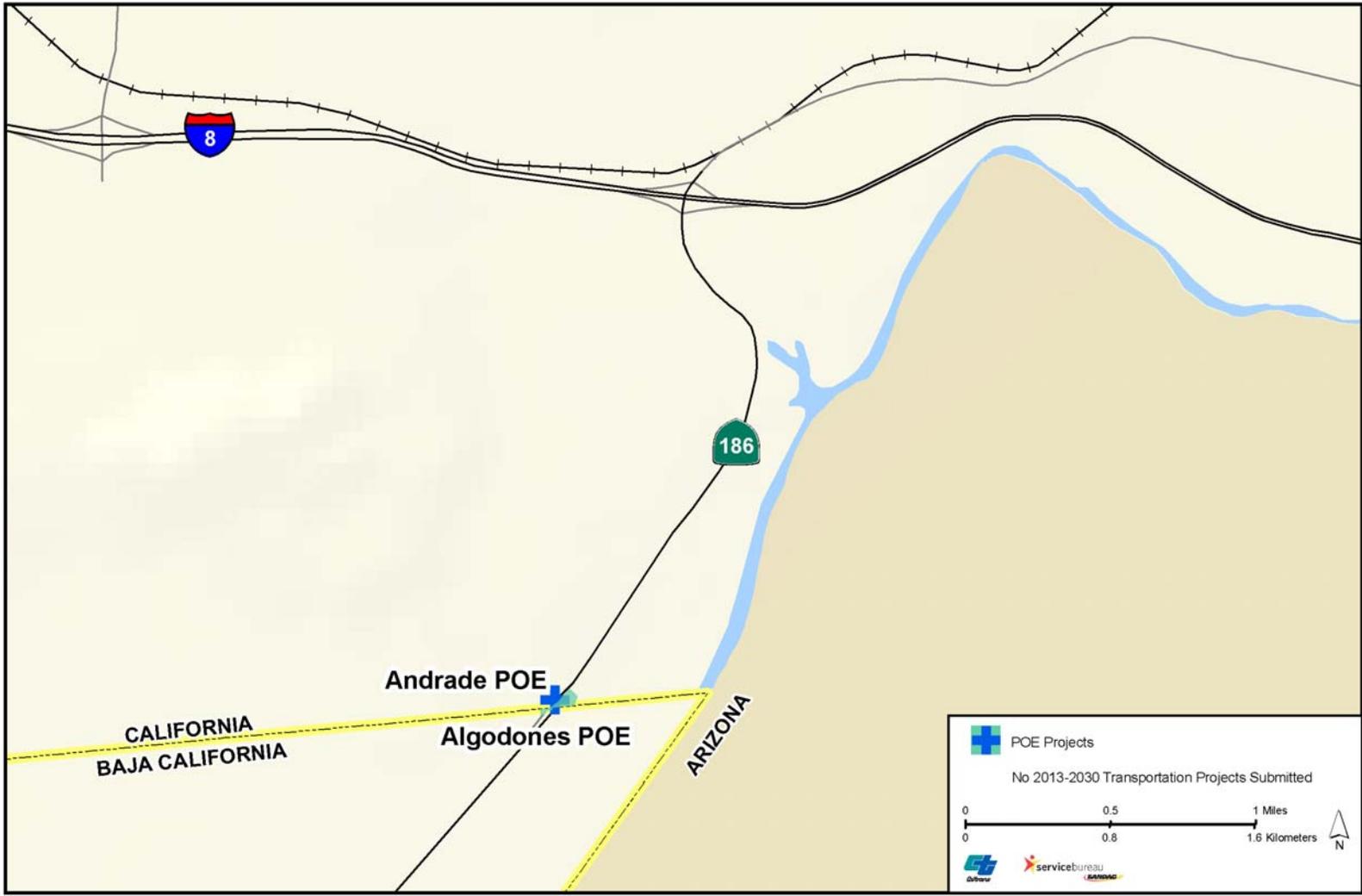


Figure 6-8
California-Baja California Border Master Plan
Imperial County – Municipality of Mexicali Project Lists (2013-2030)

2013 – 2030 ROADWAY PROJECTS

Imperial County Projects

Project ID Description

1010001: I-8 from Forrester Road to SR 111
1010005: SR 111 from I-8 to SR 78
1010008: SR 115 from Evan Hewes Highway to SR 78
1010009: Imperial Avenue from McCabe Road to I-8
1010011: Dogwood from SR 98 to Mead Road
1010015: Imperial Avenue from I-8 to Aten Road
1010016: 8th Street Overpass from Wake Avenue to Centinela
1010017: SR 98 East from SR 111 to SR 7
1010018: SR 111 from SR 98 to I-8
1010019: SR 98 from SR 98 to Cesar Chavez Boulevard

Mexicali Projects

Project ID Description

1040001: Colon Avenue West from Leyes de Reforma Bridge and Proposed Roadway on Western Periphery
1040002: Western Periphery from Intersection with the Proposed International Roadway West. to Tijuana Highway
1040003: Extension of the Central Axis from Lázaro Cárdenas Boulevard to Gómez Morin Road
1040004: Terán-Terán Boulevard from San Felipe Highway to Tijuana Highway
1040005: Gómez Morin Road from Cetys Road to Mexicali -San Felipe Highway
1040006: Gómez Morin Road from Capitan Carrillo Avenue to Rep. de Argentina Street
1040007: Beltway Around Eastern Periphery from Lázaro Cárdenas Blvd. to San Felipe Highway
1040008: Beltway Around Eastern Periphery from Islas Agrarias Highway to Highway to the Airport

2013 – 2030 INTERCHANGE PROJECTS

Imperial County Projects

Project ID Description

2010001: Austin Road and I-8 Interchange
2010002: Bowker Road and I-8 Interchange
2010004: Jasper Road and SR 111

**CALIFORNIA-BAJA CALIFORNIA
 BORDER MASTER PLAN**

**Figure 6-8 (cont'd)
 California-Baja California Border Master Plan
 Imperial County – Municipality of Mexicali Project Lists (2013-2030)**

2013 – 2030 RAIL PROJECTS

Imperial County Projects

Project ID Description

3010083: Grade Separation at McCabe Road and Dogwood Avenue



3010084: City of El Centro Grade Separations at Various Locations



2013 – 2030 POE PROJECTS

Imperial County Projects

Project ID Description

4010003: Andrade POE -- Move Vehicle Lanes to Arizona Border

4010004: Calexico POE -- Reconfigure POE

4010005: Calexico East POE -- Expansion of Primary Vehicle Lanes

Mexicali Projects

Project ID Description

4040001: Mexicali I-Calexico West POE -- Expansion and Improvement of the Customs Facilities

4040004: Los Algodones-Andrade POE -- Tourist-Commercial Crossing Modernization

CHAPTER 7

RECOMMENDATIONS FOR A BINATIONAL BORDER MASTER PLANNING PROCESS

INTRODUCTION

The California-Baja California Border Master Plan was envisioned by the U.S./Mexico Joint Working Committee (JWC) as a pilot project between U.S. and Mexico border states to coordinate planning and delivery of land ports of entry (POEs) and transportation infrastructure projects serving those POEs. Based on the outcomes of this pilot binational planning process, the California-Baja California approach would be adapted and expanded to other border states and customized to address their individual needs and circumstances. Eventually, a U.S.-Mexico borderwide master planning process would be in place.

This chapter reflects back on the objectives of the California-Baja California Border Master Plan and provides recommendations to maintain and enhance this California-Baja California binational planning process. In addition, based on lessons learned, suggestions for consideration in future work are outlined.

CALIFORNIA-BAJA CALIFORNIA BORDER MASTER PLAN: RECOMMENDATIONS FOR A BINATIONAL MASTER PLANNING PROCESS

As described in Chapter 1, the primary objectives of the California-Baja California Border Master Plan are to:

- Increase the understanding of POE and transportation planning on both sides of the border and to create a plan for prioritizing and advancing POE and related transportation projects.
- Develop criteria for prioritizing projects related to existing and new POEs as well as transportation facilities leading to the California-Baja California POEs; rank mid- and long-term projects and services (e.g., roads, public transit, and railways).
- Establish a process to institutionalize dialogue among local, state, and federal stakeholders in the United States and Mexico to identify future POE and connecting transportation infrastructure needs and coordinate projects.

The remainder of this chapter summarizes findings and presents recommendations for implementing the main objectives of the California-Baja California Border Master Plan as a continuous and coordinated binational planning process.

Understanding the POE and Transportation Planning Processes

The state of the planning practice for POE and related transportation facilities in California and Baja California is described in Chapter 2. This evaluation found that municipal, regional, state, and federal agencies on both sides of the border follow a diversity of project evaluation processes. These processes range from qualitative assessments to the formulation and application of detailed quantitative and qualitative criteria. The California-Baja California Border Master Plan developed a methodology and criteria to evaluate and rank POE projects as well as roadway, interchange, and rail projects serving the POEs. These four sets of criteria were crafted taking into account previous corridor evaluation efforts (e.g. Binational Infrastructure Needs Assessment or BINS project), project evaluation criteria currently being used by stakeholder agencies, and the available transportation data from stakeholder agencies at all levels of government in both California and Baja California.

Recommendations

The California-Baja California Border Master Plan methodology is a valuable tool to inform the POE and transportation planning practices of the stakeholder agencies. Therefore, it is recommended that stakeholder agencies:

- Consider the California-Baja California Border Master Plan project evaluation criteria to guide their individual project ranking processes. In some instances, the California-Baja California Border Master Plan criteria would enhance the agency's methodology with elements or metrics not currently assessed. In other situations, it could lead to new data collection or monitoring efforts.
- Use outcomes from the California-Baja California Border Master Plan as inputs in federal, state, regional, and local planning documents, such as Strategic Resource Assessments (prepared by U.S. Customs and Border Protection); Statewide Transportation Plans (California and Baja California); Statewide Urban Development Plans (Baja California); Regional Transportation Plans (San Diego and Imperial Counties); General Plans (cities and counties in San Diego and Imperial Counties); and Municipal Development Plans (municipalities in Baja California). In turn, outcomes of these planning documents would feed into updates of the California-Baja California Border Master Plan.

Significance of the California-Baja California Border Master Plan Process

The California-Baja California Border Master Plan Policy Advisory Committee (PAC) discussed how stakeholder agencies would make use of the Plan. There was agreement that the outcome of the California-Baja California Border Master Plan would help agencies prioritize POE and related transportation facility projects, enhance coordination of planning and implementation of these projects on both sides of the border, and provide a systematic approach and a disciplined process to advance projects.

Federal agencies also expressed an interest in the development of a borderwide compendium of regional U.S.-Mexico Border Master Plans.

Recommendations

- Consider the California-Baja California Border Master Plan as a framework to prioritize infrastructure projects and enhance coordination of planning and implementation of POE and related transportation facilities on both sides of the California-Baja California border.
- Consider using prioritized California-Baja California project lists to compete for transportation funding sources, such as the reauthorization of U.S. federal transportation act, Mexico's federal funding sources, future bond or state funding programs, and private and local funds.
- Use prioritized California-Baja California project lists to follow a systematic and orderly approach toward the implementation of binational projects.

Institutionalizing the California-Baja California Border Master Plan Process

Planning for POEs and related transportation facilities is a complex process that involves multiple agencies at all levels of government in both the U.S. and Mexico. Effective collaboration is critical to successful national and binational project implementation. California-Baja California stakeholder agencies reported that coordination and communication among federal, state, regional, and local agencies is occurring at some level, but there are opportunities for a more systematic process to align implementation activities, including funding, and schedules for POEs and connecting transportation facilities.

Municipal, regional, and state agencies would benefit from closer coordination with the federal agencies on planning and implementation of POE projects to develop a mid- and long-term comprehensive strategy that integrates the POE project with surrounding land uses, regional transportation facilities and transit services, and other infrastructure.

The California-Baja California Border Master Plan PAC discussed how to accomplish the objective of institutionalizing the dialogue among local, state, regional, and federal stakeholders in the United States and Mexico to identify future POE and connecting transportation infrastructure needs and coordinate projects on a regular basis to establish a binational California-Baja California border master planning process.

Recommendations

Periodic Updates: Who will conduct the Border Master Plan updates?

- Caltrans and SIDUE lead efforts to establish a schedule or cycle for periodic California-Baja California Border Master Plan updates, seek funding, and take the lead on conducting these updates, in collaboration with the U.S./Mexico JWC and the California-Baja California Border Master Plan stakeholders.

California-Baja California Border Master Plan PAC members expressed a preference for a consultant team to coordinate future updates, similar to the framework followed for the development of the current California-Baja California Border Master Plan.

Frequency and Content of Update: When will the Border Master Plan updates be conducted and what elements of the Plan will be updated?

- The schedule for California-Baja California Border Master Plan updates should consider U.S. and Mexico's administration cycles
- Depending on funding, comprehensive California-Baja California Border Master Plan revisions would take place every three to four years to:
 - ▶ Establish new base year and update base year data, including border wait times (currently 2005)
 - ▶ Establish new planning horizon (currently 2030)
 - ▶ Revise study area boundaries to incorporate significant planned POE or transportation projects
 - ▶ Incorporate updated horizon year projections, such as socio-economic data, crossborder travel demand, etc.
 - ▶ Incorporate updated POE plans
 - ▶ Incorporate updated transportation plans
 - ▶ Make use of Binational GIS mapping (under development)
- Caltrans and SIDUE would lead the efforts to conduct an annual technical update of the California-Baja California Border Master Plan to provide an opportunity for stakeholder agencies to incorporate information on new planned projects, transmit changes to projects already submitted, and report on completed projects.

Institutionalizing the Dialogue – How will the Border Master Planning Process continue?

- The California-Baja California Border Master Plan Policy Advisory Committee would meet once a year, or more frequently if needed, to provide direction on the annual California-Baja California Border Master Plan technical update and on future comprehensive updates.
- Borderwide, rely on the U.S./Mexico JWC and the U.S.-Mexico Binational Group on Bridges and Border Crossings to share information on the status of the California-Baja California Border Master Plan.
- In California-Baja California, rely on Border Liaison Mechanism (BLM) Technical Commissions to maintain open lines of communication among federal, state, and local agencies responsible for planning and implementing POEs and connecting transportation facilities .
- SIDUE and Caltrans would report on California-Baja California Border Master Plan monitoring and implementation at meetings of the BLM Technical Commissions, the U.S./Mexico JWC, the U.S.-Mexico Binational Group on Bridges and Border Crossings, and the BLM Technical Commissions .
- In addition, the United States-Mexico Border Governors Conference also could provide a forum to institutionalize the California-Baja California Border Master Plan. The Border Governors

Conference is a forum for cooperation and deliberation among the ten states of the United States and Mexico's border (Arizona, California, New Mexico, Texas, Baja California, Chihuahua, Coahuila, Nuevo León, Sonora, and Tamaulipas). SIDUE and Caltrans could report on the California-Baja California Border Master Plan at the annual conferences.

Representatives from each of the ten member states participate in worktables to develop solutions to mutual goals through a consensus approach. The Logistics and International Crossings Work Table "supports enhanced communications, coordination and consensus building among the ten Border States encouraging investment in modern and efficient infrastructure at ports of entry to increase security and strengthen commercial exchange."²¹

In September 2007, the XXV Border Governors Conference (United States-Mexico) issued a Joint Declaration that adopted several recommendations for the development of the border region. One recommendation in the area of Logistics and International Crossings is highlighted below.

"Request that federal agencies and non-governmental organizations from both the United States and Mexico work with border states to develop a Master Border Plan (MBP), which will focus on transportation and ports of entry, similar to the California-Baja California Master Border Plan, which is funded by the Joint Working Committee (JWC)."

In August 2008, in its Joint Declaration, the XXVI Border Governors Conference also adopted the following recommendation in the Logistics and International Crossings area:

"Substantially reduce cross border wait times by 2013 and complete bi-national state to state regional border master plans amongst the 10 border states within three years. Request both federal governments to incorporate these plans into a U.S.-Mexico Border Master Plan by the XXXI Border Governors Conference in 2013."

At future conferences, representatives from California and Baja California could present a recommendation to the Logistics and International Crossings Work Table to take action to update the California-Baja California Border Master Plan as the remaining plans between border states are developed.

SUGGESTIONS FOR CONSIDERATION IN FUTURE CALIFORNIA-BAJA CALIFORNIA BORDER MASTER PLANNING ACTIVITIES

Based on the primary objectives of the California-Baja California Border Master Plan, the SANDAG Service Bureau offers the following thoughts for consideration in future California-Baja California border master planning activities based on lessons learned throughout the development of this pilot project.

²¹ Borders Governors Conference <<http://bordergovernors.ca.gov/worktables/logistics>>

Study Development

- Consider U.S. and Mexico's administration cycles at the federal, state, and local levels when establishing the California-Baja California Border Master Plan annual technical updates and comprehensive updates. Leadership and staff transitions at the various agencies result in unanticipated delays due to changes in personnel and priority changes.
- Reaffirm the participation of executive-level managers as decision makers at the California-Baja California Border Master Plan PAC and the effective communication practices between PAC and TWG members which allowed for an efficient flow of information and decision making throughout the development of this pilot project.
- Consider obtaining commitments from the California-Baja California Border Master Plan PAC to devote sufficient staff resources for technical work to ensure the plan updates are conducted in a timely manner (e.g. providing data and conducting review of draft documents).
- Provide consistent participation of PAC members at key decision-making milestones to ensure policy consistency throughout the binational planning process.
- For future annual technical updates, convene the California-Baja California Border Master Plan TWG to discuss needs for re-evaluating projects and rankings and, if warranted, to review and comment on the result of the updated project rankings prior to presenting the updates to the California-Baja California Border Master Plan PAC for approval.
- For future updates, consider adequate budget for document translation and simultaneous interpretation services at TWG and PAC meetings.
- Include professionals from both California and Baja California in the consultant team responsible for conducting updates to facilitate coordination and data collection with agencies on both sides of the California-Baja California border.

Data Needs

- When formulating and conducting data collection activities, consider the inclusion of indicators that are part of the California-Baja California Border Master Plan evaluation criteria to ensure information is readily available on both sides of the border and can be delivered in a timely fashion.
- Continue to collaborate through the U.S.-Mexico Border Forecasting Peer Exchange, created as a byproduct of the California-Baja California Border Master Plan and sponsored by the U.S. Federal Highway Administration, to harmonize and share information on data collection and forecasting methodologies for crossborder travel demand by mode, and other crossborder-related transportation data, such as border wait times.