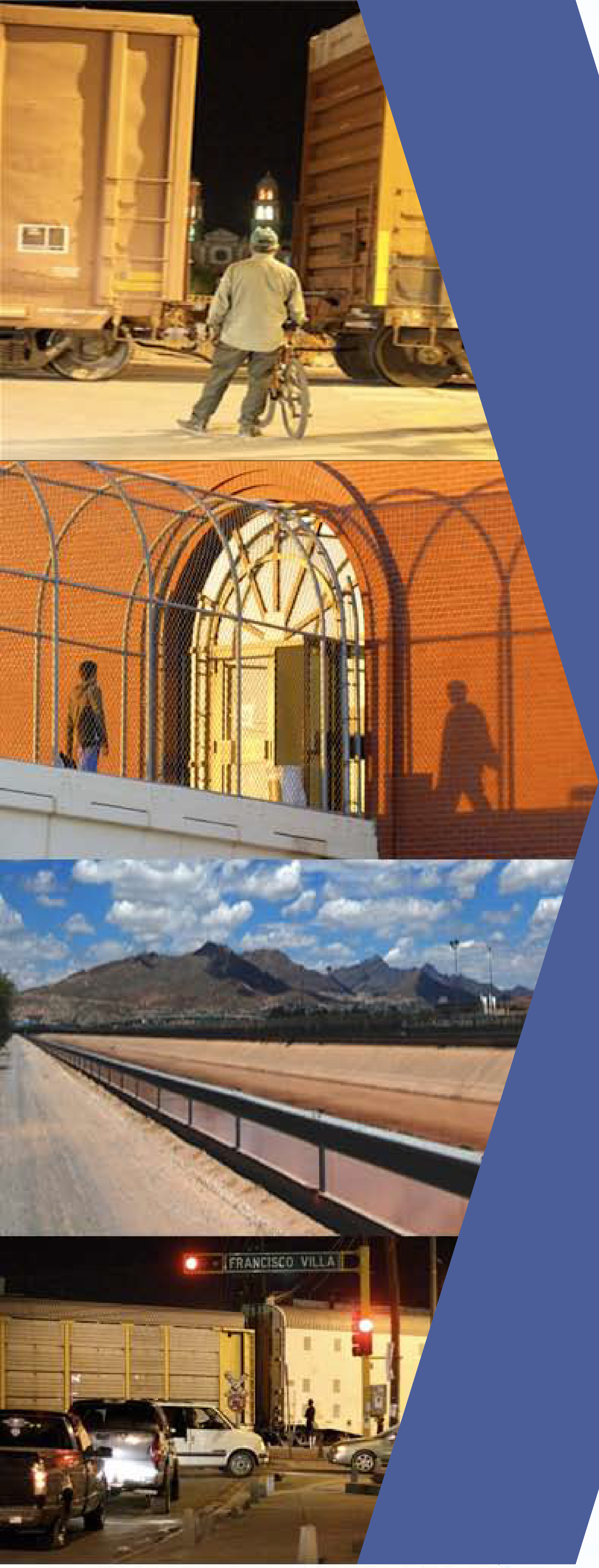

BORDER MASTER PLAN
PLAN MAESTRO FRONTERIZO

Texas Department of Transportation

Final Report

31 October 2013

U.S. Department of Transportation
Federal Highway Administration

El Paso/Santa Teresa-Chihuahua Border Master Plan

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List of Acronyms

AADT—Average Annual Daily Traffic

AADTT—Average Annual Daily Truck Traffic

AAGR—Average Annual Growth Rate

ADA— Americans with Disabilities Act

ADT—Average Daily Traffic

Aduanas—Administración General de Aduanas

BANOBRAS—Banco Nacional de Obras y Servicios Públicos

BBBXG—Binational Bridges and Border Crossings Group

BECC—Border Environment Cooperation Commission

BNAC—Binational Advisory Committee

BRAC—Federal Military Base Realignment and Closure Report

BRT—Bus Rapid Transit

BSP—Bilateral Strategic Plan

CAGR—Compound Annual Growth Rate

CAPUFE—Caminos y Puentes Federales de Ingresos y Servicios Conexos

CBD—Central Business District

CBI—Coordinated Border Infrastructure

CBP—U.S. Customs and Border Protection

C-D—Collector-Distributor Roads

CDA—Comprehensive Development Agreements

CFR—Code of Federal Regulation

CHPP—Congressional High Priority Projects

CILA—Comisión Internacional de Limites y Aguas

CMAQ—Congestion Mitigation and Air Quality

CONAPO—Consejo Nacional de Población

CONASAMI—Comisión Nacional de los Salarios Mínimos

CPS—Classroom Performance System

CRIS—Crash Records Information System

CS—City Street

CTR— The University of Texas at Austin's Center for Transportation Research

DCL—Dedicated Commuter Lane

DHS—Department of Homeland Security

DOT—Department of Transportation

EA—Environmental Assessment

EIS—Environmental Impact Statement

EPA—Environmental Protection Agency

EPCC—El Paso Community College

EPMPO—El Paso Metropolitan Planning Organization

ESC—U.S.-Mexico Executive Steering Committee

FAST—Free and Secure Trade

Ferromex—Ferrocarriles Mexicanos

FHWA—Federal Highway Administration

FMCSA—Federal Motor Carrier Safety Administration

FONSI—Finding of No Significant Impact

FR—Federal Register

FSS—Freight Shuttle System

FTA—Federal Transit Administration

FYHSP—Future Years Homeland Security Program

GDP—Gross Domestic Product

GIS—Geographic Information System

GSA—General Services Administration

GVA—Gross Value Added

HBP—Federal Highway Bridge Program

HCM—Highway Capacity Manual

HRRR—Federal High Risk Rural Roads Program

HSIP—Federal Highway Safety Improvement Program

IBWC—International Boundary and Water Commission

ICE—U.S. Immigration and Customs Enforcement

IMIP—Instituto Municipal de Investigación y Planeación

INDAABIN—Instituto de Administración y Avalúos de Bienes Nacionales

INEGI—Instituto Nacional de Estadística y Geografía

INM—Instituto Nacional de Migración

IPG—Integrated Planning Guidance

ISTEA—Intermodal Surface Transportation Efficiency Act of 1991

JWC—U.S./Mexico Joint Working Committee

LCV—Long Combination Vehicle

LED—Light-Emitting Diode

LINEXP—Línea Express de Capufe

LOS—Level of Service

LPG—Liquefied Petroleum Gas

LPOE—Land Port of Entry

LRT—Light Rail Transit

LRTP—Long-Range Transportation Plan

MAP-21—Moving Ahead for Progress in the 21st Century Act

MCMP—Multimodal Corridor Master Plan

MEX—The Federal highway system in Mexico is denoted with the acronym MEX

MI—Merida Initiative

MOU—Memorandum of Understanding

MPO—Metropolitan Planning Organization

MPP—Metropolitan Planning Process

MR-RPO—Middle Rio Grande Regional Planning Organization

MTP—Metropolitan Transportation Plan

NADBANK—North American Development Bank

NAFTA—North American Free Trade Agreement

NEPA—National Environmental Policy Act

NERPO—Northeast Regional Planning Organization

NMBA—New Mexico Border Authority

NMDOT—New Mexico Department of Transportation

NPRPO—Northern Pueblos Regional Planning Organization

NWRPO—Northwest Regional Planning Organization

OMB—Office of Management and Budget

PEMEX—Pétroleos Mexicanos

PM_{10}—Particulate matter that is 10 micrometers in diameter

POE—Port of Entry

POV—Privately Owned Vehicles

PP—Presidential Permit

PPP—Public-Private Partnership

PS&E—Plans, Specification, and Estimates

RAD—Resource Allocation Decision

RAP—Resource Allocation Plan

Ready—Dedicated primary vehicle lane for travelers with a radio-frequency-identification-enabled travel document entering the United States at a land port of entry

RFID—Radio Frequency Identification

RGS—Federal Railroad Grade Separation Program

RHG—Romero Hicks and Galindo Abogados

ROW—Right of Way

RPO—Regional Planning Organization

RTP—Rural Transportation Plan

RTPO—Regional Transportation Planning Organizations

SAFETEA-LU—Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

SAT—Servicio de Administración Tributaria

SCOP—Secretaría de Comunicaciones y Obras Públicas

SCRPO—South Central Regional Planning Organization

SCT—Secretaría de Comunicaciones y Transportes

SEDESOL—Secretaría de Desarrollo Social

SEMARNAT—Secretaría de Medio Ambiente y Recursos Naturales

SENTRI—Secure Electronic Network for Traveler's Rapid Inspection

SERPO—Southeast Regional Planning Organization

SHCP—Secretaría de Hacienda y Crédito Público

SLRTP—Statewide Long-Range Transportation Plan

SORC—South Orient Railroad Company

SORR—South Orient Rail Line

SOS—Secretary of State

SRA—Strategic Resource Assessment

SRE—Secretaría de Relaciones Exteriores

SRTS—Federal Safe Routes to School Program

STIP—Statewide Transportation Improvement Program

SWRPO—Southwest Regional Planning Organization

TAC—Texas Administrative Code

TE—Transportation Enhancements Program

TEA-21—Transportation Efficiency Act for the 21st Century

TIP—Transportation Improvement Program

TMS—Traffic Management System

TPB—Transportation Policy Board

TPP—Texas Department of Transportation's Transportation Planning and Programming Division

TRTP—Texas Rural Transportation Plan

TTC—Texas Transportation Commission

TTI—Texas A&M Transportation Institute

TxDOT—Texas Department of Transportation

TxPF—Texas Pacifico

UGRC—Unión Ganadera Regional de Chihuahua

UPRR—Union Pacific Railroad

USDOS—U.S. Department of State

USDOT—U.S. Department of Transportation

USTDA—U.S. Trade Development Agency

UTEP—The University of Texas at El Paso

UTP—Unified Transportation Program

VA—Various

Executive Summary

Introduction

Border master plans—as defined and supported by the U.S./Mexico Joint Working Committee on Transportation Planning and Programming, the Federal Highway Administration (FHWA), and the U.S. Department of State (USDOS)—are comprehensive, binational long-range plans to:

- Inventory transportation and port-of-entry (POE) infrastructure that facilitates trade.
- Prioritize and promote planned POE and related transportation projects.
- Inform decision making.
- Allocate limited funding resources.
- Ensure continued dialog and coordination on future POE and supporting transportation infrastructure needs and projects.

The El Paso/Santa Teresa–Chihuahua Border Master Plan was developed by The University of Texas at Austin's Center for Transportation Research (CTR), the Texas A&M Transportation Institute (TTI), and The University of Texas at El Paso (UTEP).

The objectives of this border master plan are to:

- Design a stakeholder agency involvement process that is inclusive and ensures participation of all involved in POE projects and the transportation infrastructure serving those POEs.
- Increase understanding of the POE and transportation planning processes on both sides of the border.
- Develop and implement plans for prioritizing and promoting POE and related transportation projects, including evaluation criteria and rankings over the short, medium, and long terms.
- Establish a process that will ensure continued dialog among Federal, State, regional, and local stakeholder agencies on both sides of the border to assure continued coordination on current and future POE and supporting transportation infrastructure needs and projects.

The El Paso/Santa Teresa–Chihuahua Border Master Plan is the fifth border master plan on the U.S.-Mexico border and the third border master plan on the Texas-Mexico border. Its development followed an approach similar to the development of existing border master plans.

Decision-Making Structure

The Binational Advisory Committee (BNAC) was the governing body in the development of the El Paso/Santa Teresa–Chihuahua Border Master Plan. Table ES.1 shows that BNAC is made up of 18 voting members and 26 non-voting members.

The mandate of the *voting* members is to:

- Provide overall direction.
- Establish clear metrics and parameters that can be measured to assure the appropriate progress.
- Review and endorse the criteria for prioritization of projects.
- Establish working groups to work with the study team in securing the relevant data and information.
- Endorse the final Border Master Plan.
- Incorporate the findings and priorities of the Border Master Plan in their agencies' planning and programming processes.

The mandate of the *non-voting* members is to:

- Provide assistance in the development of public and stakeholder outreach activities to ensure that all impacted stakeholders and communities are appropriately engaged.
- Review the assumptions, analyses, and documentation produced by the study team.
- Recommend criteria to prioritize projects to the BNAC voting members for endorsement.
- Make recommendations to BNAC voting members.

Table ES.1: BNAC Membership

United States	Mexico
(10) *Voting*	(8)
USDOS, Steven Kameny FHWA, Sylvia Grijalva Texas Department of Transportation (TxDOT) El Paso District, Robert Bielek El Paso County, Judge Veronica Escobar City of El Paso, Mayor John Cook General Services Administration, Jim King U.S. Customs and Border Protection, Mikhail A. Pavlov New Mexico Department of Transportation, Homer Bernal State delegation member, Senator Jose R. Rodriguez International Boundary and Water Commission, Gabriel Duran	Secretaría de Relaciones Exteriores, Sean Carlos Cázares Ahearne Secretaría de Comunicaciones y Transportes, Óscar Raúl Callejo Silva Secretaría de Comunicaciones y Obras Públicas Chihuahua, Eduardo Esperón González Municipio de Juárez, Vicente López Urueta Instituto de Administración y Avalúos de Bienes Nacionales, Héctor Enrique de Dios Abascal Administración General de Aduanas, Carlos Morales Tayavas Instituto Nacional de Migración, Ana Licenko Saval Promotora de Industria Chihuahuense, Sergio Jurado Medina
(15) *Non-voting*	(11)
Trucking industry, Miguel Perez and Hector Mendoza Maquila industry, Kathy Neal Brokers, Rosie Lara BNSF Railway Company, Nathan Asplund Union Pacific Railroad (UPRR), Ivan Jaime New Mexico Border Authority, Marco Herrera U.S. Consulate, Peter Sloan Greater El Paso Chamber of Commerce, Jack Chapman Hispanic Chamber of Commerce, Cindy Ramos-Davidson Doña Ana County, Dolores Saldaña-Caviness Congressman Reyes' office, Silvestre Reyes City of El Paso public member, Patrick Terrence Abeln County of El Paso public member, Stephanie Caviness Presidio County, Judge Paul Hunt	Trucking industry, Manuel Sotelo Maquila industry, Armendáriz and Guillermo Gutiérrez Brokers, Óscar Chávez Arvizo Ferrocarril Mexicano, Manuel Juárez Caminos y Puentes Federales, Héctor Carrasco Mexican Consulate, Roberto Rodríguez Hernández Instituto Municipal de Investigación y Planeación, Alberto Nicolás López Promofront, Antonio Casillas and Virginia Dorantes Comisión Internacional de Limites y Aguas, Armando Reyes

In accordance with their mandate, BNAC voting members established six working groups to work with the study team in securing necessary data and information for development of the Border Master Plan in a timely manner:

- *POE Working Group* to assist the study steam in developing an inventory of current POE facilities and planned POE projects.
- *Transportation Infrastructure Working Group* to assist the study team in developing an inventory of current road and interchange facilities serving POEs in the study area, as well as planned road and interchange facilities.
- *Socio-demographic Working Group* to assist the study team in securing socio-economic and demographic data for the study area, such as income, population, employment, and land use data.
- *Rail Infrastructure Working Group* to assist the study team in developing an inventory of current rail facilities and planned rail projects in the study area.
- *Planning Working Group* to review the study team's analysis of the planning processes for transportation infrastructure in the study area.
- *Public Outreach Working Group* to provide input and insight into the organization of public outreach events.

Study Area

The study area approved by BNAC voting members on May 23, 2012, includes an "Area of Influence" and a "Focused Study Area."

Area of Influence

The Area of Influence includes the following areas:

- On the U.S. side, the border counties of El Paso, Hudspeth, Jeff Davis, and Presidio in Texas and Doña Ana in New Mexico.
- On the Mexico side, the Mexican Municipalities of Guadalupe, Juárez, Ojinaga, and Práxedis G. Guerrero in the State of Chihuahua.

Current and projected data on population, employment, land use, and income were obtained for the Area of Influence. The study team found that total population is expected to increase from 2,393,208 in 2010 to 3,595,608 in 2030—an increase of 50.2 percent. Total employment is estimated to increase from 977,027 in 2010 to 1,481,624 in 2030—an increase of 51.6 percent. A number of trade corridors (IH 10, US 54, and US 67 in the United States and the Manzanillo–Gómez Palicio–Monterrey–City of Juárez and Topolobampo–Chihuahua–Ojinaga corridors in Mexico) also traverse the Area of Influence.

Focused Study Area

The Focused Study Area is largely an area 10 miles (16 km) north and south of the Texas/New Mexico–Chihuahua international border (Figure ES.1). However, the boundary was expanded to include a silver mine in the Presidio area, the Samalayuca region south of the City of Juárez, and a planned truck and rail bypass east of El Paso, Texas. The borders of the Focused Study Area are:

- In the northwest, Las Cruces, New Mexico, on the U.S. side; and approximately Marker 28 on MEX 2 and Marker 305 on MEX 45 on the Mexican side.

In the southeast, Sierra Blanca, Van Horn, and Casa Piedra on the U.S. side; and Coyame del Sotol and Ejido Potrero del Llano on the Mexican side.

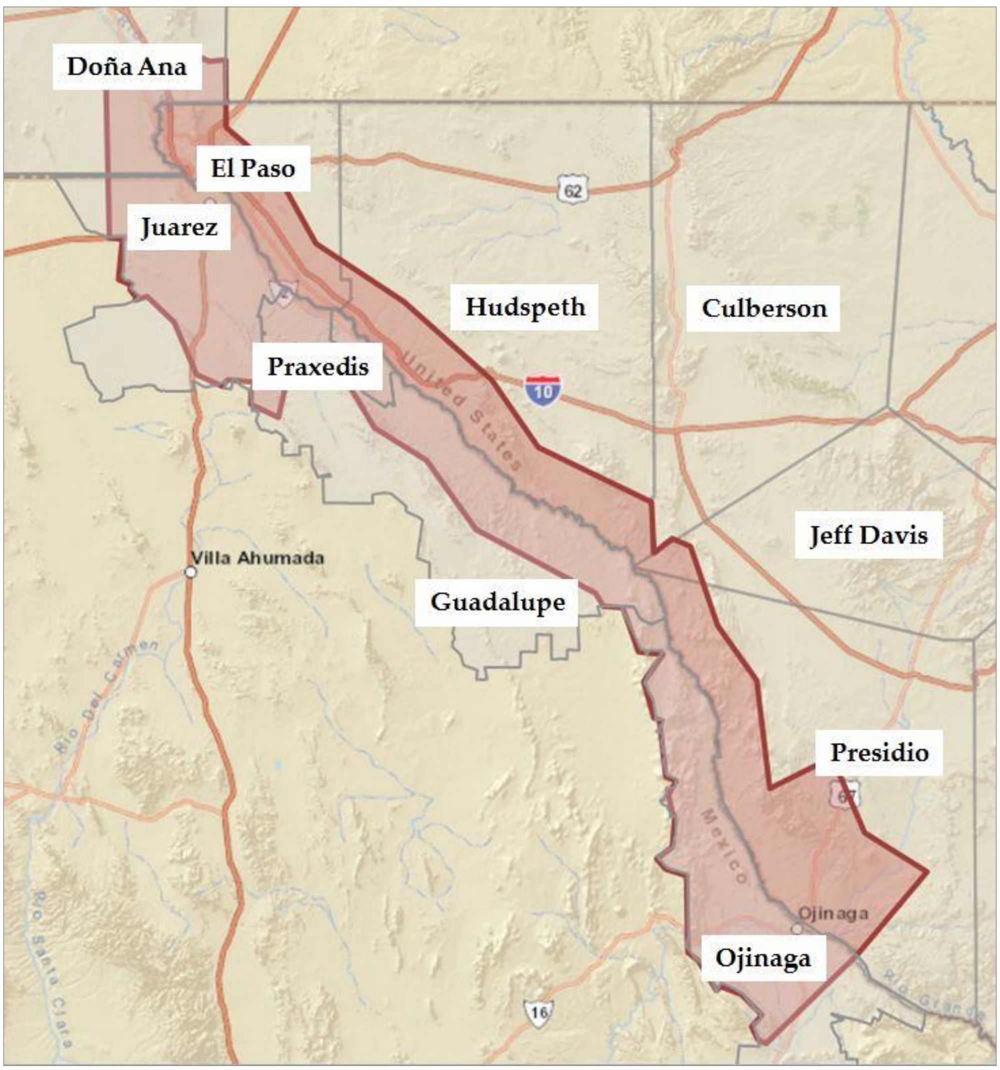


Figure ES.1: Border Master Plan Focused Study Area

The study team identified, in consultation with the working group members, the planned POE, road and interchange, transit, and rail projects in the Focused Study Area. Short-, mid-, and long-term priorities were subsequently established for the planned projects in the Focused Study Area.

Bridges/Crossings in Focused Study Area

There are eight vehicular or pedestrian bridges/crossings and three rail bridges in the Focused Study Area. In addition, the Guadalupe-Tornillo Bridge is currently under construction. The bridges/crossings are illustrated in Figure ES.2.

In 2012, the total value of U.S.-Mexico trade that crossed the Focused Study Area border was $86.1 billion—$38.1 billion in exports and $48.0 billion in imports. In El Paso, the total value of U.S.-Mexico trade that crossed the border was $65.7 billion—$29.7 billion in exports and $36.0 billion in imports. Santa Teresa, New Mexico, accounted for $19.9 billion in total trade—$8.1 billion in exports and $11.8 billion in imports. Presidio, Texas, accounted for $498.4 million in U.S.-Mexico trade—$318.8 million in exports and $179.6 million in imports. The rail carriers operating in the Focused Study Area are UPRR, Ferromex, and BNSF Railway Company.

In 2012, almost 10 million northbound privately owned vehicles (POVs) and more than 6 million northbound pedestrians crossed the Focused Study Area border. In El Paso, 9,014,493 northbound POVs and 6,152,089 northbound pedestrians crossed the border in 2012. In Santa Teresa, 381,903 northbound POVs and 103,119 northbound pedestrians crossed the border in 2012. In Presidio, 570,671 northbound POVs and 78,678 northbound pedestrians crossed the border in 2012.

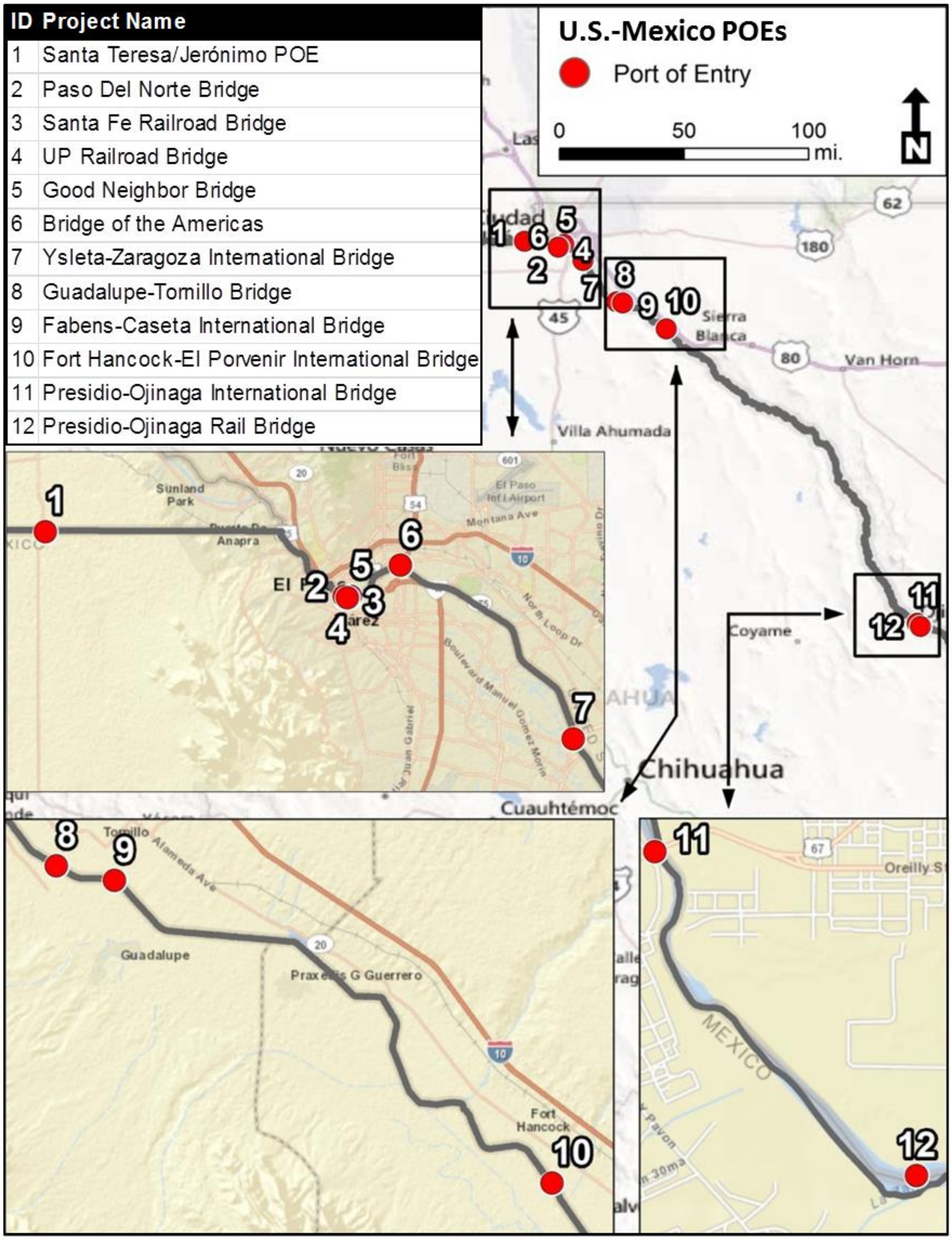


Figure ES.2: Location of Bridges/Crossings in Focused Study Area

Study Approach

The study team developed the Border Master Plan in the following seven tasks:

1. Contact and interview BNAC members to determine their level of support for the Border Master Plan, address any issues or concerns, determine their anticipated commitment to and involvement in the development of the Border Master Plan, determine if any additional/specific changes to the scope of work are required, and establish an appropriate communications protocol and methodology for sharing information.
2. Hold a BNAC meeting to review the objectives of the study and the work plan, and address any issues or concerns raised in Task 1; the purpose is to reach agreement on the geographic area covered by the Border Master Plan and the number of years that constitute a short-, medium-, and long-term horizon, and to establish preliminary working groups that will work with the study team. In addition, host a public information event.
3. Collect data and create a detailed inventory of existing and planned POEs and the transportation facilities serving the POEs in the study area.
4. Hold a BNAC meeting to review data collected and verify planned project information.
5. Hold a BNAC workshop and BNAC voting member meeting to reach consensus on the categories, category weights, criteria, criterion weights, and scores used to prioritize individual projects. Host a public information event.
6. Prioritize and rank planned POE and transportation infrastructure projects using the ranking framework endorsed by BNAC voting members.
7. Finalize and obtain approval of the Border Master Plan document.

Stakeholder Participation

For border master plans to be successful, stakeholder participation in and commitment to the development of these plans are critical. The study team secured stakeholder participation in and commitment to the development of the Border Master Plan by hosting regular meetings and maintaining contact with stakeholders and committee members.

BNAC Meetings

The study team hosted four BNAC meetings during development of the Border Master Plan. During the meetings, BNAC provided overall direction, established clear metrics for the development of the Border Master Plan, established working groups, and reviewed and endorsed the ranking framework for prioritizing planned projects.

Working Group Webinars

CTR and TTI hosted five webinars with the U.S. members of five of the six working groups and three webinars with the Mexican members of five of the six working groups. The latter webinars were hosted in Spanish, and two webinars included more than one working group. During these webinars, the study team reviewed the data and information needed from working group members and the projects and information sources identified by the study team to date. The members of the Public Outreach Working Group were consulted by phone prior to the public information events to obtain their input.

All planned project information and data included in the Border Master Plan were provided by the project sponsors or working group members. The information and data were not independently verified, but the study team did review the information and data for reasonableness. Any concerns expressed by stakeholders about the information and data were addressed with the project sponsors.

Public Information Events

UTEP organized and hosted three public information events in El Paso during which the study team shared information about the:

- Objectives for developing the El Paso/Santa Teresa–Chihuahua Border Master Plan, the defined study area and planning horizons, the approved work plan, and ways members of the public can remain informed and provide input into the development of the Border Master Plan.
- Identified planned POE and transportation infrastructure projects in the study area and the ranking framework that was developed by BNAC. Members of the public were invited to share their comments and provide input.
- Priority POE and transportation projects that emerged from the prioritization process. Members of the public were invited to share their comments and concerns regarding the Border Master Plan priorities.

Reaching Consensus

Two objectives of the Border Master Plan were to develop and implement a plan for prioritizing and promoting POE and related transportation projects that include evaluation criteria and rankings over the short, medium, and long terms; and to design a stakeholder agency involvement process that would be inclusive and ensure participation of all involved. The plan for prioritizing projects required BNAC members to reach consensus on the elements of the ranking framework (categories, category weights, criteria, criterion weights, and scoring metrics) that would be used to prioritize the projects. To ensure a stakeholder involvement process that would be inclusive and ensure participation of all involved, it was important that each BNAC member have an equal voice in selecting the categories, category weights, criteria, and criterion weights. Equally important was creating a non-threatening environment in which BNAC members would feel comfortable expressing themselves.

The study team used Classroom Performance System technology to reach consensus on the categories, category weights, criteria, and criterion weights to be used in prioritizing the identified planned projects. The process worked as follows: BNAC members were provided with a voting device (I>Clicker) that allowed them to rank an element of the ranking framework on importance. For example, each member could rank a specific criterion in prioritizing a project on a scale of A to E, where A was extremely important and E was extremely unimportant. The votes were anonymous, but the study team could track how many BNAC members voted.

Once the votes were cast, results were shared, and the study team facilitated a discussion about the voting results. BNAC members were then subsequently asked to vote again, and the process continued until consensus was reached or until the voting results did not change substantially from one round to the next. This approach allowed all attending BNAC members to participate in the selection of the categories, category weights, criteria, and criterion weights. The same process was followed for the endorsement of the categories, category weights, criteria, criterion weights, and scoring metrics by the BNAC voting members.

Ranking Framework

Concurrence was reached regarding elements of the ranking framework (the categories, category weights, criteria, criterion weights, and scoring metrics) that would be used for project prioritization during the third BNAC meeting. A few criteria and criterion weights, as well as the scoring metrics, were modified during the fourth BNAC voting member meeting, but in general, BNAC voting members endorsed the ranking framework developed by BNAC

Table ES.2 provides the prioritization criteria and weights assigned to the POE projects. In total, 17 criteria were endorsed for prioritizing the POE projects.

Table ES.3 provides the prioritization criteria and weights assigned to the road and interchange and transit projects. In total, 18 criteria were endorsed for prioritizing the road and interchange and transit projects.

Table ES.4 provides the prioritization criteria and weights assigned to the rail projects. In total, 18 criteria were endorsed for prioritizing the rail projects.

Table ES.2: POE Project Prioritization Criteria

Category	Criterion	Weight
Capacity/Congestion (Weight = 21.5%)	Increase in Number of Operational Booths	18.7%
	Increase Number of Secure Lanes	14.5%
	Decrease Wait Times	27.9%
	Alleviate Congestion	16.7%
	Increase POE Efficiency through a Congestion Management Strategy	22.2%
Demand (Weight = 19.6%)	Increase in Average Annual Daily Non-commercial Crossings	37.0%
	Increase in Average Annual Daily Commercial Crossings	37.0%
	Transit Demand	26.0%
Economic Value (Weight = 10.0%)	Socio-economic Impacts	30.6%
	Cost/Capacity Criterion	34.0%
	Cost/Demand Criterion	35.4%
Project Readiness (Weight = 9.0%)	Funding Availability	40.0%
	Phase of Project Development	60.0%
Safety (Weight = 4.3%)	Diversion of Commercial Traffic/Separation of Traffic by Type	100.0%
Regional Impacts (Weight = 12.3%)	Community Impacts	51.2%
	Geographical Impacts	48.8%
Binational Coordination (Weight = 23.3%)	Binational Coordination	100.0%

Table ES.3: Road and Interchange and Transit Project Prioritization Criteria

Category	Criterion	Weight
Capacity/Congestion (Weight = 18.6%)	Final Level of Service	24.2%
	Increase in Level of Service	42.2%
	Congestion Management	33.6%
Demand (Weight = 18.0%)	Increase in Average Annual Daily Traffic	33.2%
	Existing Percentage of Trucks	34.0%
	Multiple Mode Demand	32.8%
Economic Value (Weight = 8.5%)	Socio-economic Impacts	30.6%
	Cost/Capacity Criterion	34.0%
	Cost/Demand Criterion	35.4%
Project Readiness (Weight = 13.5%)	Funding Availability	40.0%
	Phase of Project Development	60.0%
Safety (Weight = 6.3%)	Accident Rate per Mile*	51.0%
	Measures to Improve Safety	49.0%
Regional Impacts (Weight = 17.1%)	Community Impacts	51.2%
	Geographical Impacts	48.8%
POE Connectivity (Weight = 18.0%)	Number of POEs Served	27.3%
	Improve Accessibility/Traffic Flow to and from POE	45.0%
	Degrees of Separation to POE	27.7%

Note: *Accident rate is defined as the number of accidents per mile (see Appendix D). The accident rate was not defined according to the *Highway Capacity Manual*.

Table ES.4: Rail Project Prioritization Criteria

Category	Criterion	Weight
Capacity/Congestion (Weight = 18.6%)	Increase in Track Capacity	35.2%
	Alleviates Congestion Locally	36.0%
	Increase in Rail Mode Share	28.8%
Demand (Weight = 18.0%)	Increase in Average Annual Daily Rail Cars	33.1%
	Cross-Border Tonnage by Rail	35.2%
	Multiple Mode Demand	31.7%
Economic Value (Weight = 8.5%)	Socio-economic Impacts	30.6%
	Cost/Capacity Criterion	34.0%
	Cost/Demand Criterion	35.4%
Project Readiness (Weight = 13.5%)	Funding Availability	40.0%
	Phase of Project Development	60.0%
Safety (Weight = 6.3%)	Accident Rate per Mile*	51.0%
	Measures to Improve Safety	49.0%
Regional Impacts (Weight = 17.1%)	Community Impacts	51.2%
	Geographical Impacts	48.8%
POE Connectivity (Weight = 18.0%)	Number of POEs Served	27.3%
	Improve Accessibility/Traffic Flow to and from POE	45.0%
	Degrees of Separation to POE	27.7%

Note: *Accident rate is defined as the number of accidents per mile (see Appendix D).

Planned POE and Transportation Infrastructure Priorities

On the U.S. side, 35 POE projects, 43 road and interchange projects, 5 transit projects, and 2 rail projects were identified. On the Mexican side, 23 POE projects, 51 road and interchange projects, 1 transit project, and 3 rail projects were identified. Projects from the United States were ranked separately from those from Mexico because of the limited data that were provided for Mexican projects. The prioritization/ranking of both countries' projects together would have resulted in most of the Mexican projects receiving a lower priority/rank. Each country's projects were thus prioritized/ranked separately. Projects were then ranked by type—POE, road and interchange, transit, and rail projects. The complete ranking of all projects by type in each country is provided in Appendix E.

On the U.S. side, the project priorities are presented by county (El Paso, Presidio, and Doña Ana Counties), and on the Mexican side, the project priorities are presented by Mexican municipality (Municipalities of Juárez, Guadalupe, Práxedis G. Guerrero, and Ojinaga). Projects for which no time period was provided were categorized as "unknown." The highest ranked POE, road and interchange, and rail projects by U.S.

county and Mexican municipality are shown in Figure ES.3. These projects are briefly described in this Executive Summary.

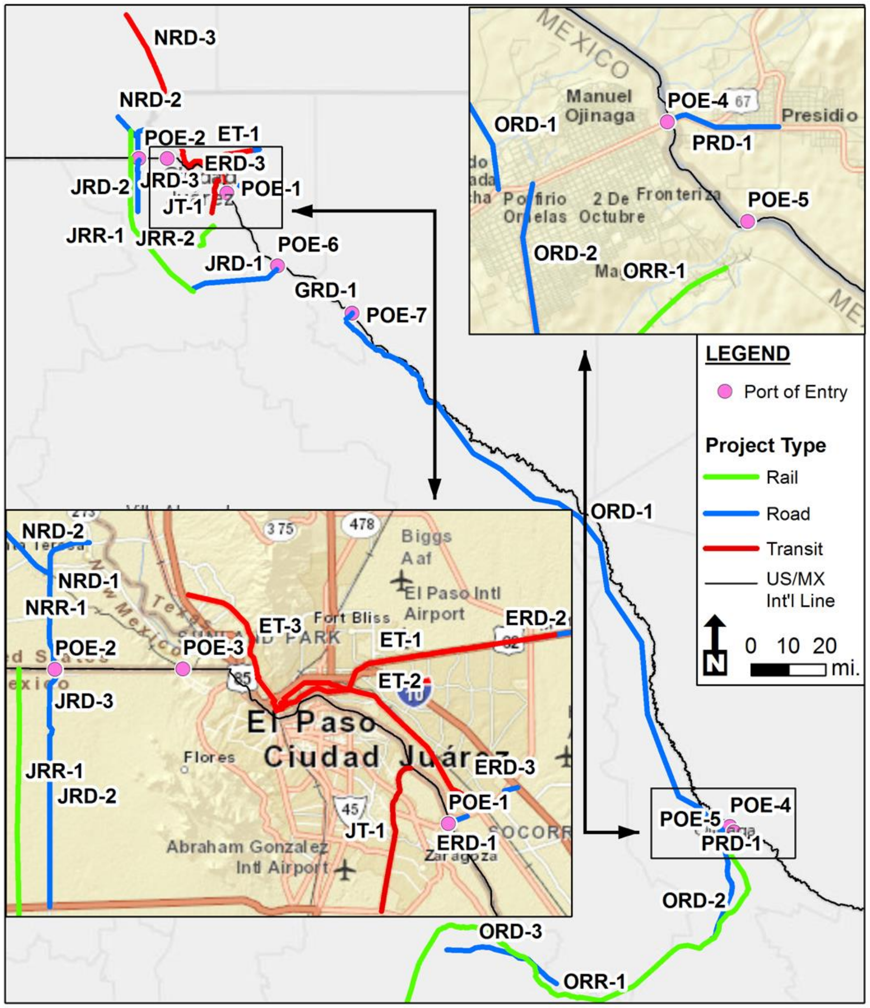
El Paso County

POE Projects in El Paso County

In El Paso County, 27 projects are planned for currently existing POEs, and 2 additional projects are planned for the construction of new POEs. The highest ranked existing POE project in El Paso County and the U.S. Focused Study Area is the construction of the Freight Shuttle System (FSS), which presents an automated, zero-emission, low-cost, and high-performing option for shippers who are increasingly constrained by congestion in critical freight corridors. The second-highest ranked project involves the addition of up to six primary inspection lanes to increase capacity at the Ysleta-Zaragoza International Bridge. The third-highest ranked project, also at the Ysleta-Zaragoza International Bridge, involves reconfiguring the passenger vehicle bridge lanes by reducing the sidewalk width on each side of the bridge from 10 feet to 5 feet and increasing the number of lanes from five (one Secure Electronic Network for Traveler's Rapid Inspection [SENTRI], two northbound, and two southbound lanes) to six (one SENTRI, one dedicated Ready, two northbound, and two southbound lanes). Other existing bridges in El Paso County where projects were identified include the Bridge of the Americas, Paso del Norte International Bridge, and Good Neighbor International Bridge. A new POE to accommodate only POVs and pedestrians is planned between the Bridge of the Americas and Ysleta-Zaragoza International Bridge, and a second FSS is planned at a proposed Billy the Kid POE located between Socorro and San Elizario.

Road and Interchange Projects in El Paso County

Thirty-five out of the 43 road and interchange projects identified in the U.S. Focused Study Area are planned in El Paso County. The highest ranked road and interchange project in El Paso County and the U.S. Focused Study Area is the construction of a new commercial access road to the Ysleta-Zaragoza International Bridge. The second-highest ranked project involves interchange improvements on IH 10, including construction of a direct connector between LP 375 northbound and IH 10 eastbound. The third-highest ranked project in El Paso County includes adding capacity to US 62 between Global Reach/Yarbrough Drive and RR 659 (Zaragoza Road).



EL PASO COUNTY			
RANK	POE	ROAD	TRANSIT
1	Build the Freight Shuttle System at Ysleta-Zaragoza International Bridge **[POE-1]**	Build Pan American Drive at Loop 375 to Ysleta-Zargosa International Bridge **[ERD-1]**	Construct Bus Rapid Transit (BRT) System on SH 20 (Alameda Avenue) **[ET-2]**
2	Build additional primary commercial inspection lanes at Ysleta-Zaragoza International Bridge **[POE-1]**	Make interchange improvements on IH 10 at Loop 375 **[ERD-3]**	Construct BRT System on US 180 (Montana Avenue/Montana Corridor Routes) **[ET-1]**
3	Reconfigure bridge lanes at Ysleta-Zaragoza International Bridge **[POE-1]**	Add capacity on US 62—Global Reach/Yarbrough Drive to RR 659 **(Zaragoza Road) [ERD-2]**	Design and construct BRT on SH 20 (Mesa Street) **[ET-3]**

DOÑA ANA COUNTY			
RANK	POE	ROAD	RAIL
1	Build Commercial and Bus Inspection Facility at Santa Teresa/Jerónimo POE **[POE-2]**	Construct Strauss Road from NM 136 to approximately 6.5 miles from Union Pacific Intermodal Yard [NRD-2]	Prepare Presidential Permit for the construction of the Santa Teresa rail bypass **[NRR-1]**
2	Construct new crossing at Anapra-Sunland Park **[POE-3]**	Perform pavement preservation, design, and construct multi-use path on NM 136 from MP 7.5 to MP 8.4 [NRD-1]	
3	Build Commercial Weight Inspection Station at Santa Teresa/Jerónimo POE **[POE-2]**	Perform IH 10 pavement preservation **[NRD-3]**	

PRESIDIO COUNTY		
RANK	POE	ROAD
1	Prepare Presidential Permit and construct twin structure at Presidio-Ojinaga International Bridge **[POE-4]**	Improve US 67 from O'Reilly Street to Presidio-Ojinaga International Bridge **[PRD-1]**
2	Build Commercial and Bus Inspection Facility at Presidio-Ojinaga International Bridge **[POE-4]**	
3	Reconstruct the International Rail Bridge on South Orient at Presidio **[POE-5]**	

MUNICIPALITY OF JUÁREZ				
RANK	POE	ROAD	RAIL	TRANSIT
1	Construct new non-commercial POE northwest of Juarez at Anapra Sunland Park **[POE-2]**	Construct access loop to the new Guadalupe/Tornillo POE **[JRD-1]**	Construct new rail line from City of Juárez to the Santa Teresa/Jerónimo POE **[JRR-1]**	Improve public transportation, develop BRT, and connect originating zones with important destinations including POEs **[JT-1]**
2	Construct new rail POE to divert cargo away from the urban area of City of Juárez to Santa Teresa/Jerónimo POE **[POE-2]**	Modernize and widen MEX 48 to include a shoulder on each side **[JRD-2]**	Construct rail spur connecting to the Electrolux Plant in the southeast of City of Juárez **[JRR-2]**	
3	Construct sidewalks to provide dedicated routes for pedestrians at Santa Teresa/Jerónimo POE **[POE-2]**	Modify the radius and super-elevation of the curve located at the Kilometer 18 marker **[JRD-3]**		

MUNICIPALITIES OF GUADALUPE AND PRÁXEDIS G. GUERRERO		
RANK	POE	ROAD
1	Construct administrative facilities and bridge structure for new Guadalupe/Tornillo POE **[POE-6]**	Modernize the intersection of MEX 2 and the road leading to Fort Hancock-El Porvenir International Bridge; construct shoulders and merge lanes **[GRD-1]**
2	Modernize and expand administrative facilities at Fort Hancock-El Porvenir International Bridge **[POE-7]**	

MUNICIPALITY OF OJINAGA			
RANK	POE	ROAD	RAIL
1	Construct exclusive export lane at Presidio-Ojinaga International Bridge **[POE-4]**	Modernize and widen the rural section to accommodate 2 lanes and shoulders from El Porvenir to Ojinaga **[ORD-1]**	Replace and improve rail and structures on the Chihuahua-Ojinaga section of the Q rail line **[ORR-1]**
2	Construct exclusvie import lane at Presidio-Ojinaga International Bridge **[POE-4]**	Modernize CHIH 67; construct a second parallel section of highway **[ORD-2]**	
3	Construct new international bridge and new administrative facilities at Presidio **[POE-5]**	Modernize CHIH 80–La Mula; construct a second parallel section of highway **[ORD-3]**	

Figure ES.3: Highest Ranked POE, Road and Interchange, and Rail Projects by U.S. County and Mexican Municipality

Transit Projects in El Paso County

Four bus rapid transit (BRT) projects and one preliminary engineering study for a BRT system on US 62/180 were identified in the U.S. Focused Study Area, and all are planned in El Paso County. The highest ranked BRT project in El Paso County and the U.S. Focused Study Area is the SH 20 (Alameda Avenue) system on Santa Fe Street at Fourth Avenue to Zaragoza Road. The project corridor serves four major crossings in the area, and the project's completion is expected to improve mobility to and from each of these four crossings. The second-highest ranked BRT project is planned on US 180, also known as the Montana Corridor Route. This planned project includes the design and construction of diamond-striped lanes and signal prioritization. The third-highest ranked transit project planned in El Paso County and the U.S. Focused Study Area involves design and construction of a BRT system on SH 20 (Mesa Street) between Fourth Avenue and Remcon Circle.

Rail Project in El Paso County

Two planned rail projects were submitted for inclusion in the Border Master Plan. One of these rail projects is in El Paso County and involves various upgrades to 31 bridges on the BNSF El Paso Subdivision over the next 10 to 15 years. It was reported that these upgrades will have substantial impacts on rail freight moved in both the United States and Mexico. This rail project was ranked second in the U.S. Focused Study Area.

Presidio County

POE Projects in Presidio County

Three of the 35 planned U.S. POE projects in the U.S. Focused Study Area are in Presidio County. The highest ranked POE project in Presidio County (ranked 16th in the U.S. Focused Study Area) is the preparation of a Presidential Permit for the addition of a twin structure at the Presidio-Ojinaga International Bridge. The two other POE projects planned in Presidio County are the construction of a commercial and bus inspection facility at an estimated cost of $1.16 million and the International Rail Bridge on South Orient at Presidio. TxDOT and Texas Pacifico Transportation Ltd. are in the preliminary planning stages for reconstruction of the International Rail Bridge.

Road and Interchange Project in Presidio County

Planned improvements to US 67 between O'Reilly Street and the Presidio-Ojinaga International Bridge constitute the only road and interchange project in Presidio County that has been identified for inclusion in the Border Master Plan. The project involves the installation of intelligent transportation system (ITS) technologies to improve traffic flow along the corridor.

Doña Ana County

POE Projects in Doña Ana County

Three of the 35 planned U.S. POE projects in the U.S. Focused Study Area are in Doña Ana County; however, insufficient information was provided by stakeholders concerning these projects. The first project involves the construction of a new POE at the City of Sunland Park. The second and third projects involve the construction of a commercial and bus inspection facility and a commercial weight inspection station at Santa Teresa/Jerónimo POE.

Road and Interchange Projects in Doña Ana County

Of the 43 planned U.S. road and interchange projects in the U.S. Focused Study Area, 7 are in Doña Ana County. The highest ranked road and interchange project in Doña Ana County (ranked 13th in the U.S. Focused Study Area) is the construction of Strauss Road, which connects NM 136 to the Union Pacific Intermodal Yard. The second-highest ranked project involves maintenance, repair work, and design/construction of a multi-use path on NM 136, as well as drainage and erosion control work. The third-highest ranked project in Doña Ana County includes maintenance and repair work on IH 10 from Las Cruces to the Texas–New Mexico State line. The project includes the installation of ITS technologies to alleviate congestion concerns along the corridor.

Rail Project in Doña Ana County

The higher ranked of the two planned rail projects in the U.S. Focused Study Area is the preparation of a Presidential Permit application for the construction of the Santa Teresa, New Mexico, rail bypass.

Municipality of Juárez

POE Projects in Municipality of Juárez

Of the 23 POE projects identified in the Mexico Focused Study Area, 14 are planned in the Municipality of Juárez; 10 of these 14 projects are at existing POEs. The highest ranked planned project at the Santa Teresa/Jerónimo POE in the Municipality of Juárez (ranked eighth in the Mexico Focused Study Area) is planned and involves the construction of sidewalks for pedestrians using this facility. The second-highest ranked project at the Santa Teresa/Jerónimo POE in the Municipality of Juárez (ranked ninth in the Mexico Focused Study Area) involves the modernization and expansion of administrative facilities and renovations at the Bridge of the Americas. The third-highest ranked project at the Ysleta-Zaragoza International Bridge in the Municipality of Juárez (ranked 11th in the Mexico Focused Study Area) involves the widening of the access road to Mexican Customs from two to three lanes to increase capacity and to separate heavy vehicles. Additional planned POE projects were identified for the Good Neighbor International Bridge and Paso del Norte International Bridge.

In addition, two new planned crossings for Anapra-Sunland Park and the Santa Teresa/Jerónimo rail POE were identified to the northwest of the City of Juárez. The proposed non-commercial crossing at Anapra-Sunland Park will connect McNutt Road (SH 273) and Sunland Park Drive on the U.S. side with Carretera Anapra/San Jerónimo in Mexico. Initially, the crossing will have four lanes plus an additional two lanes for buses and two lanes for pedestrians. In the future, the four lanes may be expanded to six. The new crossing will have double-stacked operational booths and ITS technologies to expedite the processing of passenger vehicles, buses, bicycles, motorcycles, and pedestrians. The second-highest ranked new POE project in the Municipality of Juárez (ranked sixth in the Mexico Focused Study Area) is the construction of a new rail POE at the Santa Teresa/Jerónimo POE. Other new POE projects in the Municipality of Juárez include the construction of a new non-commercial bridge between the Bridge of the Americas and the Ysleta-Zaragoza International Bridge, and an FSS at a new proposed POE between Socorro and San Elizario.

Road and Interchange Projects in Municipality of Juárez

Forty-four of the 51 Mexican road and interchange projects that serve the POEs are in the Municipality of Juárez. The highest ranked road project in the Municipality of Juárez and the Mexico Focused Study Area involves the construction of the City of Juárez's Loop, connecting the Guadalupe/Tornillo POE to MEX 2. The second- and third-highest ranked road projects in the Municipality of Juárez (ranked second and third in the Mexico Focused Study Area, respectively) involve the modernization, widening, curve elevation, and radius modification of different sections of MEX 48. MEX 48 loops around the southwest side of the City of Juárez, connecting MEX 2 with the Santa Teresa/Jerónimo POE.

Transit Project in Municipality of Juárez

Only one planned transit project was submitted for inclusion in the Border Master Plan. The planned project involves general improvements to the public transportation system and the development of a BRT system in the Municipality of Juárez. The project is expected to add up to 30 buses per hour to the public transportation system in the Municipality.

Rail Projects in Municipality of Juárez

Three planned rail projects were identified in the Mexico Focused Study Area, of which two are planned in the Municipality of Juárez. The highest ranked rail project in the Municipality of Juárez and the Mexico Focused Study Area is the construction of a new rail line that connects the City of Juárez to the new Santa Teresa/Jerónimo POE. The second planned rail project involves construction of a rail spur connecting to the Electrolux Plant in the southeast of the City of Juárez.

Municipalities of Guadalupe and Práxedis G. Guerrero

POE Projects in Municipalities of Guadalupe and Práxedis G. Guerrero

Two POE projects were identified in the Mexico Focused Study Area for the Municipalities of Guadalupe and Práxedis G. Guerrero. Administrative facilities and a bridge structure for the new Guadalupe/Tornillo POE was the highest ranked POE project in the Municipality of Guadalupe and the Mexico Focused Study Area. The other planned project at the Fort Hancock-El Porvenir International Bridge in the Municipalities of Guadalupe and Práxedis G. Guerrero, which ranked 19th in the Mexico Focused Study Area, involves modernizing and expanding administrative facilities at the existing bridge.

Road and Interchange Project in Municipalities of Guadalupe and Práxedis G. Guerrero

The only planned road project in the Municipalities of Guadalupe and Práxedis G. Guerrero ranked 30th out of the 51 planned Mexican road and interchange projects in the Mexico Focused Study Area. The project involves the modernization of the intersection of MEX 2 and the road leading to the Fort Hancock-El Porvenir International Bridge.

Municipality of Ojinaga

POE Projects in Municipality of Ojinaga

Seven planned Mexican projects involving the Municipality of Ojinaga were submitted for inclusion in the Border Master Plan, including a new crossing and the construction of administrative facilities. The construction of exclusive export lanes and exclusive import lanes at the Presidio-Ojinaga International Bridge tied in ranking first in the Municipality of Ojinaga (tied in ranking third out of the 23 planned POE projects in the Mexico Focused Study Area). The third-highest ranked POE project in the Municipality of Ojinaga (seventh out of the 23 planned POE projects in the Mexico Focused Study Area), involves the reconstruction and widening of the Presidio-Ojinaga Rail Bridge. This project also includes the modernization of the existing border infrastructure. The only new POE project in the Municipality of Ojinaga (ranked fifth in the Mexico Focused Study Area) involves the construction of a new international bridge and administrative facilities.

Road and Interchange Projects in Municipality of Ojinaga

Six planned road and interchange projects in the Municipality of Ojinaga were submitted for inclusion in the Border Master Plan. The highest ranked road and interchange project in the municipality (ranked fifth out of the 51 Mexican road and interchange projects) involves the modernization and widening of MEX 2 along the U.S.-Mexico border from El Porvenir to Ojinaga. This project will include high-occupancy vehicle lanes and is expected to accommodate double the current traffic as well as facilitate increased economic activity. The modernization of CHIH 67, ranked second in the Municipality of Ojinaga (ranked 12th out of the 51 Mexican road and interchange projects), will improve CHIH 67 from Ojinaga south to the intersection with CHIH 80 by constructing a parallel section of road to result in a divided highway, thereby increasing safety and providing additional vehicle capacity.

Rail Project in Municipality of Ojinaga

One planned rail project was identified in the Municipality of Ojinaga and involves the replacement and improvement of rail line Q in the Ojinaga region.

Recommendations

Institutionalizing the Dialogue

Border master plans should be updated when there are major changes in the content of the border master plans. For example, if a number of priority projects have been completed or if a number of planned projects have emerged since the border master plan was developed, the plan will need updating. This keeps the contents and inventories current and allows the border master plan to continue to represent the region's vision and goals. The timing of the updates may differ from region to region.

It is recommended that BNAC convene every year to determine the need for updates. Information on all completed priority projects and any planned projects that have emerged since the completion of the previous Border Master Plan should be presented. This presentation will allow BNAC to make an informed decision about the need to update the planned project inventory and technical data of the Border Master Plan. Similarly, BNAC will be able to determine the need for a comprehensive update to the plan. A comprehensive update would involve revisiting the planning horizons (short, medium, and long term), the geographic boundaries of the study area (Focused Study Area and Area of Influence), the socio-economic data, cross-border travel demand changes, and the ranking framework that was used to prioritize projects. Finally, it is recommended that a representative of BNAC or TxDOT's International Relations Office make regular informative presentations to the U.S./Mexico Joint Working Committee to discuss the need to update the existing Border Master Plan or to report on any in-progress border master plan updates.

Development of Future Border Master Plans

The study team offers the following observations and recommendations for consideration in development of future border master plans or updates of this Border Master Plan:

- Three of the four U.S. States on the southern border have overseen the development of border master plans. To remain a viable planning tool, these plans must reflect each different region's needs, interests, and priorities. If the ultimate goal is to establish U.S.-Mexico project priorities, it is recommended that regions follow a similar—although not necessarily the same—approach in the development of all border master plans. A consistent approach would allow projects across the entire border to be compared.
- Border master plans currently provide detailed inventories of planned project priorities in a Focused Study Area. Two enhancements to the scope of work for updating the border master plans should be considered: identify funding opportunities for high-priority projects in the Focused Study Area, and develop technical tools to evaluate the potential regional impact of investments. The implementation of some of the identified high-priority projects could potentially reduce the need or delay the need for implementing some of the other high-priority projects. As currently developed, border master plans do not quantify or model the demand impact of an investment in specific projects on other crossings or transportation infrastructure in the region.
- Ensure participation by actively reaching out to stakeholders. Keep stakeholders engaged in the development of border master plans, ensure a process where every stakeholder has an equal voice in the selection of the criteria that will be used to prioritize projects, and make all reports and information disseminated available in both English and Spanish. Ultimately, continued support for

development of border master plans will only prevail if results can be demonstrated—by the funding and implementation of high-priority projects identified by the border master plan.

Chapter 1. Introduction

Border master plans—as defined and supported by the U.S./Mexico Joint Working Committee (JWC)[1] on Transportation Planning and Programming, the Federal Highway Administration (FHWA), and the U.S. Department of State (USDOS)—are comprehensive, binational long-range plans[2] to:

- Inventory transportation and port-of-entry (POE) infrastructure that facilitates trade.
- Prioritize and promote planned POE and related transportation projects.
- Inform decision making.
- Allocate limited funding resources.
- Ensure continued dialog and coordination on future POE and supporting transportation infrastructure needs and projects.

The benefits of border master planning are recognized by both the U.S. Government and the Mexican Government in the Bilateral Action Plan of the U.S.-Mexico Executive Steering Committee (ESC) on 21st Century Border Management. To remain a viable planning tool, a border master plan must reflect each region's needs, interests, and priorities. Border master plans are intended to be updated and amended periodically to keep the contents and inventories current, and to continue to represent the region's vision and goals.

U.S. Customs and Border Protection (CBP) defines a land port of entry (LPOE) as the facility that provides controlled entry into or out of the United States. It houses CBP and other Federal inspection agencies. It includes the land, buildings, on-site roadways, and parking lots. CBP, however, also groups all crossings and bridges into POEs. According to CBP, there are 11 POEs (33 individual bridges and crossings) between Texas and Mexico. The 11 POEs on the Texas-Mexico border are Brownsville, Del Rio, Eagle Pass, El Paso, Fabens, Laredo, Hidalgo, Presidio, Progreso, Rio Grande City, and Roma. Within these POEs, 28 bridges and crossings facilitate vehicular and/or pedestrian traffic, and 5 serve freight rail. The following bridges are closed: Presidio's Rail Bridge, the La Linda Bridge in the Big Bend region, and a suspension bridge in Roma. In addition, on April 10, 2013, the Boquillas del Carmen bridge opened for business, and the construction of the new Guadalupe-Tornillo crossing is under way. In the case of Aduanas (the Mexican customs agency), a POE can include a single or multiple bridge crossings and/or land crossings. However, the stakeholders that participated in the development of the El Paso/Santa Teresa–Chihuahua Border Master Plan used POE and bridge/crossing interchangeably. These terms are thus used interchangeably in this document.

1.1 Purpose of Study

The El Paso/Santa Teresa–Chihuahua Border Master Plan (referred to in this publication simply as the Border Master Plan) is the fifth border master plan on the

U.S.-Mexico border and the third border master plan on the Texas-Mexico border. Its development followed a similar approach to the development of existing border master plans.

The objectives of this border master plan are to:

- Design a stakeholder agency involvement process that is inclusive and ensures participation of all involved in POE projects and the transportation infrastructure serving those POEs.
- Increase understanding of the POE and transportation planning processes on both sides of the border.
- Develop and implement plans for prioritizing and promoting POE and related transportation projects, including evaluation criteria and rankings over the short, medium, and long terms.
- Establish a process that will ensure continued dialog among Federal, State, regional, and local stakeholder agencies on both sides of the border to assure continued coordination on current and future POE and supporting transportation infrastructure needs and projects.

1.2 Decision-Making Structure

The Binational Advisory Committee (BNAC) was the governing body in the development of the El Paso/Santa Teresa–Chihuahua Border Master Plan. The objectives and membership of BNAC were discussed and agreed upon at meetings held on September 23, October 7, and November 17, 2011, as well as on January 25 and February 3, 2012.

On September 23, 2011, the Executive Committee of the Transportation Policy Board (TPB) discussed and approved the recommendation to create BNAC with no less than nine voting members[3]. The recommendation would later be presented to the full membership of TPB. On October 7, 2011, Representative Joe Pickett (representing District 79 in the Texas House of Representatives) presented to TPB the Executive Committee's outline and recommendation for the creation of BNAC. Discussion followed regarding the funding for the development of the Border Master Plan, the membership of elected State representatives, and participation by the Ysleta del Sur Tribe. BNAC was subsequently created under a motion by Representative Emma Acosta (the District 3 City Council representative for El Paso), seconded by Representative Naomi Gonzalez (representing District 76 in the Texas House of Representatives), and carried unanimously.[4] Specifically, the motion stated that:

- The Executive Committee's recommendations to create BNAC and to add the State delegation member's office to the list of voting members were approved.

- The El Paso County judge and City of El Paso mayor were established as co-chairs of BNAC.
- Membership in BNAC from the New Mexico Department of Transportation (NMDOT), General Services Administration (GSA), CBP, and their Mexican counterparts was approved.
- A quorum was established as consisting of at least seven voting members that are physically present or that participate through video conferencing.
- Membership was approved for non-voting ex-officio members that represent diverse interests, are committed to the duration of the one-year study, and do not exceed more than two members for each of the U.S. or Mexican maquila and trucking industries.
- The creation of working groups with at least one BNAC member as a participant was encouraged.
- The El Paso Metropolitan Planning Organization was designated to coordinate meetings, including recording and posting agendas publicly.

On November 17, 2011, City of El Paso Mayor John Cook and El Paso County Judge Veronica Escobar chaired the first BNAC meeting, which discussed BNAC membership. On January 25, 2012, a second BNAC meeting was hosted, during which a draft final BNAC membership list was developed. BNAC membership was finalized during the February 3, 2012, TPB meeting (see Table 1.1).[5] At its February 3, 2012, meeting, TPB discussed and unanimously approved the scope of work to be executed between the Texas Department of Transportation (TxDOT), The University of Texas at Austin's Center for Transportation Research (CTR), the Texas A&M Transportation Institute (TTI), and The University of Texas at El Paso (UTEP).[6] A contract was executed on April 3, 2012, between TxDOT and CTR to develop the El Paso/Santa Teresa–Chihuahua Border Master Plan. The first BNAC meeting after the executed contract was hosted by the study team made up of researchers from CTR, TTI, and UTEP, and was held on May 23, 2012, at UTEP's Mike Loya Academic Services Building.

1.2.1 BNAC Membership and Mandate

Table 1.1 shows that BNAC is made up of 18 voting members and 26 non-voting members.

Table 1.1: BNAC Membership

United States	Mexico
(10) *Voting*	(8)
USDOS, Steven Kameny FHWA, Sylvia Grijalva TxDOT El Paso District, Robert Bielek El Paso County, Judge Veronica Escobar City of El Paso, Mayor John Cook GSA, Jim King CBP, Mikhail A. Pavlov NMDOT, Homer Bernal State delegation member, Senator Jose R. Rodriguez International Boundary and Water Commission (IBWC), Gabriel Duran	Secretaría de Relaciones Exteriores (SRE), Sean Carlos Cázares Ahearne Secretaría de Comunicaciones y Transportes (SCT), Óscar Raúl Callejo Silva Secretaría de Comunicaciones y Obras Públicas Chihuahua (SCOP), Eduardo Esperón González Municipio de Juárez, Vicente López Urueta Instituto de Administración y Avalúos de Bienes Nacionales (INDAABIN), Héctor Enrique de Dios Abascal Administración General de Aduanas (Aduanas), Carlos Morales Tayavas Instituto Nacional de Migración (INM), Ana Licenko Saval Promotora de Industria Chihuahuense, Sergio Jurado Medina
(15) *Non-voting*	(11)
Trucking industry, Miguel Perez and Hector Mendoza Maquila industry, Kathy Neal Brokers, Rosie Lara BNSF Railway Company, Nathan Asplund Union Pacific Railroad (UPRR), Ivan Jaime New Mexico Border Authority, Marco Herrera U.S. Consulate, Peter Sloan Greater El Paso Chamber of Commerce, Jack Chapman Hispanic Chamber of Commerce, Cindy Ramos-Davidson Doña Ana County, Dolores Saldaña-Caviness Congressman Reyes' office, Silvestre Reyes City of El Paso public member, Patrick Terrence Abeln County of El Paso public member, Stephanie Caviness Presidio County, Judge Paul Hunt	Trucking industry, Manuel Sotelo Maquila industry, Armendáriz and Guillermo Gutiérrez Brokers, Óscar Chávez Arvizo Ferrocarril Mexicano, Manuel Juárez Caminos y Puentes Federales (CAPUFE), Héctor Carrasco Mexican Consulate, Roberto Rodríguez Hernández Instituto Municipal de Investigación y Planeación (IMIP), Alberto Nicolás López Promofront, Antonio Casillas and Virginia Dorantes Comisión Internacional de Limites y Aguas (CILA), Armando Reyes

The mandate of the *voting* members was to:

- Provide overall direction.
- Establish clear metrics and parameters that can be measured to assure the appropriate progress.
- Review and endorse the criteria for prioritization of projects.
- Establish working groups to work with the study team in securing the relevant data and information.
- Endorse the final Border Master Plan.
- Incorporate the findings and priorities of the Border Master Plan in their agencies' planning and programming processes.

The mandate of the *non-voting* members was to:

- Provide assistance in the development of public and stakeholder outreach activities to ensure that all impacted stakeholders and communities are appropriately engaged.
- Review the assumptions, analyses, and documentation produced by the study team.
- Recommend criteria to prioritize projects to the BNAC voting members for endorsement.
- Make recommendations to BNAC voting members.

The following six working groups were established to work with the study team in securing necessary data and information for development of the Border Master Plan in a timely manner:

- *POE Working Group* to assist the study steam in developing an inventory of current POE facilities and planned POE projects.
- *Transportation Infrastructure Working Group* to assist the study team in developing an inventory of current road and interchange facilities serving POEs in the study area (see Section 1.4), as well as planned road and interchange facilities.
- *Socio-demographic Working Group* to assist the study team in securing socio-economic and demographic data for the study area, such as income, population, employment, and land use data.
- *Rail Infrastructure Working Group* to assist the study team in developing an inventory of current rail facilities and planned rail projects in the study area.
- *Planning Working Group* to review the study team's analysis of the planning processes for transportation infrastructure in the study area.
- *Public Outreach Working Group* to provide input and insight into the organization of public outreach events.

1.3 Scope of Work

The study team developed the Border Master Plan in the following seven tasks:

1. Contact and interview BNAC members to determine their level of support for the Border Master Plan, address any issues or concerns, determine their anticipated commitment to and involvement in the development of the Border Master Plan, determine if any additional/specific changes are required to the scope of work, and establish an appropriate communications protocol and methodology for sharing information.
2. Hold a BNAC meeting to review the objectives of the study and the work plan, and address any issues or concerns raised in Task 1; the purpose is to reach agreement on the geographic area covered by the Border Master Plan and the number of years that constitute a short-, medium-, and long-term horizon, and to establish preliminary working groups that will work with the study team. In addition, host a public information event to share information about the objectives of the study, the defined study area and planning horizons, the agreed-upon work plan, and ways members of the public can remain informed and provide input into the development of the Border Master Plan.
3. Collect data and create a detailed inventory of existing and planned POEs and the transportation facilities serving the POEs in the study area.
4. Hold a BNAC meeting to review data collected and verify planned project information.
5. Hold a BNAC workshop and BNAC voting member meeting to reach consensus on the categories, category weights, criteria, criterion weights, and scores used to prioritize individual projects. Host a public information event to share information about the identified POE and transportation infrastructure projects planned in the study area and the ranking framework developed by the BNAC members.
6. Prioritize and rank planned POE and transportation infrastructure projects using the ranking framework endorsed by BNAC voting members.
7. Finalize and obtain approval of the Border Master Plan document.

Appendix A provides the study team's work plan.

1.3.1 Stakeholder Participation

BNAC Meetings

The study team hosted four BNAC meetings during development of the Border Master Plan:

1. The first BNAC meeting was held at the Mike Loya Academic Services Building on the UTEP campus on May 23, 2012. The work plan and outcome of the

California–Baja California Border Master Plan were shared with attending stakeholders. SRE and USDOS offered remarks in support of the development of border master plans. The study team presented the objectives and work plan for the El Paso/Santa Teresa–Chihuahua Border Master Plan and reviewed the comments and suggestions of the BNAC members interviewed during Task 1. The study team answered any remaining questions about the Border Master Plan's development. BNAC voting members decided the geographic boundaries of the "Focused Study Area" and "Area of Influence"; defined the time horizons for the short-, medium-, and long-term priorities; and established the working groups that would assist the study team in securing data and information for the development of the Border Master Plan within the established schedule.

2. The second BNAC meeting was held at the Camino Real Hotel in El Paso, Texas, on September 5, 2012. The study team presented the socio-economic and demographic data that had been collected for the study area. The study team reviewed the U.S. and Mexico planning processes for border transportation infrastructure—for the POEs and the supporting transportation facilities serving the POEs—and shared information about working group webinars. Upon request by the chair and co-chair in the interest of time, the study team did not review the identified planned U.S. and Mexican projects, collected data, and missing information on a project-by-project basis. The meeting concluded with an overview of the project ranking framework and methodology that would be developed subsequently by the BNAC members.
3. The third BNAC meeting was held at the Doubletree Hotel in El Paso, Texas, on September 26 and 27, 2012. The meeting started with a review of the Border Master Plan's objectives and the process for developing the ranking framework. This meeting was an intense two-day workshop during which the BNAC members reached consensus on categories, category weights, and criteria on the first day and part of the second day. In the afternoon of the second day, members were divided into two groups. One group reached consensus on the criterion weights, and the second group developed the scoring metric.
4. The fourth BNAC meeting was held at the Wyndham El Paso Airport Hotel in El Paso, Texas, on October 11, 2012. The study team reviewed the draft ranking framework developed by BNAC and the outcomes of the second public information event. The study team reviewed the categories, category weights, criteria, criterion weights, and scoring metric that the BNAC members developed. After some discussion, BNAC voting members endorsed the categories and category weights. BNAC voting members then discussed the criteria for each category and the corresponding criteria weights. Modifications were made to clarify some of the criteria and the metric used for scoring. The

voting members eliminated three criteria. The rail criterion "Decrease in Dwell Time" was eliminated from the Capacity/Congestion category because stakeholders decided that this criterion was beyond the control of project sponsors. The "Environmental Impacts" criterion in the Regional Impacts category and the "Percent of Border Traffic on Infrastructure" criterion in the POE Connectivity category for road/interchange and rail projects were eliminated because of concerns about the availability of data. In all cases, the weights assigned to these criteria were distributed proportionally to the remaining criteria within each category.

The agendas and minutes for these meetings are provided in Appendix B.

Working Group Webinars

As mentioned previously, BNAC voting members established six working groups that assisted the study team in securing data and information for the development of the Border Master Plan according to the established schedule. CTR and TTI hosted five webinars with the U.S. members of five of the six working groups and three webinars with the Mexican members of five of the six working groups. The latter webinars were hosted in Spanish, and two webinars included more than one working group. Tables 1.2 and 1.3 provide the webinar dates and the number of U.S. and Mexico participants, respectively. The members of the Public Outreach Working Group were consulted by phone prior to the public information events to obtain their input.

Table 1.2: Working Group Webinars with U.S. Members

Working Group	Date/Time	Number of Participants
POE	August 10, 2012 2:00 p.m. (CST)	13
Transportation Infrastructure	August 10, 2012 10:00 a.m. (CST)	11
Socio-demographic	August 13, 2012 2:00 p.m. (CST)	3
Rail Infrastructure	August 13, 2012 10:00 a.m. (CST)	2
Planning	August 17, 2012 10:00 a.m. (CST)	6

Table 1.3: Working Group Webinars with Mexico Members

Working Group(s)	Date/Time	Number of Participants
POE Transportation Infrastructure	August 10, 2012 4:00 p.m. (CST)	4
Socio-demographic Planning	August 17, 2012 10:00 a.m. (CST)	2
Rail Infrastructure	August 13, 2012 4:00 p.m. (CST)	1

The working groups conducted the following activities:

- During the POE Working Group webinar, the study team reviewed the data needed from working group members and the projects identified by the study team to date.
- During the Transportation Infrastructure Working Group webinar, the study team reviewed with members the planning documents that had been consulted, the list of projects identified, and the data required for the inventory and project prioritization.
- During the Socio-demographic Working Group webinar, the study team shared the socio-economic and demographic information that had been collected and asked participants to identify any additional data sources that should be consulted.
- During the Rail Infrastructure Working Group webinar, the study team requested that members identify planned rail projects in the study area and reviewed the data needed for rail projects.
- During the Planning Working Group webinar, the study team discussed the scope and objectives of the Border Master Plan and their progress in documenting POE and infrastructure planning processes.

Public Information Events

UTEP organized and hosted three public information events:

1. The first public information event was hosted on July 25, 2012, at the Tomas Rivera Conference Center in Union Building East at UTEP. The study team shared information about the objectives for developing the El Paso/Santa Teresa–Chihuahua Border Master Plan, the defined study area and planning horizons, the approved work plan, and ways members of the public can remain informed and provide input into the development of the Border Master Plan.

2. The second public information event was hosted on October 4, 2012, in the atrium of the Ysleta Independent School District building. The study team shared information about the identified planned POE and transportation infrastructure projects in the study area and the ranking framework that was developed by BNAC. Members of the public were invited to share their comments and provide input.
3. The third public information event was hosted on January 10, 2013, at the El Paso Natural Gas Conference Center at UTEP. The study team shared information about the priority POE and transportation projects that emerged from the prioritization process. Members of the public were invited to share their comments and concerns regarding the Border Master Plan priorities.

The public comments received at these information events are provided in Appendix C.

1.3.2 Data Collected

The required data and information for the Border Master Plan were obtained from a review of the published literature, agency planning documents, and personal communications that included in-person meetings with stakeholders and numerous e-mail communications with working group members. Working group members were frequently reminded of any outstanding information, and the study team requested outstanding data through written communications and follow-up e-mails and telephone calls. All planned project information and data included in the Border Master Plan were provided by the project sponsors or working group members. The information and data were not independently verified, but the study team did review the information and data for reasonableness. Any concerns expressed by stakeholders about the information and data were addressed with the project sponsors.

For Texas, the data used for development of the socio-economic and demographic profiles were obtained from the Texas State Data Center and Office of the State Demographer, the Texas Health and Human Services Commission, the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis, and UTEP. The demographic and socio-economic data reflect the latest available data (e.g., 2010 Census data).

The data used for development of the socio-economic and demographic profiles of the study area in Mexico were obtained from the following Mexican Federal agencies: Consejo Nacional de Población (CONAPO), Instituto Nacional de Estadística y Geografía (INEGI), and Comisión Nacional de los Salarios Mínimos (CONASAMI).

The information that the study team used to describe the current planning processes followed by Federal, State, regional, and local agencies to determine transportation and POE infrastructure needs and priorities was obtained from agency planning documents, consultant reports, books, articles, and academic literature.

The study team developed a detailed inventory of all transportation facilities serving the POEs in the study area. To facilitate comparison with the California–Baja California Border Master Plan and the Laredo–Coahuila/Nuevo León/Tamaulipas Border Master Plan, the study team collected similar descriptive and performance data for 2010 and used the TxDOT average annual daily traffic (AADT) growth rates to estimate facility usage and level of service (LOS) by 2030. The study team collected information about the location of roads and interchanges, road lengths, number of lanes, AADT, and share of truck traffic. Current and anticipated LOS was calculated using methods defined by the *Highway Capacity Manual* and traffic data provided by TxDOT. For existing POEs, the study team developed a detailed inventory that included a description of the current facilities, hours of operation, traffic type (privately owned vehicles, commercial trucks, pedestrians, buses, and trains/train cars), toll rates charged, and primary transportation facilities serving the POEs.

A list of planned POE and transportation infrastructure projects was developed using information from various planning documents. The list of planned projects was shared with the POE Working Group and Transportation Infrastructure Working Group. The study team requested that working group members provide the study team with data necessary to prioritize the planned projects.

The study team requested the following technical data:

- For planned road and interchange projects: project location, current facility and planned improvements, LOS, AADT before and after project completion, accident rate, direct or indirect linkage to a POE, truck volumes or share, year the project will become operational, current phase of the project, project cost data, funding status, and qualitative information on the environmental, community, and economic benefits of the project.
- For planned POE projects: project description, anticipated throughput by type of inspection lane after project completion, year of project completion, current phase of the project, project cost data and funding status, and qualitative information on the environmental, community, and economic benefits of the project.
- For planned rail projects: project location, current facility and planned improvements, anticipated change in number and/or length of tracks, daily train traffic and number of rail cars before and after project completion, accident rate, year the project will become operational, current phase of the project, project cost data and funding status, and qualitative information on the environmental, community, and economic benefits of the project.

In addition, the criteria endorsed by the BNAC voting members required collection of the following additional data and information:

- For planned road and interchange projects: implementation of congestion management measures, multiple-mode demand, socio-economic impacts, measures to improve safety, community impacts, geographical impacts, number of POEs served, access/traffic flow improvements to and from a POE, and a systematic valuation of road or rail segments as they approach the POE (also known as the degrees of separation from a POE).
- For planned POE projects (to describe the planned projects): number of double-stacked booths, increase in number of secure lanes, existing and expected wait times, increase in POE efficiency through a congestion management strategy, existing and future average annual daily commercial and non-commercial crossings, transit demand, socio-economic impacts, diversion of commercial traffic, community impacts, geographical impacts, and indicators of binational coordination.
- For planned rail projects: measures to alleviate local congestion, increase in rail mode share, existing and future average annual daily rail cars, current cross-border tonnage by rail, multiple-mode demand, socio-economic impacts, community impacts, geographical impacts, number of POEs served, measures to improve accessibility/traffic flow to and from a POE, and degrees of separation from a POE.

Finally, UTEP evaluated the recommendations in the El Paso Regional Ports of Entry Operations Plan developed by Cambridge Systematics. UTEP met with the lead agencies identified in the plan to determine support for the recommendations, gather available data and information, and identify the respective agencies willing to support the inclusion of the respective recommendations in the Border Master Plan. UTEP's evaluation of the recommendations is included in Appendix D.

1.3.3 Reaching Consensus

Two objectives of the Border Master Plan were to develop and implement a plan for prioritizing and promoting POE and related transportation projects that include evaluation criteria and rankings over the short, medium, and long terms; and to design a stakeholder agency involvement process that would be inclusive and ensure participation of all involved. The plan for prioritizing projects required BNAC members to reach consensus on the elements of the ranking framework (categories, category weights, criteria, criterion weights, and scoring metric) that would be used to prioritize the projects. To ensure a stakeholder involvement process that would be inclusive and ensure participation of all involved, it was important that each BNAC member have an equal voice in selecting the categories, category weights, criteria, and criterion weights.

Equally important was creating a non-threatening environment in which BNAC members would feel comfortable expressing themselves.

The study team used Classroom Performance System (CPS) technology to reach consensus on the categories, category weights, criteria, and criterion weights to be used in prioritizing the identified planned projects. The process worked as follows: BNAC members were provided with a voting device (I>Clicker) that allowed them to rank an element of the ranking framework on importance. For example, each member could rank a specific criterion in prioritizing a project on a scale of A to E, where A was extremely important and E was extremely unimportant. The votes were anonymous, but the study team could track how many BNAC members voted.

Once the votes were cast, results were shared, and the study team facilitated a discussion about the voting results. BNAC members were then subsequently asked to vote again, and the process continued until consensus was reached or until the voting results did not change substantially from one round to the next. This approach allowed all attending BNAC members to participate in the selection of the categories, category weights, criteria, and criterion weights. The same process was followed for the endorsement of the categories, category weights, criteria, criterion weights, and scoring metric by the BNAC voting members.

1.4 Definition of Study Area and Horizons

1.4.1 Study Area

The study area approved by BNAC voting members on May 23, 2012, includes an "Area of Influence" and a "Focused Study Area."

Area of Influence

The Area of Influence includes the following areas:

- On the U.S. side, the border counties of El Paso, Hudspeth, Jeff Davis, and Presidio in Texas and Doña Ana in New Mexico (see Figure 1.1).
- On the Mexico side, the Mexican Municipalities of Guadalupe, Juárez, Ojinaga, and Práxedis G. Guerrero in the State of Chihuahua.

Current and projected data on population, employment, land use, and income were obtained for the Area of Influence.

Focused Study Area

The Focused Study Area is largely an area 10 miles (16 km) north and south of the Texas/New Mexico–Chihuahua international border. However, the boundary was expanded to include a silver mine in the Presidio area, the Samalayuca region south of the City of Juárez, and a planned truck and rail bypass east of El Paso. The borders of the Focused Study Area are:

- In the northwest, Las Cruces, New Mexico, on the U.S. side; and approximately Marker 28 on MEX 2[7] and Marker 305 on MEX 45 on the Mexican side.
- In the southeast, Sierra Blanca, Van Horn, and Casa Piedra on the U.S. side; and Coyame del Sotol and Ejido Potrero del Llano on the Mexican side (see Figure 1.1).

The short-, mid-, and long-term priorities were established for the planned POE and transportation infrastructure projects in the Focused Study Area.

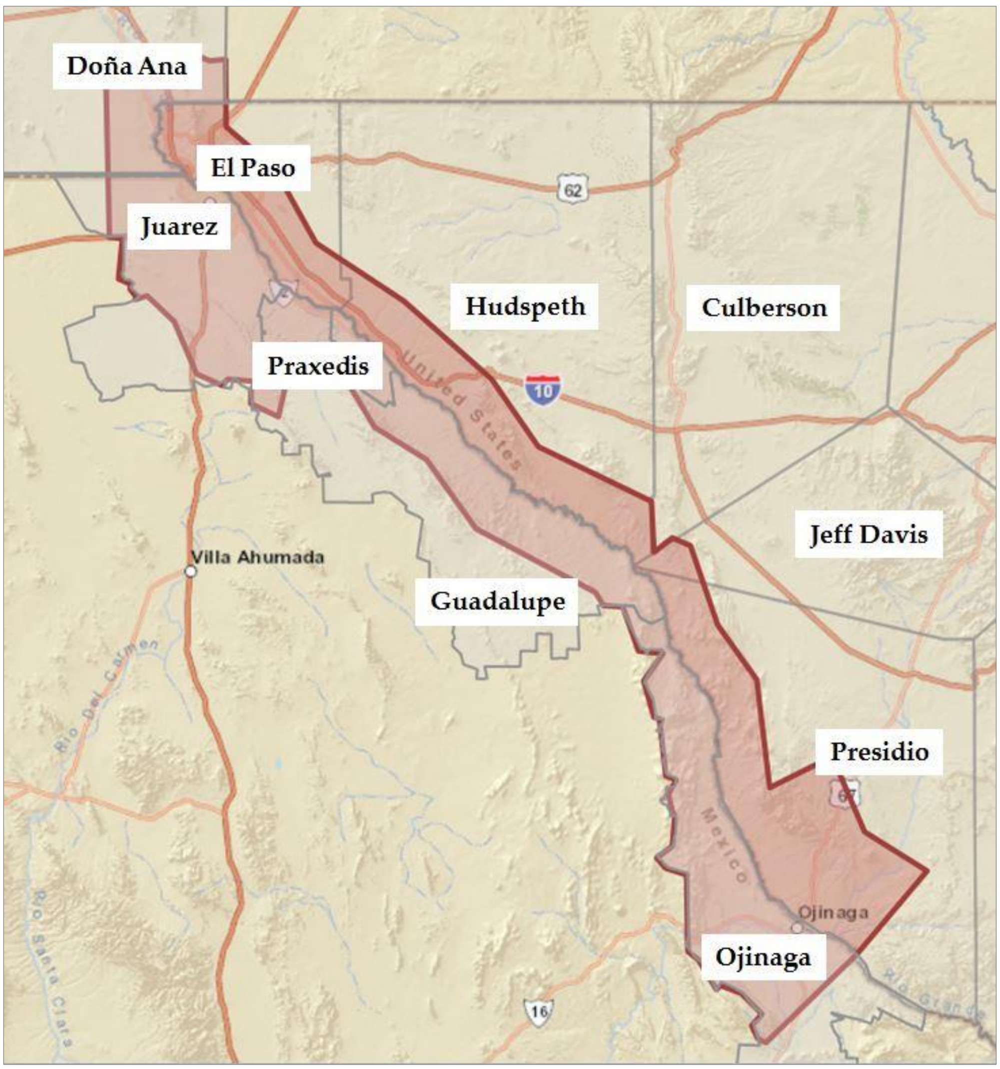


Figure 1.1: Border Master Plan Study Area

1.4.2 Planning Horizons

In the United States, transportation and POE planning documents tend to have a long-term planning horizon of 20 to 30 years. In Mexico, Federal, State, regional, and municipal plans usually have a planning horizon of 3 to 25 years. BNAC discussed planning horizons, and on May 23, 2012, the BNAC voting members approved the following planning horizons for the El Paso/Santa Teresa–Chihuahua Border Master Plan:

- 3 years as the time horizon for short-term planning.
- 10 years as the time horizon for medium-term planning.
- 25 years as the time horizon for long-term planning.

1.5 Organization of This Report

Chapter 2 documents current planning practices used by Federal, State, regional, and local agencies to determine transportation and POE infrastructure needs, as well as the establishment of priorities for project implementation.

Chapter 3 provides an overview of the current and projected demographic and socio-economic information obtained for the El Paso/Santa Teresa–Chihuahua study area. The chapter summarizes available population, employment, income, and land use data for the study area in Texas, Mexico, and the combined Texas-Mexico study area. The chapter also includes the salient information on major trade corridors that traverse the study area.

Chapter 4 describes the current POEs in the study area and the transportation infrastructure serving those POEs.

Chapter 5 provides summarized information about the criteria that were used in prioritizing the identified projects in the Focused Study Area. The chapter also lists the priority road and interchange, transit, POE, and rail projects submitted by stakeholders.

Chapter 6 summarizes the study effort. The chapter also includes a number of observations regarding the development of successful border master plans and recommendations to maintain and enhance dialog among Federal, State, regional, and local stakeholder agencies in Texas and Mexico to ensure continued coordination on current and future POE and supporting transportation infrastructure needs and projects.

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1 The U.S./Mexico Joint Working Committee is a binational group whose primary focus is cooperating on land transportation planning and the facilitation of efficient, safe, and economic

cross-border transportation movements. The group is chaired by the U.S. Federal Highway Administration and the Mexican Secretariat of Communications and Transportation.

2 Border master plans have been largely infrastructure plans and therefore have not considered operational improvements, such as an increase in port-of-entry staffing levels, which are ultimately a major factor in the capacity of ports of entry.

3 Please refer to http://www.nmprc.state.nm.us/docs/Posted%20EC%20agenda%209-23-11.pdf.

4 Please refer to http://www.elpasompo.org/2011Minutes/TPBMinutes10-7-11.pdf.

5 The International Boundary and Water Commission (U.S. section) is included as a voting BNAC member, and Presidio County is included as a non-voting BNAC member. Please refer to http://www.elpasompo.org/2012Minutes/FebruaryTPBminutes.pdf.

6 Please refer to the official minutes and recording of this meeting (http://www.elpasompo.org/2012Minutes/FebruaryTPBminutes.pdf and http://www.elpasompo.org/transportation-policy-board-meeting-february-2012/, respectively).

7 The Federal highway system in Mexico is denoted with the letters MEX.

Chapter 2. State of the Practice for POE and Transportation Infrastructure Planning

This chapter documents current planning practices followed by Federal, State, regional, and local agencies to determine transportation and POE infrastructure needs and priorities for project implementation. To better understand the current planning practices of these agencies in determining transportation and POE infrastructure needs and priorities, planning documents were reviewed and information was obtained from consultancy reports, books, articles, and academic literature. In addition, telephone and in-person interviews were conducted with a number of BNAC members.

Figure 2.1 shows information about funding and the mandates of different types of planning agencies. In the United States, Federal agencies establish guiding principles and a regulatory framework for transportation planning at State and regional levels. State, county, and city agencies have strong funding capabilities (i.e., strong tax collection jurisdictions) relative to Mexican State and regional agencies (which mostly receive redistributed funds from the Federation) and may seek additional funding from the Federal Government through programs established in transportation regulations that can fund transportation projects entirely or partially.

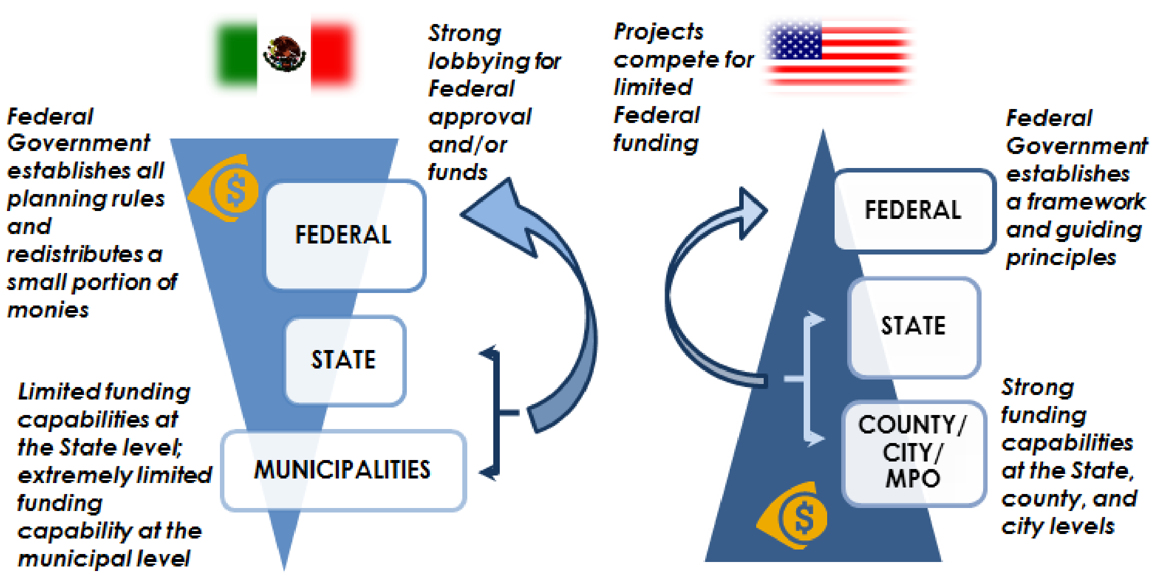


Figure 2.1: Planning Levels and Mandates

In Mexico, Congress and Federal agencies enact six-year planning documents that not only establish the guiding principles and framework for transportation planning at the regional and local levels, but may select which projects will be granted authorization and/or funding. Mexican Federal agencies approve all transportation infrastructure projects irrespective of their funding source (private, public, or a combination of both). Since State and municipal finances are limited, stakeholders have in some cases incurred debt to finance infrastructure projects. The use of debt to finance infrastructure projects is the direct result of the current fiscal policy framework that limits distribution of Federal funding to States and municipalities.

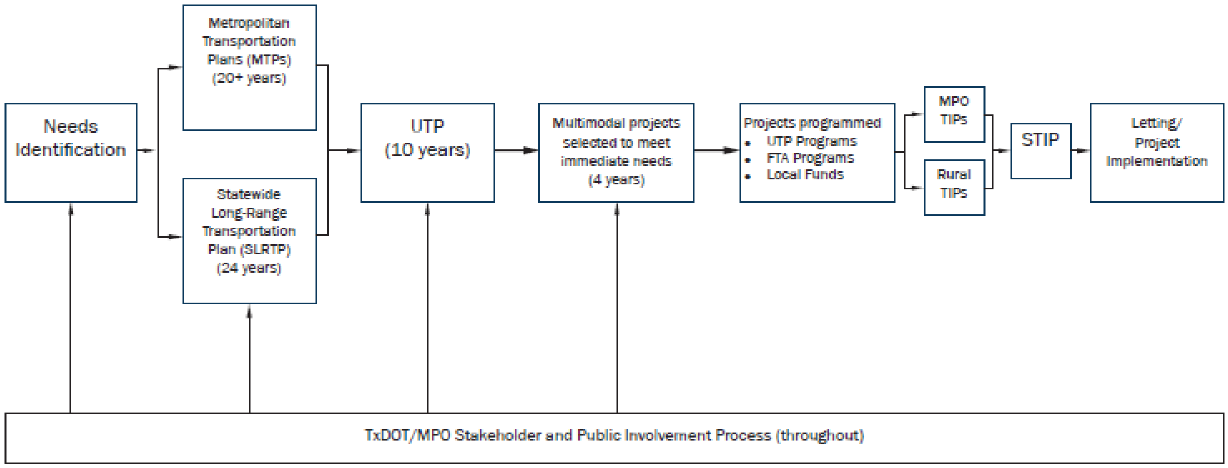
2.1 Transportation Border Infrastructure Planning Practices: United States

For Federal funding, the U.S. Department of Transportation (USDOT) relies on FHWA division offices, the Federal Transit Administration, the Federal Railroad Administration, the Maritime Administration, State departments of transportation (DOTs), and metropolitan planning organizations (MPOs) to oversee and conduct transportation planning at the statewide, regional, and local levels.

2.1.1 Participants in Transportation Border Infrastructure Planning

TxDOT acts on behalf of the governor of Texas in most matters relating to transportation plans. Figure 2.2 provides a summary of the interaction between the entities involved in transportation infrastructure planning in Texas. Projects can be planned at the city, county, and State levels. Projects include traditional roadways as well as projects that support other modes of transportation such as transit, bike paths/lanes, and sidewalks. TxDOT's responsibilities concern the State-maintained road network, which is commonly referred to as "on-system." TxDOT also has an Aviation Capital Improvement Program that lists planned projects at general aviation airports in the State, supports the Port Authority Advisory Committee in the development of the Port Capital Program Annual Report, and is currently in the process of developing the Texas Freight Mobility Plan.

Urbanized areas in the United States with a population of more than 50,000 must have a designated MPO. The metropolitan area boundary of MPOs includes urbanized areas (established in an agreement between the MPO and the governor) and the area that is expected to be urbanized during a 20-year forecast period. All MPOs must develop a Metropolitan Transportation Plan (MTP) and a Transportation Improvement Program (TIP). The MTP must be consistent with the latest Federal transportation law, which is currently the Moving Ahead for Progress in the 21st Century Act (MAP-21) signed by President Barack Obama in 2012.[1]



Note: FTA = U.S. Federal Transit Administration; MPO = Metropolitan Planning Organization; MPO TIP = Metropolitan Transportation Improvement Program; TxDOT = Texas Department of Transportation; STIP = Statewide Transportation Improvement Program; TIP = Transportation Improvement Program; and UTP = Unified Transportation Program

Source: TxDOT[2]

Figure 2.2: Transportation Planning and Programming Process in Texas

2.1.2 Texas Department of Transportation

In general, TxDOT is responsible for planning for the on-system roads over a 20-plus-year period. MPOs are responsible for planning for transportation infrastructure in the current and expected urbanized areas over a 20-year forecast period. Texas's MPOs vary greatly in organizational size, structure, available resources (both number of employees and available funding), and program emphasis. The most important transportation planning documents developed by TxDOT and the MPOs are illustrated in Figure 2.3. Several of these transportation plans and documents consider changes in population, employment, and economic trends. The documents are briefly described in the following paragraphs.

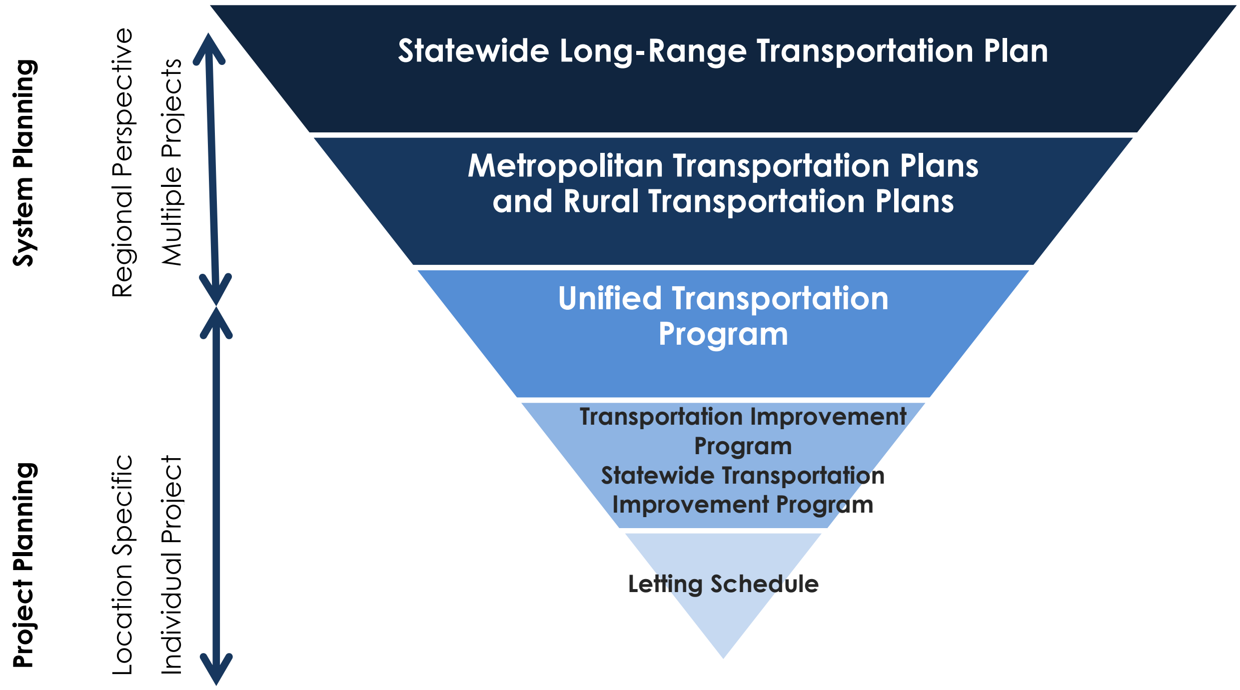


Figure 2.3: Key TxDOT Transportation Planning Documents

The planning documents can be broadly categorized as system planning and project planning documents. As shown in Figure 2.3, system planning initiatives include:

- *Statewide Long-Range Transportation Plan* (SLRTP)[3]—The Statewide Long-Range Transportation Plan 2035 details TxDOT's long-range (24-year) transportation goals and strategies. The plan includes an inventory of the State's transportation system—roads, pedestrian and bicycle facilities, transit, freight and passenger rail, airports, waterways and ports, pipelines, and intelligent transportation systems—and includes TxDOT's Unified Transportation Program and Statewide Transportation Improvement Program by reference.
- *MTPs and Rural Transportation Plans (RTPs)*—MTPs are long-range (20-plus years) transportation plans for urban areas that exceed 50,000 people. These plans are developed by the MPO in cooperation with TxDOT and publicly owned transit services. MTPs identify policies, programs, transportation needs, and projects by travel mode, including road, pedestrian, bicycle, transit, freight and passenger rail, airport, and freight facilities necessary to meet a region's transportation needs. They may include information on the socio-economic profile of the area and any environmental considerations.

  The RTP is a component of the SLRTP and includes a long-range (24-year) transportation plan for areas not included in an MPO boundary. RTPs are developed in cooperation with TxDOT, local and regional decision makers, and all transportation stakeholders. The RTP includes a list of needed rural highway projects and identifies non-highway (pedestrian and bicycle, transit, freight and passenger rail, airport, and waterway and port) needs and projects.

As shown in Figure 2.3, project planning initiatives include development of:

- *Unified Transportation Program (UTP)*[4]—The UTP is a 10-year program used by TxDOT to guide transportation project development and project construction. The UTP is updated annually and authorizes development of included projects. Project development includes activities such as preliminary engineering work, environmental analysis, right of way acquisition, and design. The UTP lists planned projects in terms of 12 categories and includes the estimated cost and funding sources for each project. Although important in that projects included in the UTP can move forward in terms of project development, the UTP does not ensure a budget or guarantee that projects will be built.
- *TIPs and Statewide Transportation Improvement Program (STIP)*—Each MPO and TxDOT district develops a TIP of regional (urban and rural, respectively) transportation needs that are consistent with the SLRTP and the MTP. The TIPs represent a short-term (typically four-year) capital improvement program of multimodal transportation projects. All federally funded projects have to be included in the TIP. The STIP is a four-year capital improvement program and includes the various TIPs developed by the MPOs and TxDOT districts. The TIPs and STIP include detailed project descriptions, cost estimates, and available funding sources. The TIPs and STIP represent how TxDOT and local agencies plan to allocate available funding resources based on the transportation needs of each region for each fiscal year of the program.
- *Letting Schedule*—The letting schedule lists projects that will be let within the next two years. At this point, the final contract documents—the plans, specification, and estimates (PS&E) that provide detailed descriptions of projects, construction, and estimated costs—have been completed or are nearing completion.

In addition to the planning documents described above, TxDOT and the MPOs conduct a number of studies—including land use, safety, traffic and mobility (congestion), major corridor, major investment, and project feasibility studies—that inform system and project planning, as well as project development and alternatives analyses.

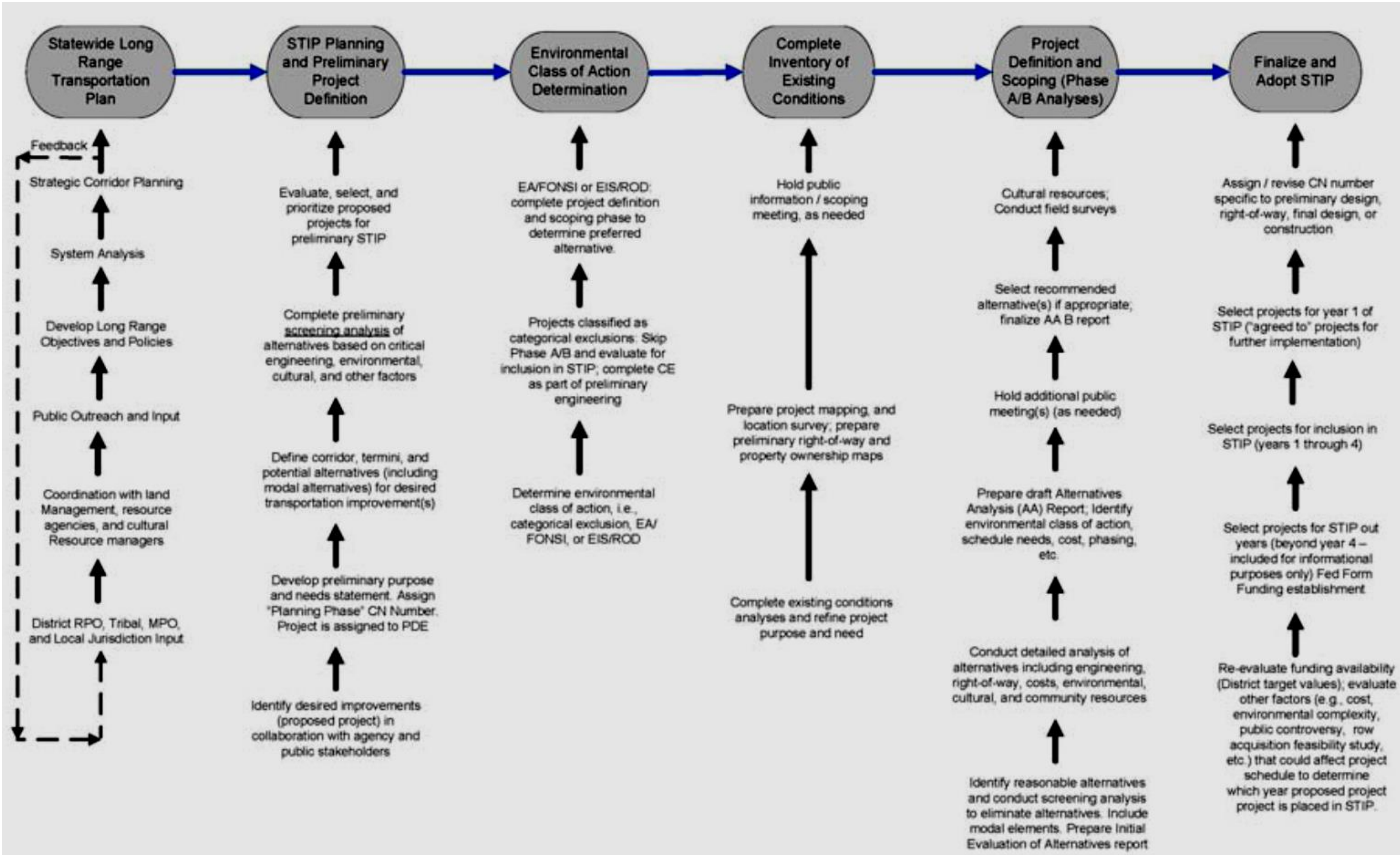
Areas that are classified as "nonattainment" or "maintenance" areas do not meet or have not met national ambient air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide.[5] In this case, MTPs, TIPs, and transportation projects funded or approved by FHWA or the Federal Transit Administration will need a conformity determination. This determination demonstrates that implementation of a plan or project will not cause any new violations of the air quality standard, increase the frequency or severity of violations of the standard, or delay timely attainment of the standard or any interim milestone.[5] In the case of the City of El Paso:

- There have been no monitored violations of the carbon monoxide eight-hour standard since 2001.[6] The maintenance plan approved by the Environmental Protection Agency (EPA) in August 2008 was developed to ensure the area remains in attainment of the carbon monoxide standard.[6] The maintenance plan shows that El Paso[7] will remain in attainment of the carbon monoxide standard for at least 10 years following EPA approval.
- The Texas Commission on Environmental Quality submitted *Revisions to the State Implementation Plan for Inhalable Particulate Matter (PM_{10}): Group I Area—El Paso*[8] to EPA. The PM_{10} nonattainment area described in the EPA Green Book is the City of El Paso.[9]

2.1.3 New Mexico Department of Transportation

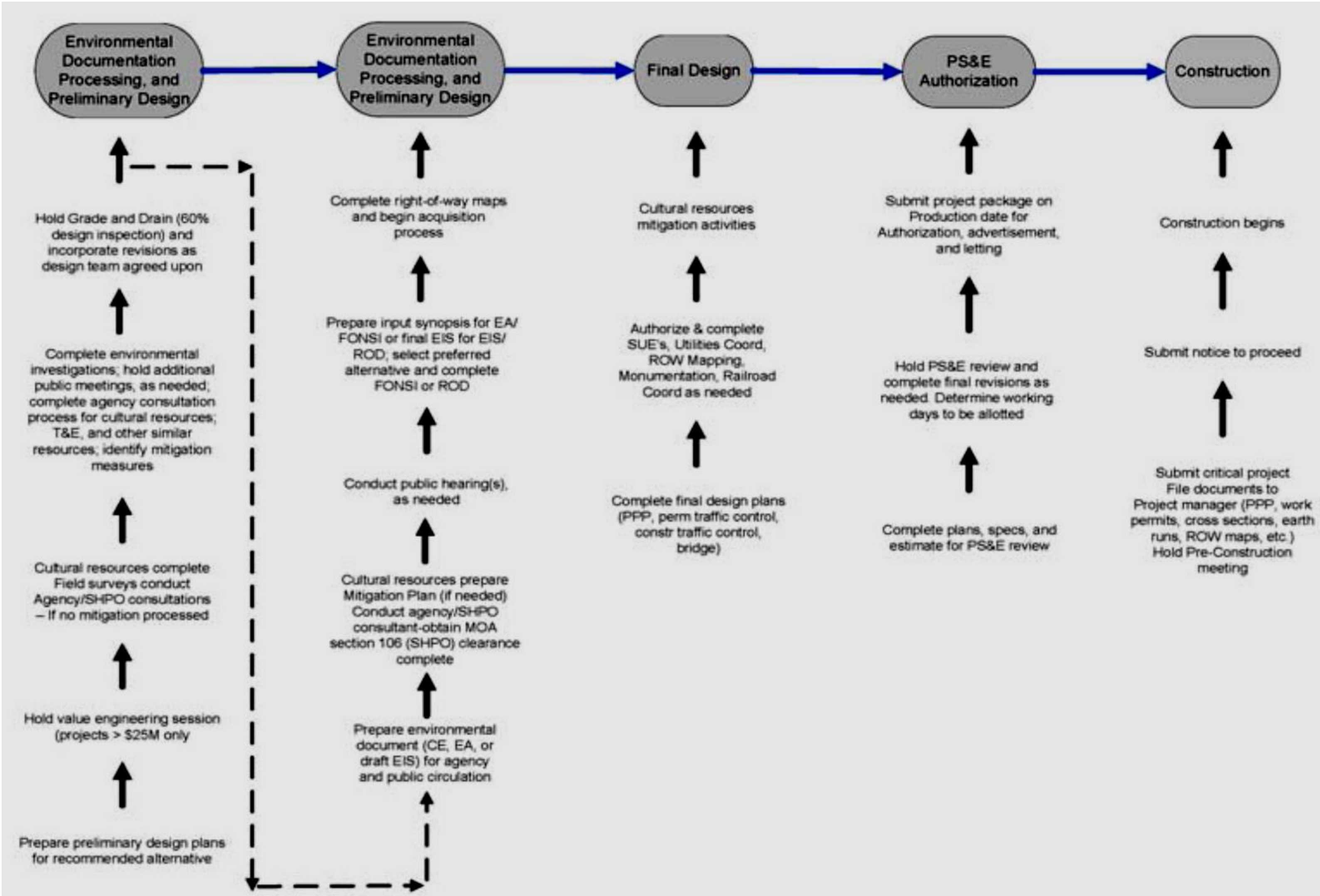
NMDOT participated in BNAC as a voting member because the study area included the Santa Teresa/Jerónimo POE that falls under the El Paso Metropolitan Planning Organization's (EPMPO's) jurisdiction. The other New Mexico crossings, such as Columbus/Las Palomas and Antelope Wells/El Berrendo, were not included in the study area of this Border Master Plan.

Figures 2.4 and 2.5 illustrate NMDOT's planning process for the development of a transportation project from its inclusion in the Long-Range Transportation Plan (LRTP) to construction. These flow diagrams show the 10 main steps or procedures required before NMDOT authorizes construction. The first two steps entail the inclusion of the planned project in the planning documents. Subsequently, an environmental assessment and an inventory of existing conditions are performed. The next steps consist of finalizing the preliminary planning stages and adopting the STIP (a four-year capital improvement program). Thereafter, environmental reviews are finalized before final design and authorization. The last step is the construction stage.



Source: NMDOT[10]

Figure 2.4: NMDOT's Project Development Flow through STIP Stage



Source: NMDOT[10]

Figure 2.5: NMDOT's Project Development Flow Starting at Environmental Assessment Stage

2.1.4 New Mexico Border Authority

The New Mexico Border Authority (NMBA) is a State agency responsible for overseeing development and promotion of New Mexico POEs. This agency promotes efficient partnerships with public and private stakeholders and is involved in international trade activities on both sides of the border. In addition, NMBA assists businesses and travelers crossing the border. It disseminates information about regulations and procedures affecting leisure and commercial travel through New Mexico POEs.

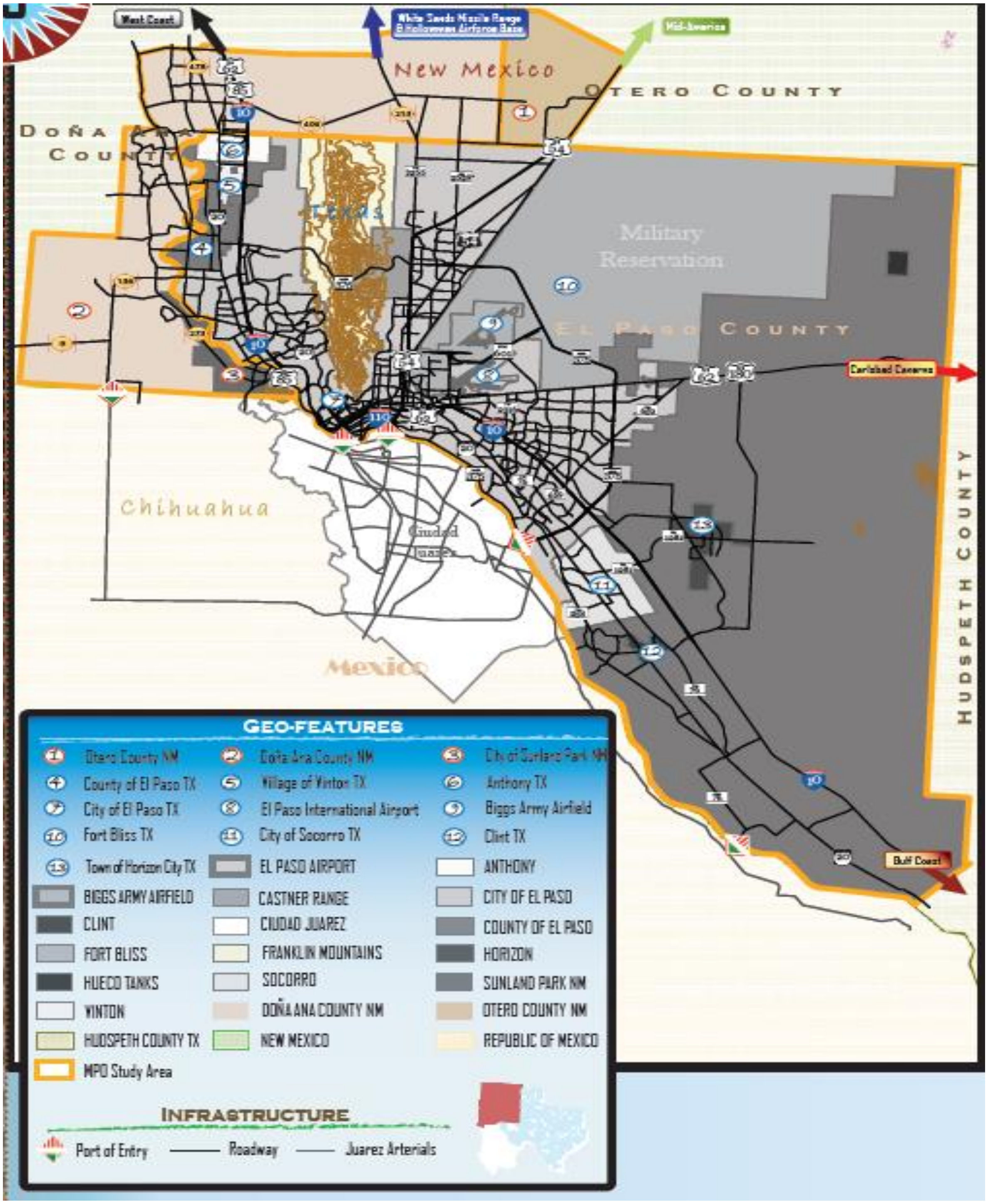
2.1.5 Metropolitan Planning Organizations

As mentioned earlier, MPOs vary greatly in organizational size, structure, funding levels, and program emphasis.[11] MPOs were first established as part of the Federal Aid Highway Act of 1962 to conduct regional transportation planning for metropolitan areas with populations of 50,000 people or more. Subsequently, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Efficiency Act for the 21st Century (TEA-21) extended the MPOs' responsibilities with regard to transportation planning. The latter encouraged a continuing, comprehensive, and cooperative transportation planning process by the States and local communities. The passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005 created further requirements for transportation planning and programs. MPOs are thus designated by the governor in each State to implement this legislative requirement. MAP-21 was signed into law in July 2012 and succeeds SAFEEA-LU.

All State- and federally funded projects in metropolitan areas are selected through the Metropolitan Planning Process (MPP). Any local government anticipating using State or Federal funds for a transportation project must coordinate with the State DOT and the relevant MPO to assure that the project is included in the transportation plans. Also, all projects on the State- or Federal-aid system must be included in the approved transportation plan regardless of funding source to maintain the integrity of the planning process. Local governments are encouraged to coordinate with MPOs for projects off the State and Federal system using no State or Federal funds.[12]

EPMPO is the only MPO in the study area. TPB is the governing body of EPMPO. TPB directs MPO staff through the MPO executive director. TPB is made up of 28 U.S. elected and/or appointed public officials representing local governments that have authority for project implementation. Membership in TPB includes local and county elected officials, State senators, and State representatives.

EPMPO's planning area includes El Paso County, Texas; southern Dona Ana County, New Mexico; and a small portion of Otero County, New Mexico (see Figure 2.6).



Source: EPMPO[13]

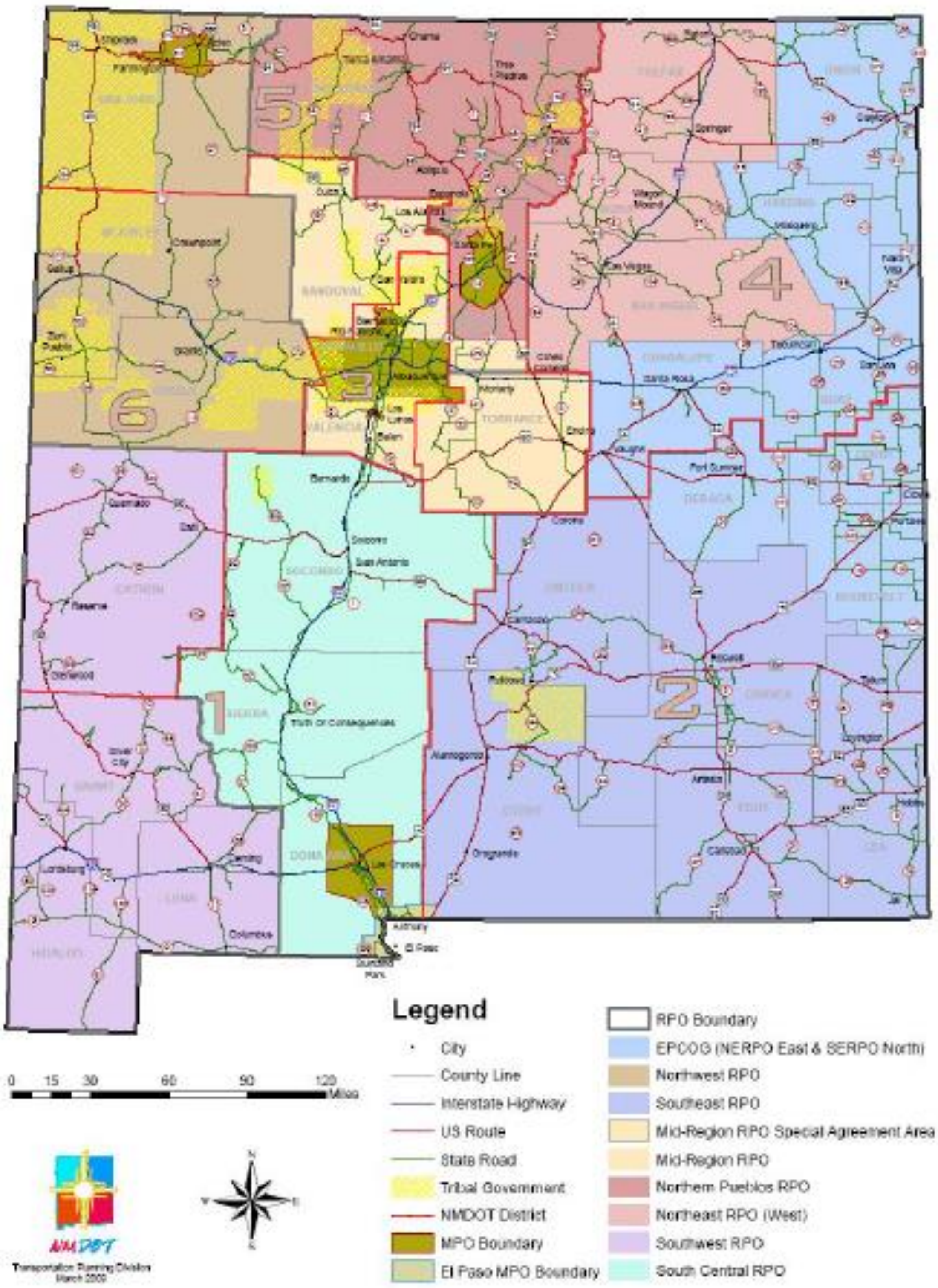
Figure 2.6: EPMPO Jurisdiction

2.1.6 Non-MPO Areas (Texas)

For the areas in the study area that are not within an MPO jurisdiction, TxDOT issued in June 2012 the Texas Rural Transportation Plan (TRTP), which is the rural component of the 2035 SLRTP. As part of the SLRTP, the TRTP outlines the planning processes in the rural areas that will guide the collaborative efforts between TxDOT, local and regional decision makers, and all transportation stakeholders.

2.1.7 Regional Planning Organizations (New Mexico)

MAP-21 requires States to determine the transportation needs in non-metropolitan areas in cooperation with transportation officials as part of a "continuing, cooperative and comprehensive" planning process. This planning process in the State of New Mexico involves State, local, and tribal governments. NMDOT works with and through regional planning organizations (RPOs)—now officially designated by MAP-21 as regional transportation planning organizations (RTPOs)—in the non-metropolitan rural areas. RPOs solicit public input and information in the development of their plans and disseminate information about NMDOT projects and programs.[14] New Mexico has seven RPOs: Northwest (NWRPO), Middle Rio Grande (MR-RPO), Northern Pueblos (NPRPO), Northeast (NERPO), Southeast (SERPO), Southwest (SWRPO), and South Central (SCRPO). The jurisdictions of SWRPO and SCRPO include a section of the U.S.-Mexico border. Figure 2.7 provides a map of New Mexico's RPOs.[14]



Source: NMDOT[15]

Figure 2.7: New Mexico's RPOs

2.2 Transportation Infrastructure Planning Practices: Mexico

Mexico has legislative concurrence in transportation issues; therefore, transportation project planning, financing, and implementation may be regulated by Federal, State, and municipal legislation.

2.2.1 Planning Documents

In terms of planning documents, the National Development Plan (Plan Nacional de Desarrollo) is Mexico's most important document. Issued every six years, when a new president comes into power, the plan provides the blueprint, specific goals, and commitments for the ensuing years. The document is not only updated every six years, but is dramatically changed to satisfy each president's agenda. No specific format is thus established for this document, and some National Development Plans have a longer planning horizon than others.

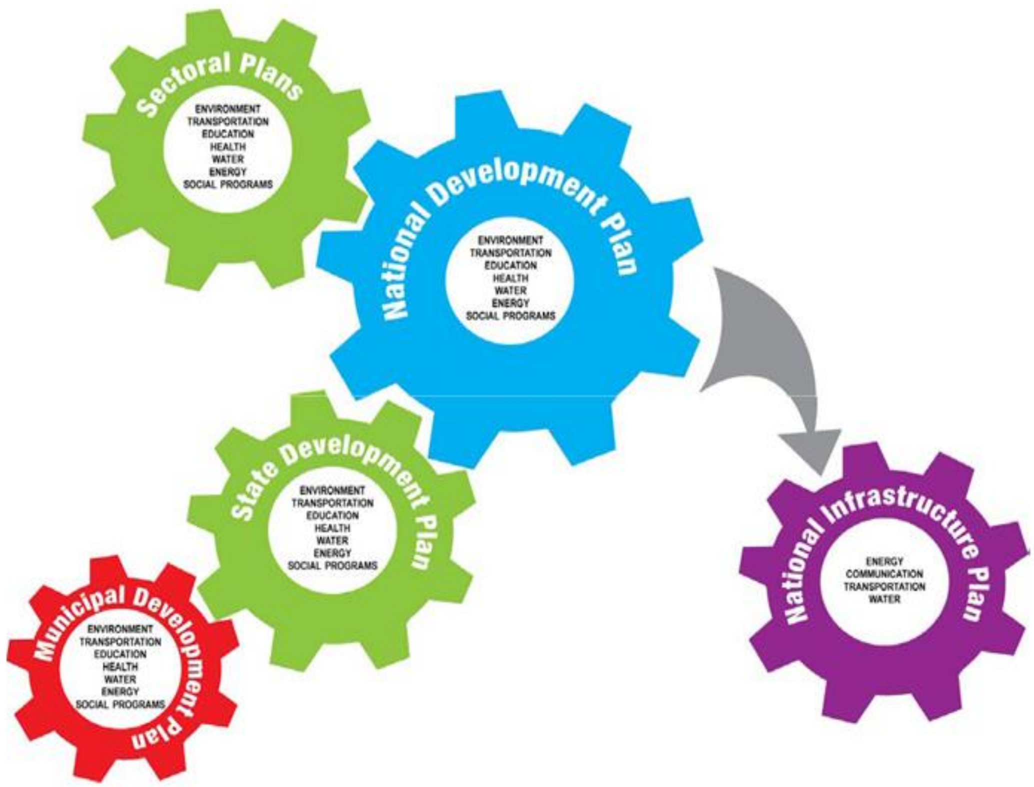
President Felipe Calderón's National Development Plan focused on the rule of law, economic growth, climate change, enhanced competitiveness, and the addressing of monopoly power in Mexico. However, the president's support for infrastructure development was evident in his issuance of a National Infrastructure Plan (Plan Nacional de Infraestructura). In an unprecedented effort to reverse the neglect and decline in infrastructure investment in Mexico, the National Infrastructure Plan focused primarily on transportation infrastructure investments and the encouragement of public-private partnerships. The National Infrastructure Plan thus included significant investments in the expansion of highway, railway, port, and airport infrastructure.

Sectoral plans or programs adopt and elaborate the National Development Plan's goals and commitments in a specific sector. The Communications and Transportation Sectoral Program 2007–2012 (Programa Sectorial de Comunicaciones y Transportes 2007–2012) sets the specific goal for the Communications and Transportation Secretariat (Secretaría de Comunicaciones y Transportes)—a Federal agency—to construct and upgrade 10,835 miles of the national highway network and rural roads, which include 100 high-priority road projects. When complete, these projects would increase the Federal network by 72 percent to 90 percent.[16] By 2012, SCT thus had to conclude the modernization of the north-south and east-west main corridors, including the 100 high-impact road projects. In addition to the Sectoral Program, SCT issues an annual Working Program (Programa de Trabajo) with specific goals and objectives for the fiscal year (January 1 to December 31).

Under a different jurisdiction, State Development Plans are developed to set forth the specific goals the State governor wants to accomplish. The six-year State governor term usually constitutes the planning horizon for State Development Plans.

Because the presidential and governorship terms might cover different time periods, State Development Plans may differ in focus and priorities from the National Development Plan, but the State plan has to include the applicable projects or objectives of the national plan. Finally, Municipal Development Plans have a planning horizon of three or four years (depending on the length of a mayor´s term).

Figure 2.8 describes the interaction among Mexico's most relevant planning documents.



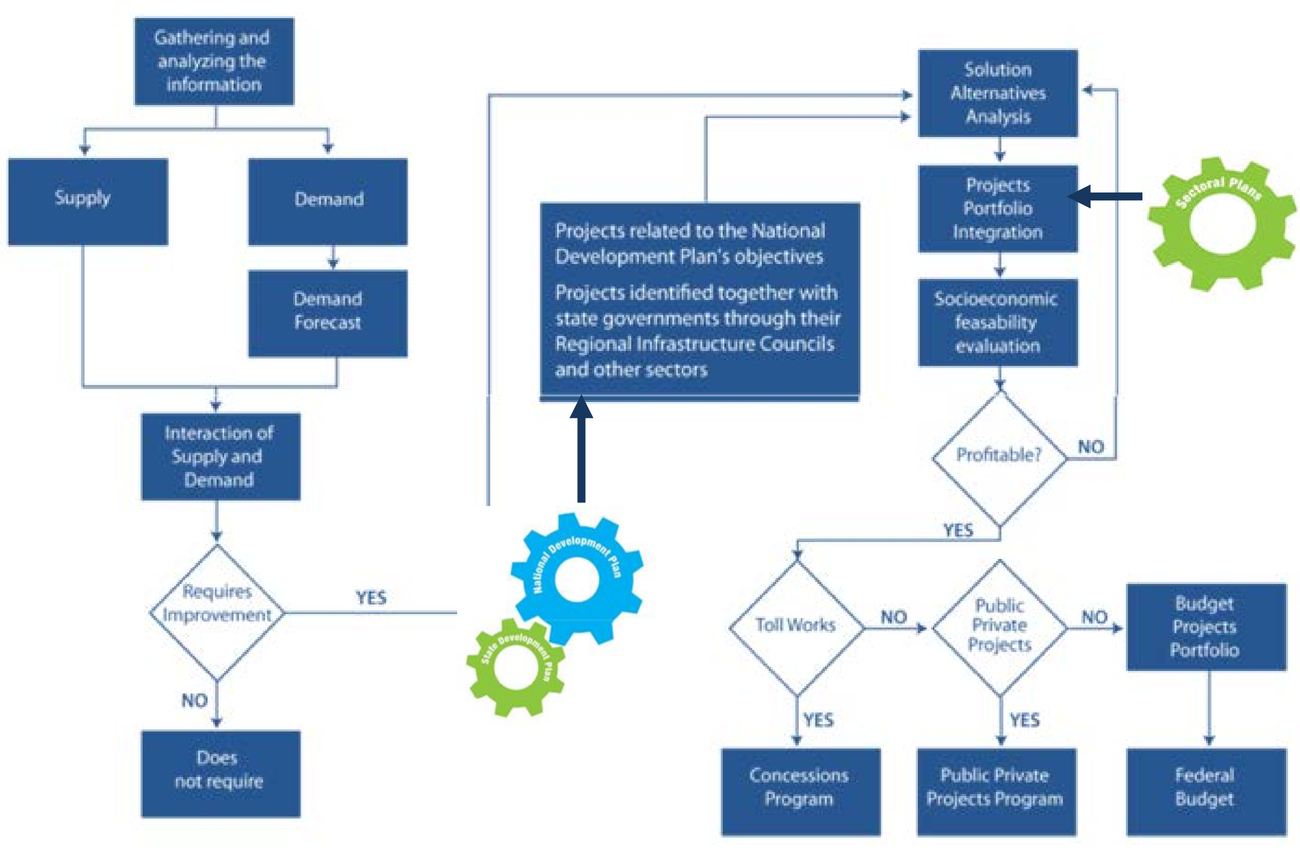
Source: CTR[17]

Figure 2.8: Interaction among Relevant Mexican Planning Documents

At the agency level, the most pertinent planning agencies are SCT at the Federal level and the Public Works/Transportation/Economic Development Secretariats in each State.

2.2.2 Federal Project Planning Processes

SCT is responsible for the planning, prioritization, and implementation of all Federal transportation projects. Figure 2.9 illustrates SCT's decision-making process in selecting its project portfolio for funding. During the project portfolio development process, SCT officials ensure projects are included in national or State planning documents and subsequently in the agency's own sectoral planning documents.

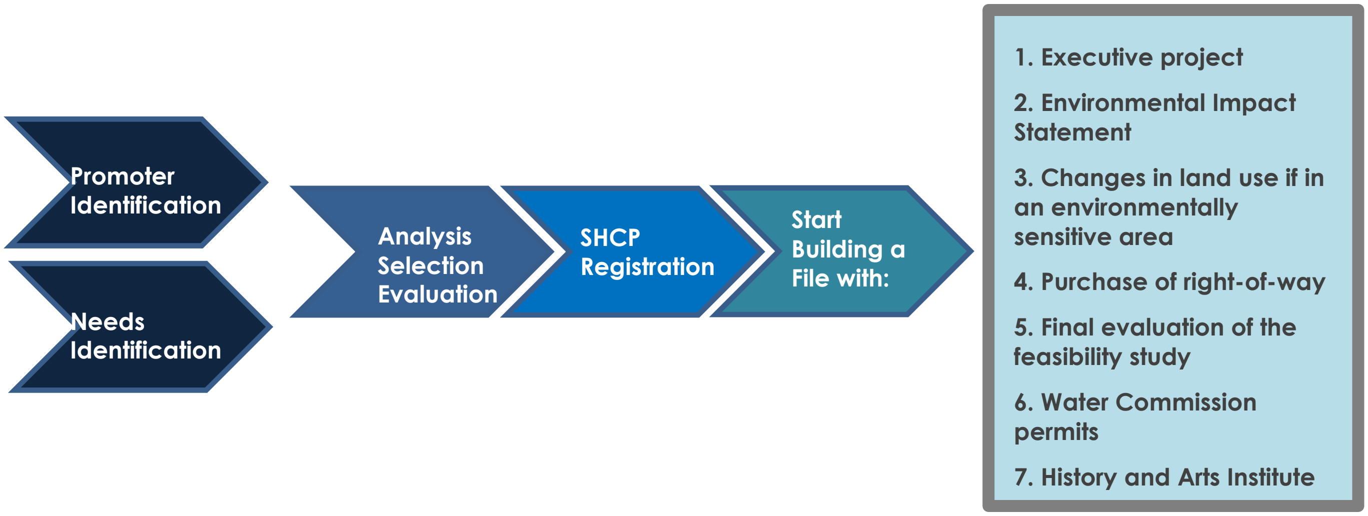


Source: SCT[18]

Figure 2.9: SCT Project Portfolio Development

The project selection process can be initiated by a promoter or by an SCT official identifying a need. Stakeholders such as State and municipal authorities can start to promote a project at SCT's regional office (e.g., Centro SCT Chihuahua). Regional SCT offices might be more familiar with the needs or characteristics of the regions than State or Federal officials and therefore can help to promote the project at SCT´s central offices.

Once a project is selected to be included in the following year's project portfolio, two evaluations are conducted: one by SCT and one by the Public Credit and Treasury Secretariat (Secretaría de Hacienda y Crédito Público [SHCP]). Once an SHCP registration number is issued, SCT officials start the formal planning and permitting procedures as shown in Figure 2.10.



Source: SCT[19]

Figure 2.10: SCT Project Selection: Planning Process

At the Federal level, the Secretariat of Social Development (Secretaría de Desarrollo Social [SEDESOL]) is responsible for preparing the National Program of Urban Development (Programa Nacional de Desarrollo Urbano) and for coordinating planning activities and providing technical assistance (with regard to planning and urban development issues) to State and municipal governments. The agency develops background and supporting material for municipal plans and programs in the border region, such as the Land Port of Entry Urban Development Program (Plan o Programa Parcial de Desarrollo Urbano de Puerto Fronterizo), which is available online.

2.2.3 State and Local Planning Processes

Public Works or Transport Secretariats at the State level and Municipal Planning Institutes (Instituto Municipal de Planeación) at the local level are responsible for preliminary needs and project identification and planning. Municipal Planning Institutes were created to ensure planning continuity at the local level since administrations and officials change every three to four years.

In the case of the State of Chihuahua, the Communications and Public Works Secretariat (Secretaría de Comunicaciones y Obras Públicas del Estado de Chihuahua) is in charge of planning for transportation infrastructure in Chihuahua. In addition, the economic development agency Promotora de la Industria Chihuahuense is an important stakeholder in developing transportation networks in the State.

At the municipal level, Public Works Directorates or Secretariats are responsible for planning and detecting future transportation needs and projects. Municipal

Planning Institutes are autonomous and independent entities responsible for promoting mid- and long-term transportation planning irrespective of government and administration changes. However, in practice, autonomy has not been achieved, and most Municipal Planning Institutes remain funded by municipalities.

IMIP—Municipality of Juárez

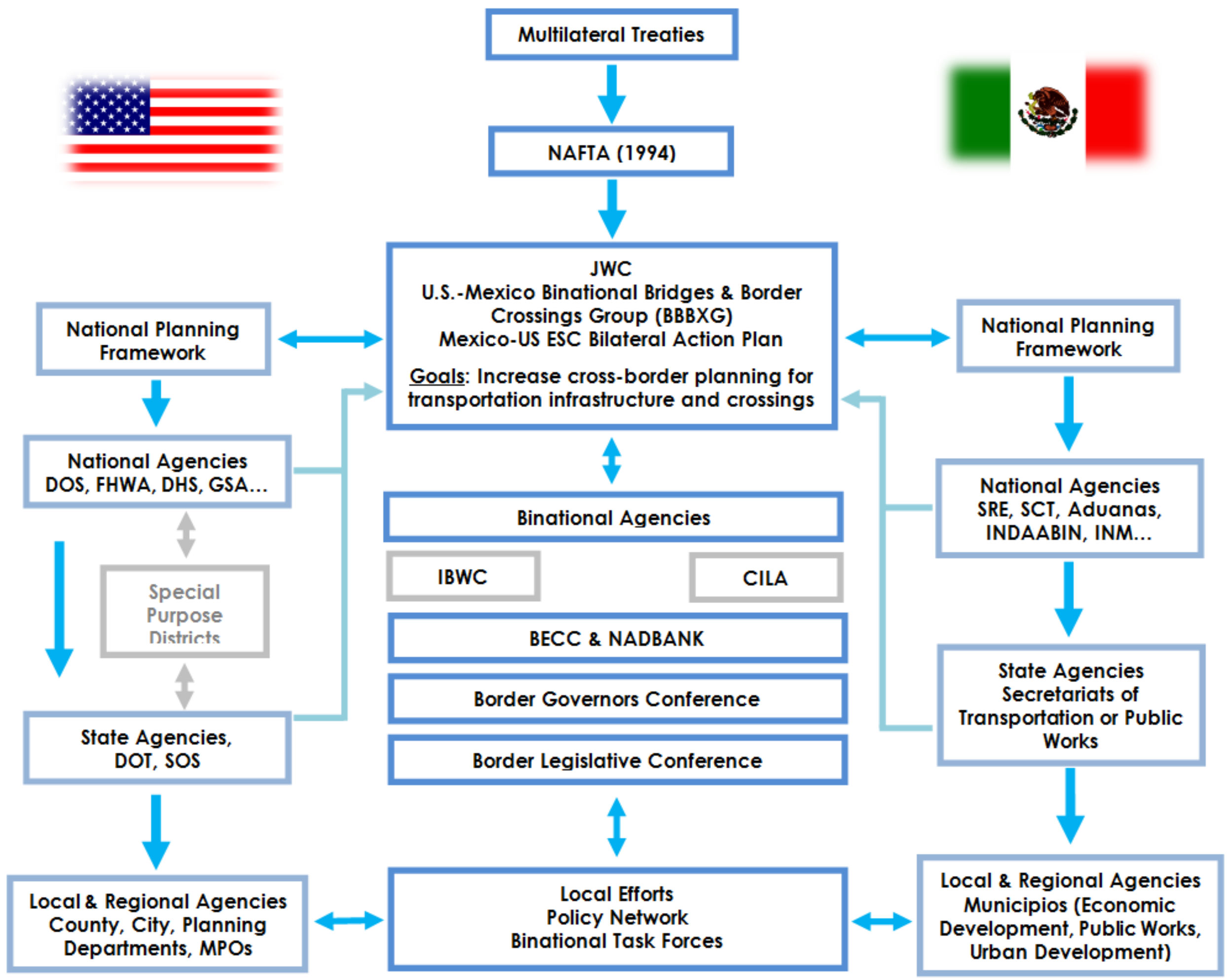
The Instituto Municipal de Investigación y Planeación was created in 1995 to promote continuity in Juarez´s planning process and eliminate the political influence brought about by changing administrations. Although by statute IMIP is responsible for all planning functions of the Municipality of Juárez's Secretariat of Public Works and Urban Development, IMIP's proposed projects and proposals are not binding on the municipality, and all decisions must be approved by the municipality's legislative officials (Ayuntamiento). This agency acts as the municipality's external consultant for planning purposes. Currently, its director also heads the Municipality of Juarez's Urban Development Division.

IMIP employs approximately 50 officials and is governed by a Policy Committee (Consejo Deliberativo) that is made up of 21 Federal, State, and municipal officials. IMIP´s functions include the drafting and coordination of all urban development plans and programs. IMIP's officials draft, review, and update the Urban Development Master Plan (Plan Director de Desarrollo Urbano), the Partial Development Plans, and land use regulations. IMIP develops stakeholder and public involvement processes to obtain input into the planning process. Other important IMIP functions, tasks, and focus areas include geographic information system (GIS) data and maps, urban equipment design, and mobility.

IMIP has received several awards, including the Government and Local Management Award (2001 and 2006), SEDESOL´s "Habitat Agency" designation, and the United Nations HABITAT Scroll of Honor (Pergamino de Honor) in 2008. More recently, as of January 2013, IMIP has received a US $5.4 million grant from the World Bank, through its Global Environmental Facility, that will be managed by Mexico's National Public Works and Services Bank (Banco Nacional de Obras y Servicios Públicos [BANOBRAS]). Some of this grant will be used to develop three studies in 2013—Feasibility Analysis for the "Poniente Aeropuerto" Corridor, a Freight Mobility Regulatory Plan, and a Bicycle Mobility Integration Plan.

2.3 Cross-Border Planning Practices for Transportation Infrastructure and POEs

Figure 2.11 describes the binational planning being conducted for transportation infrastructure, including POEs. Multilateral treaties, such as the North American Free Trade Agreement (NAFTA), prompted coordination and creation of institutions and mechanisms for improving cross-border planning among agencies.



Note: DHS = Department of Homeland Security; ESC = Executive Steering Committee; DOT = Department of Transportation; SOS = Secretary of State; BECC = Border Environment Cooperation Commission; NADBANK = North American Development Bank.

Source: Adapted to Transportation from Sergio Peña[20]

Figure 2.11: Cross-Border Planning for Transportation Infrastructure

2.4 POE Planning Practices: United States

2.4.1 Department of State

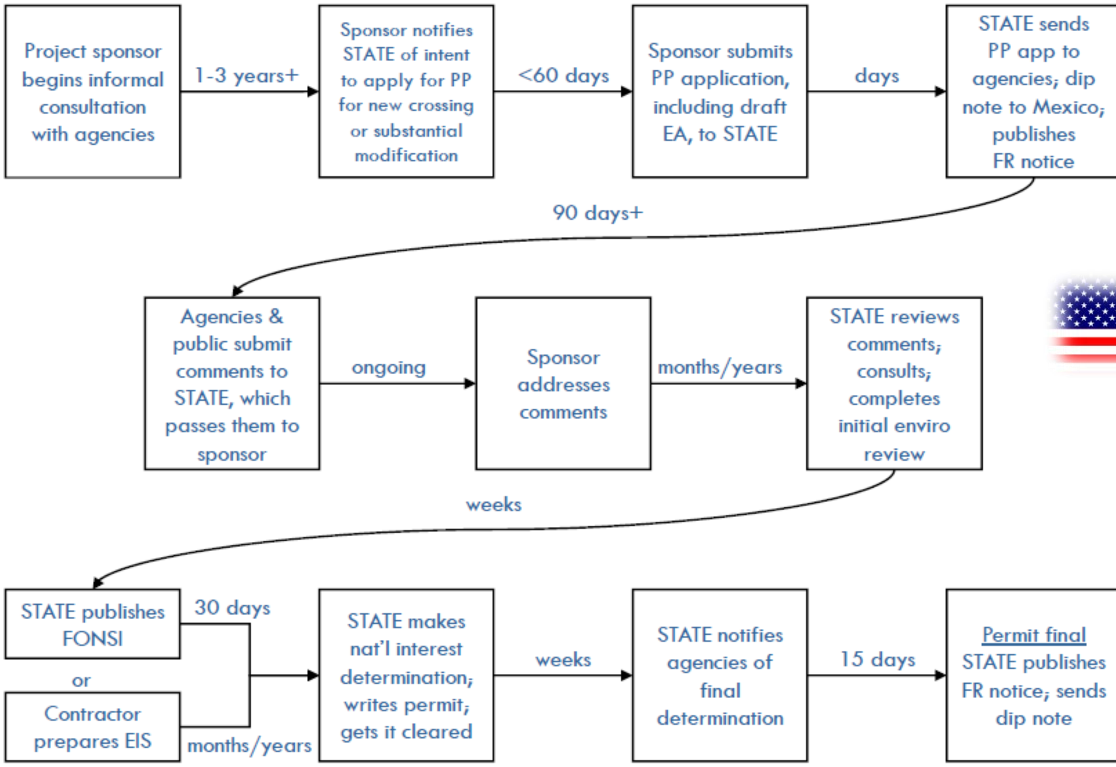
Executive Order 11423 (1968), as amended[21, 22], authorizes USDOS to issue Presidential Permits (PPs) for certain cross-border facilities including, since 2004, land border crossings. Substantial modifications to an existing border-crossing facility also require a permit or amendment. USDOS has identified three categories of projects:[22]

- Notification to USDOS and a new or amended PP are required for all new border crossings and all proposed changes that would substantially modify an existing border crossing.
- Notification to USDOS is required, and USDOS determines whether a PP is required, for proposed changes in capacity, traffic flow, operation, or maintenance responsibility for an existing border crossing that may constitute a substantial modification, including changes that may be expected to have a material effect on the Mexican Government's operations in Mexico.
- No USDOS notification or PP is required for changes in the proximity of the border that are not expected to have a material effect on the Mexican Government's operations in Mexico and are neither a new border crossing nor a substantial modification of an existing border crossing. However, USDOS is responsible for determining whether the change is material, and USDOS should be consulted in the initial planning stages of the proposed project.

To issue a PP, USDOS must determine that the new or modified border serves the "national interest." An Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) is a key element before the national interest determination. Consultations are conducted with other Federal agencies, including CBP and GSA, before USDOS determines whether the facility or improvement serves the national interest. Figure 2.12 explains the process and approximate timeline for obtaining a PP.

The PP process might be initiated by a U.S. Federal, State, or local entity or a private promoter (e.g., a rail company or business group). Cities, counties, and State agencies can identify POE needs in their planning documents. Any one of the agencies specified in the Executive Order may object to the proposed project and request that the decision be referred to the president. In addition, the new POE or improvement has to comply with GSA and CBP's land POE design manuals.

During 2009, USDOS reviewed several PPs that had been issued in the past decades but remained unused. In addition, it established that future PPs would be issued with an expiration date for the commencement and completion of construction.[23]



Note: EA = Environmental Assessment; FR = Federal Register.

Source: Daniel Darrach[24]

Figure 2.12: PP Process and Timeline

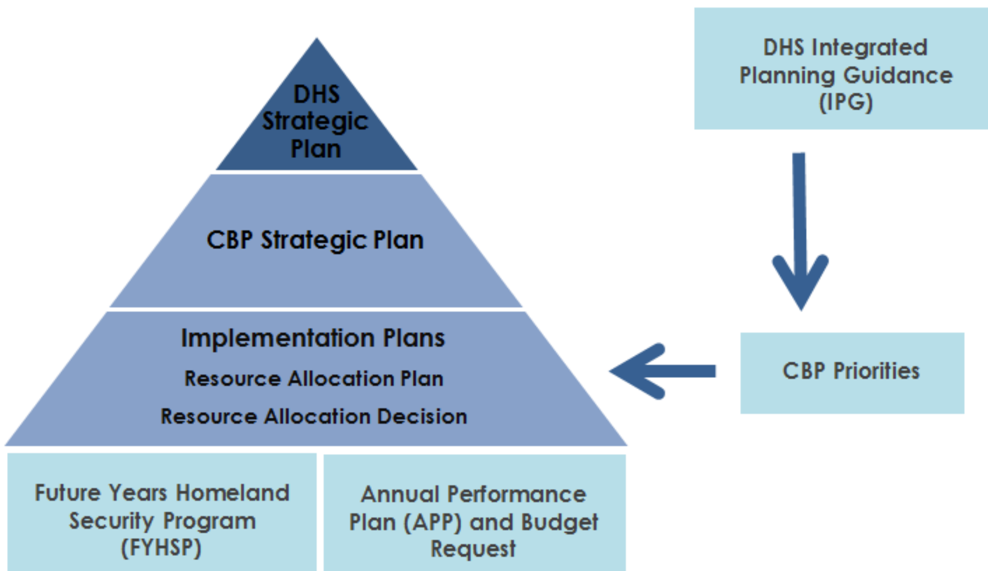
2.4.2 Customs and Border Protection

CBP is part of the U.S. Department of Homeland Security (DHS). As shown in Figure 2.13, several documents assist DHS in developing and implementing multiyear program plans and budgets,[25] including the following:

- *DHS* and *CBP Strategic Plans*—These plans are an important first step in fulfilling DHS's mission by setting long-term direction and enabling decisions on near-term priorities.
- *Integrated Planning Guidance (IPG)*—This guidance is issued each year by the secretary of DHS. It articulates the secretary's investment priorities and guides the development of CBP's Resource Allocation Plan (RAP) and the subsequent Resource Allocation Decision (RAD).
- *Future Years Homeland Security Program (FYHSP)*—FYHSP outlines a five-year plan to achieve long-term performance goals of specific programs. Each program aligns to a DHS strategic objective with a set of measures to demonstrate the program's strategy and progress in meeting that objective. This information is

captured electronically in the FYHSP system, which officially records performance measure results, targets, and annual milestones. Information in the FYHSP is presented to Congress each year.

- *Annual Performance Plan (APP)*—The APP is submitted to Congress along with the annual budget request. The plan links resources to strategic results by displaying what CBP will accomplish during the budget year if given the resources requested.



Source: CBP[25]

Figure 2.13: CBP Planning Documents

POE needs identified by CBP are published in a Strategic Resource Assessment (SRA) report that is prepared for each field office.[26] In addition to planning and programming practices, CBP and Mexico's General Customs Administration (Aduanas) are involved in joint initiatives to improve transportation planning and programming, training, technology exchange, and other activities.

Initiatives by CPB and Aduanas to Improve Planning

The Southern Border Initiative provides for cross-border coordination with Aduanas. Through the initiative, two CBP teams coordinate with their Aduanas counterparts to assess immigration and commerce issues at Mexico's southern border.

The Bilateral Strategic Plan (BSP) was implemented in August 2007. Through the BSP, Aduanas, CBP, and U.S. Immigration and Customs Enforcement (ICE) established working groups to strengthen law enforcement and enhance security, while improving trade partnerships, promoting border efficiencies, and increasing the professionalism of border law enforcement agencies. CBP and Aduanas share information/data and coordinate inbound and outbound enforcement operations to stop the flow of illegal arms and currency across the border. In 2009, two successful pilot operations in Nogales and Eagle Pass provided the necessary impetus to expand the plan to other POEs before the end of fiscal year 2009. Aduanas employed 1,400 new and better trained agents and asked CBP to provide technical support, basic training, and credibility assessment assistance. The latter activities are consistent with the BSP and supported with Merida Initiative (MI) funding.

The MI has provided funding to complement other efforts. Merida funds have been used to train Aduanas agents (using the same criteria applied to other Mexican Federal police forces), to purchase canine and non-intrusive inspection equipment, and to share technical advice and best practices to ensure Aduanas is more closely aligned with CBP.

2.5 POE Planning Practices: Mexico

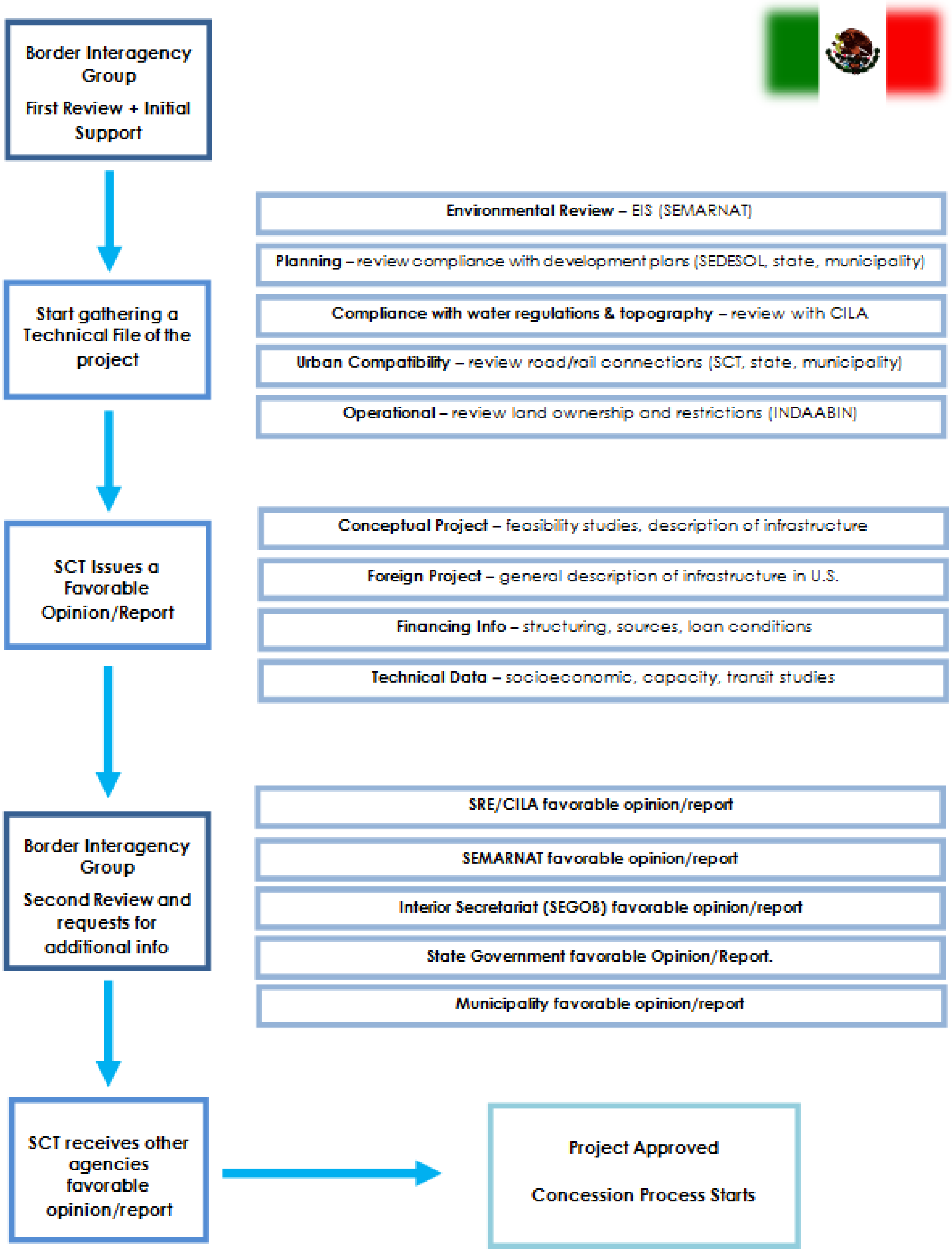
2.5.1 Interagency Group on Bridges and Crossings

In accordance with Mexico´s legislation and Supreme Court rulings, international bridges and crossings are solely under Federal jurisdiction. Projects may be initiated at the local, State, or Federal agency level, for example by Aduanas, SCT, or INDAABIN. In all cases, the Federal Government maintains exclusive power of ownership. The bridge or crossing might be constructed with Federal funding or through a concession given to a private entity, State, municipality, or special-purpose vehicle (called a fideicomiso trust) composed of various stakeholders.

A key first step is that the proposed project secures support at the Interagency Group for Bridges and Border Crossings (Grupo Intersectretarial de Puentes y Cruces Fronterizos, or Border Interagency Group). Created in 1995, the Border Interagency Group is a national gathering where Mexican Federal agencies meet to develop a common position with regard to POEs. The group discusses issues involving negotiations, construction, operations, and maintenance of POEs and the services provided at the POEs. The group also evaluates and approves proposed new POEs and works to implement projects once they are approved. In the past few years, the group has served to establish agreements between State, local, and Federal agencies on actions that benefit border communities in both nations.[27]

The Border Interagency Group meets on an as-needed basis for as many times per year as required to address specific issues. Agreements reached at the national level are then disseminated at regional meetings where specific border projects are discussed. The members of the Border Interagency Group also meet with their U.S. counterpart agencies at the Binational Bridges and Border Crossings Group (BBBXG), co-hosted by the Secretariat of Foreign Relations (Secretaría de Relaciones Exteriores) and USDOS at least twice a year. Regional meetings (for both western and eastern POEs) focusing on regional projects are hosted once every six to nine months. Each meeting traditionally consists of two parts: a public session and a technical session for Federal and State agency participation only.[22]

Figure 2.14 provides a simplified summary of Mexico's planning process for international POEs.



Source: SCT[28]

Figure 2.14: Mexico´s POE Planning Process (Simplified)

2.5.2 Customs General Administration

The Tax Administration Service (Servicio de Administración Tributaria [SAT]) is part of SHCP. SAT was created in July 1997 and celebrated its first 15 years of service in 2012. The agency was established as a decentralized entity with management, technical, and budget autonomy. Based on the SAT mandate, SAT personnel determine and collect Federal taxes and are responsible for customs administration in Mexico. Aduanas is part of SAT.

Documents

During the 2006–2012 presidential tenure, the following planning and guiding documents directed Aduanas's actions:

- SAT's *Strategic Plan 2007–2012*[29] delineated the challenges and initiatives for a six-year period. The objectives of this strategic plan were to facilitate and encourage voluntary compliance; combat evasion, smuggling, and the informal economy; increase the efficiency of tax administration; and integrate the organization to improve efficiency, ethics, and commitment.
- The *Customs Modernization Plan 2007-2012*[30] was developed under three premises: integrate processes to strengthen infrastructure and facilities and introduce technology to better compete globally; end smuggling by detecting and resolving irregularities, optimally through stricter controls applied in the customs system and through national and international collaboration; and ensure transparency and improve the image of customs services.

Aduanas: Future Long-Term Projects

In the last decade, Aduanas has been slowly evolving from a revenue-collection agency to a de facto enforcement agency. However, many internal challenges remain.

Small Steps

In 2009, the Federal Government started to transform its Federal police force and investigators. On paper, Aduanas was not always considered for funding or included in law enforcement programs and training. In practice, not all Aduanas agents carried firearms nor were they authorized to arrest suspects at the border. Aduanas agents relied on Fiscales, the armed enforcement element of Aduanas, for arrests. The Fiscales were Aduanas officials, but they maintained a high degree of operational autonomy. On August 15, 2009, the Government of Mexico announced that Aduanas would not renew the expiring contract of the Fiscales. Backed by the temporary deployment of Mexican military personnel, all 722 Fiscales (the entire armed workforce) were relieved of their responsibilities and replaced by 1,400 newly trained Aduanas agents. While the transition appeared sudden, the agency had worked closely with the United States to train, vet, and polygraph a corps of replacement agents using Merida Initiative funding.

Institutional Strengthening Project

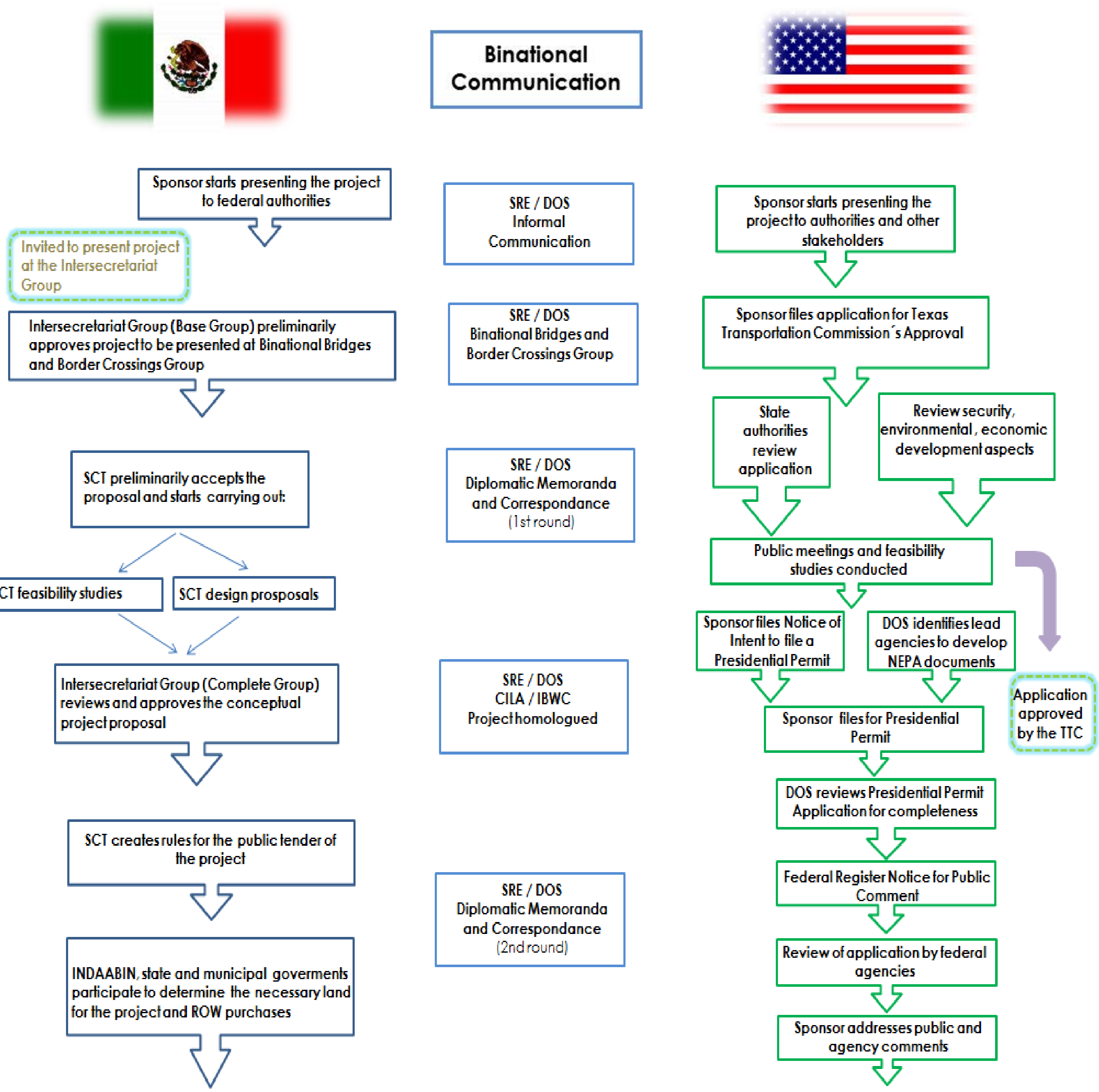
The Mexico Customs Institutional Strengthening Project is a US $54.87 million project, of which the World Bank intended to finance US $10.025 million in loans. The project's development objective was to improve the efficiency of Aduanas's processes, thereby contributing to improving Mexico's competitiveness and facilitating trade with foreign parties. The project intended to aid the institutional redesign and redefinition of the services and processes supporting Aduanas's operations; improve the human capital at Customs by creating an incentive system as part of a Fiscal Career Service Scheme; and improve change management at Customs. The four practical objectives of the project were to strengthen the controls function in Aduanas to minimize internal and external customs irregularities (such as contraband and under-valuation); increase border security; achieve cost reductions for citizens and government; and improve processing times and contribute to improved performance of Customs personnel through increased professionalism and strengthening of the link between pay and performance.

In 2012, the project was canceled. The reasons given were lengthy documentation and bureaucratic procedures in 2009, the project's redesign in 2010, and inadequate time before foreseeable administrative changes (after the election in mid-2012).

Source: World Bank[31]

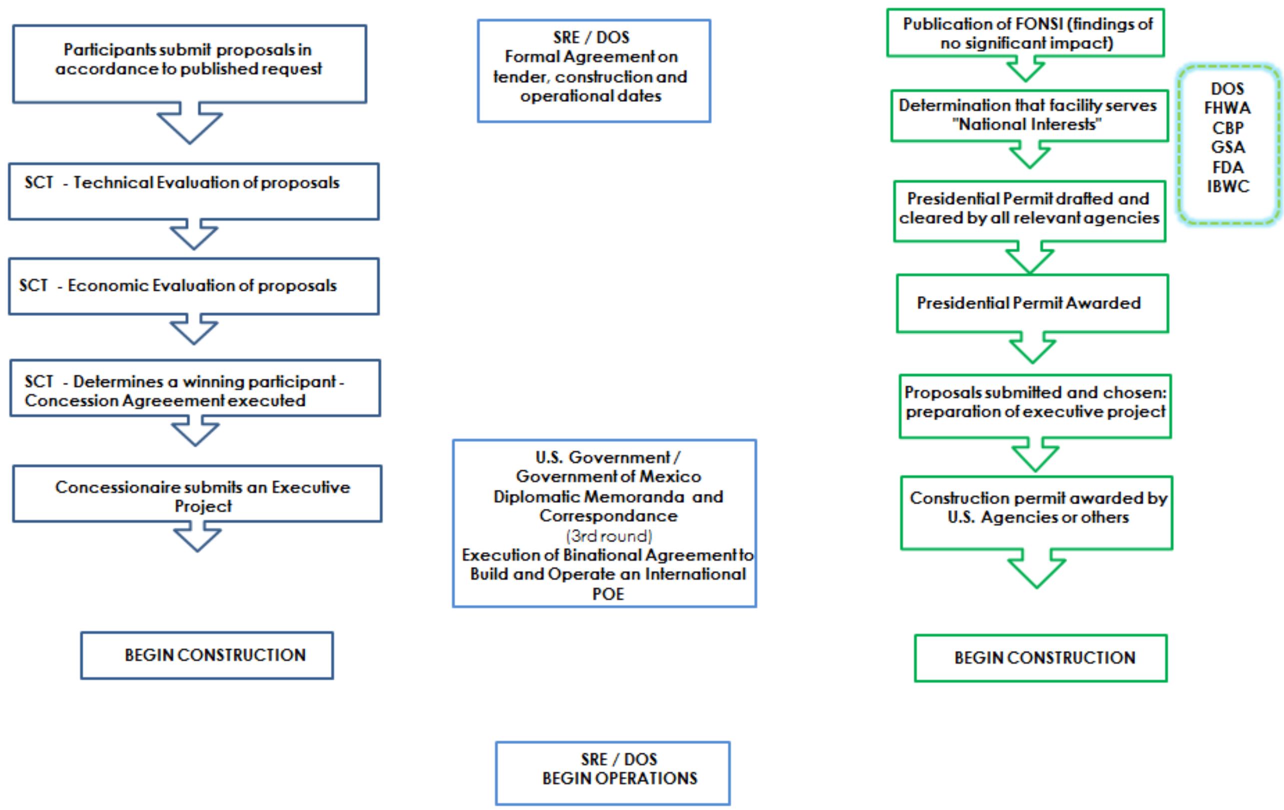
2.6 Summary of Planning Processes and Practices for New POEs

Figures 2.15 and 2.16 provide a simplified summary of processes for authorizing the construction of a new POE for Mexico and the United States. Both processes are coordinated by USDOS and SRE through diplomatic communications (diplomatic notes).



Source: Baltazar Romero, State of Chihuahua[32]

Figure 2.15: New POE Binational Planning Process—Part 1



Source: Baltazar Romero, State of Chihuahua[32]

Figure 2.16: New POE Binational Planning Process—Part 2

2.7 Project Selection, Prioritization, and Funding

Border master plans prioritize planned POE projects and planned transportation infrastructure serving those POEs. Although there are other modes on the border, the emphasis has been on the current planning practices for roads and highways that serve the POEs and facilitate the transit mode. Rail project selection, prioritization, and funding are typically conducted by private rail companies.

2.7.1 United States

Transportation Infrastructure

In the United States, several agencies use quantitative and qualitative data to evaluate, rank, and prioritize transportation projects. For roads and highways, criteria include project cost and cost-effectiveness, current and projected average daily traffic (ADT) or AADT, current and projected LOS, benefits to freight movements, connectivity or modality, traffic accident rates, and environmental and socio-economic impacts, among others.

In the case of TxDOT, project selection involves matching high-priority highway transportation needs with forecasted funding and authorizing the development of selected projects. Projects included in the UTP are to:[33]

- Identify the highest-priority, most-needed, and most-cost-effective projects for development.
- Achieve the transportation objectives established by State and Federal law and by TTC as documented in TxDOT's Strategic Plan and SLRTP.
- Equitably address the transportation needs of the entire State.
- Authorize the development of sufficient high-priority projects to effectively use the anticipated funding in each of the UTP categories.

Transportation projects can be selected in a number of ways. Projects involving the State roadway network or improvements to existing highways are generally selected by TxDOT's districts and divisions unless the project is inside an MPO boundary. Other proposed projects are submitted by government officials, individuals, MPOs, or regional transportation planning committees. The majority of the State's transportation programs are, however, determined by local officials or TxDOT's district offices. Finally, due to project planning and development requirements, projects are selected 5 to 10 years in advance given anticipated funding.[34]

The selection criteria used for highway projects vary by UTP funding category, but a cost-effectiveness measure is used in several funding categories for prioritizing projects on a statewide basis. Although exceptions exist, the measure is usually a ratio of project cost to the traffic (in vehicles per day) served by the project.[33] The TxDOT district engineer determines the selection criteria for highway projects in his or her district, except for projects in UTP categories where the MPO is authorized to select projects. In the latter case, the MPO is responsible for deciding the project selection criteria to be used for those UTP categories. Table 2.1 summarizes the various funding categories and project selection by funding category.

Each project undergoes three funding authorization stages: planning, development, and construction.[34] First, a project will receive approval for its planning phase. Once planning and development are complete, the project must be approved for funding to be constructed or implemented.

Most of TxDOT's highway projects are funded through Fund 6—the State Highway Fund. This fund includes, for example, revenues from the motor fuel tax, vehicle registration fees, oil and lubricant taxes, and federal aid or refunds on federal fuel taxes. Figure 2.17 illustrates all funding sources that enter into Fund 6 for the financing of transportation projects in Texas.

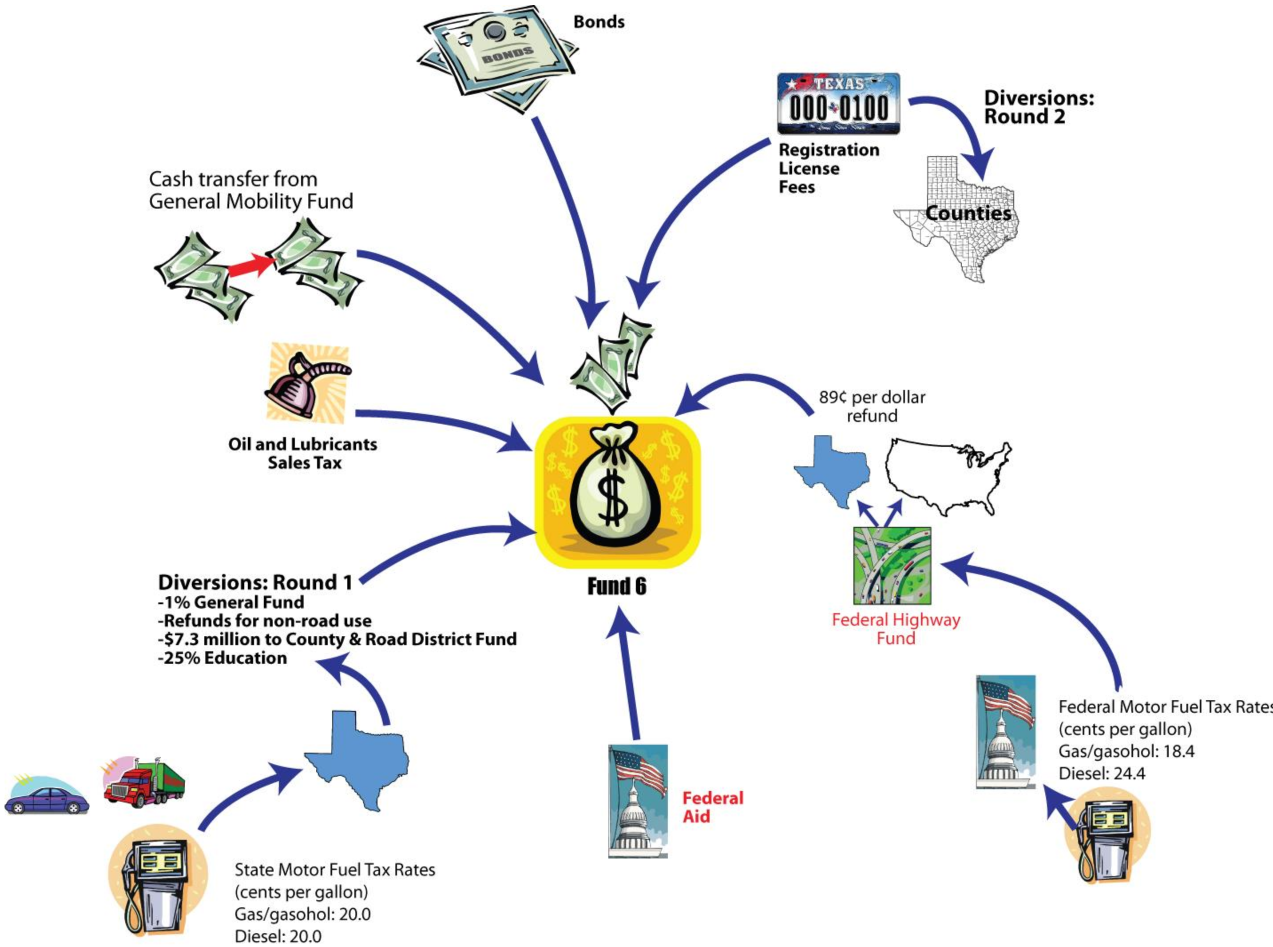
Table 2.1: TxDOT´s Funding Categories and Project Selection

Funding Category	Project Selection	Usual Funding
1—Preventive Maintenance and Rehabilitation	Projects selected by districts. TTC allocates funds through Allocation Program.	Federal 90%, State10% *or* Federal 80%, State 20% *or* State 100%
2—Metropolitan and Urban Area Corridor Projects	Projects selected by MPOs in consultation with TxDOT. TTC allocates funds through Allocation Program.	Federal 80%, State 20% *or* State100%
3—Non-traditionally Funded Transportation Projects	Project selection varies based on the funding source, such as Proposition 12, Proposition 14, Pass-Through Toll Finance, Regional Toll Revenue, and Local Participation.	Federal 80%, State 20% *or* State 100% *or* Local 100% Varies by agreement and rules
4—Statewide Connectivity Corridor Projects	Projects selected by TTC based on corridor ranking. Project total costs cannot exceed TTC-approved statewide allocation.	Federal 80%, State 20% *or* State 100%
5—Congestion Mitigation and Air Quality (CMAQ) Improvement	Projects selected by MPOs in consultation with TxDOT and funded by district´s Allocation Program. TTC allocates money based on population percentages within areas failing to meet air quality standards.	Federal 80%, State 20% *or* Federal 80%, Local 20% *or* Federal 90%, State 10%
6—Bridges: Federal Highway Bridge Program (HBP) and Federal Railroad Grade Separation Program (RGS)	Projects selected by the Bridge Division as a statewide program based on the Federal HBP and RGS eligibility and ranking. TTC allocates funds through statewide Allocation Program.	Federal 90%, State 10% *or* Federal 80%, State 20% *or* Federal 80%, State 10%, Local 10%
7—Metropolitan Mobility/Rehabilitation	Projects selected by MPOs in consultation with TxDOT and funded by district´s Allocation Program. TTC allocates money according to Federal formula.	Federal 80%, State 20% *or* Federal 80%, Local 20% *or* State 100%
8—Safety: Federal Highway Safety Improvement Program (HSIP), Federal Railway-Highway Crossing Program, Safety Bond Program, Federal Safe Routes to School (SRTS) Program, and Federal High Risk Rural Roads (HRRR)	Projects selected statewide by federally mandated safety indices and prioritized listings. TTC allocates funds through statewide Allocation Program. Projects selected and approved by TTC on a per-project basis for Federal SRTS Program.	Federal 90%, State 10% *or* Federal 90%, Local 10% *or* Federal 100% *or* State 100%
9—Transportation Enhancements (TE)	Local entities make recommendations, and a TxDOT committee reviews them. Projects selected and approved by TTC on a per-project basis. Projects in the Safety Rest Area Program are selected by the Maintenance Division.	Federal 80%, State 20% *or* Federal 80%, Local 20%

Funding Category	Project Selection	Usual Funding
10—Supplemental Transportation Projects: State Park Roads, Railroad Grade Crossing Replanking, Railroad Signal Maintenance, Construction, Landscaping, Landscape Cost Sharing, Landscape Incentive Awards, Green Ribbon Landscape Improvement, Curb Ramp Program, Coordinated Border Infrastructure (CBI) Program, Comprehensive Development Agreements (CDAs), and Congressional High Priority Projects (CHPP)	Projects selected statewide by Traffic Operations Divisions or Texas Parks and Wildlife Department; local projects selected by district. TTC allocates funds to districts or approves participation in Federal programs with allocation formulas. Coordinated Border Infrastructure Program funds allocated to districts according to the Federal formula.	State 100% *or* Federal 80%, State 20% *or* Federal 100%
11—District Discretionary	Projects selected by districts. TTC allocates funds through Allocation Program.	Federal 80%, State 20% *or* Federal 80%, Local 20% *or* State 100%
12—Strategic Priority	TTC selects projects that generally promote economic opportunity, increase efficiency on military deployment routes, retain military assets in response to the Federal Military Base Realignment and Closure Report (BRAC), or maintain the ability to respond to both man-made and natural emergencies. Also, TTC approves pass-through financing projects to help local communities address their transportation needs.	Federal 80%, State 20% *or* State 100%

Source: TxDOT[28]

In addition, TxDOT can finance transportation projects through debt financing, pass-through financing, toll revenues, and public-private partnerships (PPPs) or CDAs.[35] Figure 2.4 provides information regarding project planning, prioritization, and funding for New Mexico.



Source: CTR[17]

Figure 2.17: Fund 6—The State Highway Fund

POE

As defined by GSA, a land POE is a facility that provides controlled entry in and out of the United States for people and goods. It houses CBP and other Federal inspection agencies responsible for the enforcement of Federal laws. A land POE is a Federal jurisdiction and includes the land, buildings, on-site roads, and parking lots occupied by the POE. GSA is responsible for building and maintaining most of the nation's land POEs, as well as for maintaining, repairing, and managing the facilities.[36]

For major capital projects, GSA, CBP, FHWA, and USDOS have established a process to develop border master plans to assist in the prioritization of POE and transportation infrastructure projects. Border master plans are developed on a regional basis with Federal, State, and local stakeholders from both the United States and Mexico.

Border master plans have significant impact on what projects are in included in CBP's annual submission of its *Land Port of Entry Modernization: Promoting Security, Travel and Trade* report.[37] This report lays out the basis for prioritizing capital investments in the land POE infrastructure, which factors into safety and site deficiencies in addition to operation and workload considerations. Included in the report is CBP's national list of projects that GSA and CBP have targeted for the next five years.

For those GSA Region 7 land POE projects that are identified in CBP's list of projects targeted for the next five years, Region 7 works with the GSA Central Office to determine the possibility of requesting funds as part of GSA's Annual Capital Program submission. Through direction from the Office of Management (OMB), the GSA Central Office works to establish a budget target for land POEs annually. Many land POE projects have received partial funding (either for the initial phase of a multi-phase project or for site design) and still await the remaining funding piece to complete the project. These projects are considered based on their placement in CBP's five-year plan (issued annually) and on the ability to fund the project per the budget target. If a project has not received any initial funding, GSA works with CBP to establish the best planning/funding scenario (projected budget year request) in the context of the overall land POE inventory nationwide.

Land POEs must be designed in accordance with GSA's Facility Standards for the Public Building Service and the U.S. *Land Port of Entry Design Guide*.[38] Land POEs must also either conform to the building code adopted by the local jurisdiction responsible for fire emergency services or the building code adopted by GSA. Finally, land POEs must conform to State highway regulations.

2.7.2 Mexico

Transportation Infrastructure

SCT has the authority for transportation planning and programming in Mexico. Transportation planning decisions consider available funding resources and the priorities established by the State SCT centers. Local agencies have minimal involvement in transportation planning and programming decisions that address medium- and long-range issues and that formulate future planning solutions since they are not responsible for the development and implementation of infrastructure projects. SCT, as the agency that regulates and administers transportation activities, thus has authority and control in decision making. For example, to receive financial support, the States and municipalities must comply with Federal standards established by SCT. Contrary to the process in Texas, a dedicated funding source for transportation projects does not exist. Thus, each POE project has to compete with projects related to transportation infrastructure (e.g., highways and interchanges) and non-transportation (e.g., hospitals, schools, and government buildings).

State governments can promote their own projects or serve as an intermediate entity between the strategic transportation planning conducted by SCT and the municipalities' needs. State government funds also represent another funding source for the municipalities although projects frequently have to comply with State government objectives.

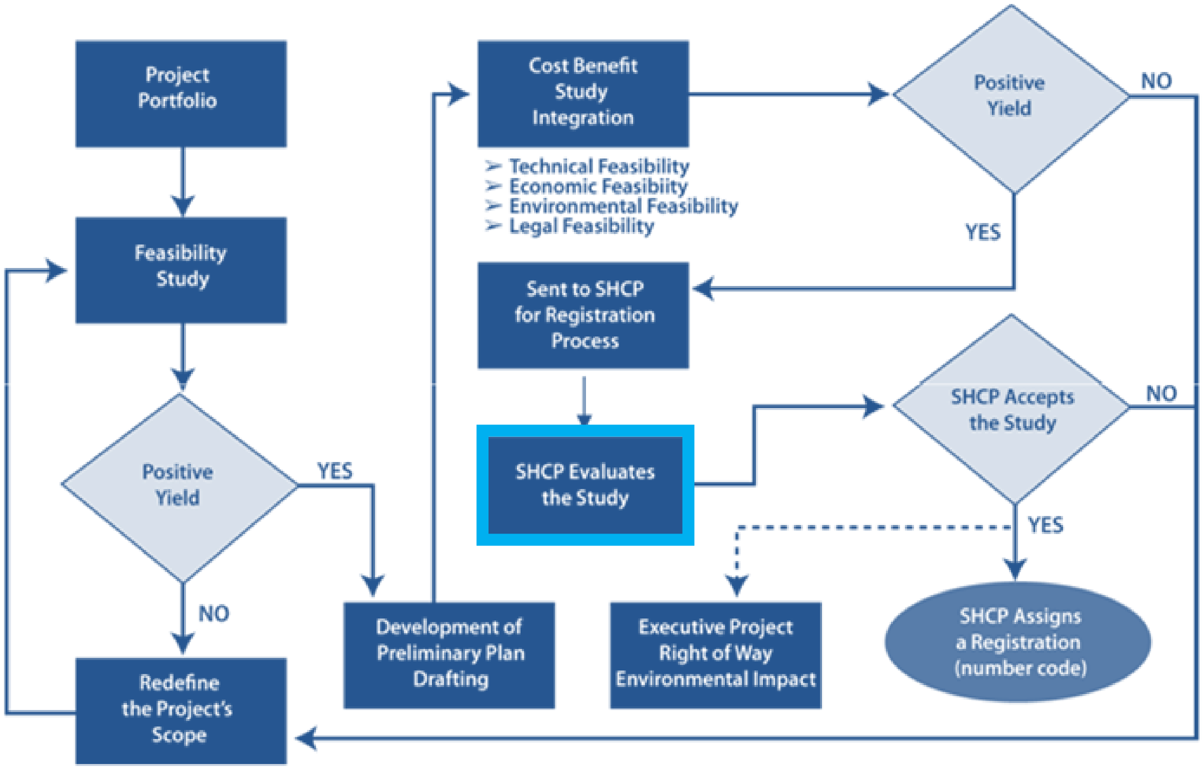
Municipal planning of urban development and transportation systems is directed toward meeting short-term objectives since municipal administrations have a three- or four-year tenure. The municipalities' main planning document—the Municipal Development Plan—therefore lacks long-term goals, is often not comprehensive, lacks specific milestones and objectives, and frequently does not include specific time commitments. Nevertheless, municipalities try to execute and complete as many infrastructure projects as possible because one of the efficiency measures for their administration is typically the number of infrastructure projects completed. For this reason, the organizational structure of most municipalities is directed to the construction of public works and is deficient in terms of planning structure.[39]

State and Federal governments often have a strong planning involvement with municipalities that facilitates binational commercial trade and international cross-border people movements. In these cases, State governments are usually the mediators between local and Federal agencies, and some municipalities may even request the State government to become responsible for local planning. In other cases, State governments may impose planning solutions on municipalities, even when contrary to municipal expectations, because the State provides the funding.

Figure 2.18 illustrates SCT´s methodology for prioritizing transportation projects for inclusion in the official SCT project portfolio. As evident in Figure 2.18, the feasibility and cost-benefit studies have critical decision points concerning whether to move forward with a transportation project.

On April 1, 2006, the Federal Budget and Revenue Responsibility Act (Ley Federal de Presupuesto y Responsabilidad Hacendaria, or the Responsibility Act) established new and concise parameters for public investments in infrastructure projects (Sistema de Inversión Pública). The Responsibility Act thus not only establishes accounting and administrative processes, but also instructs public officials to responsibly budget expenditures in compliance with the principles of legality, honesty, efficiency, efficacy, economy, rationality, austerity, and transparency, among others.

The Responsibility Act requires all projects be given a registration number by SHCP for the project to be included in the annual Federal budget project portfolio.

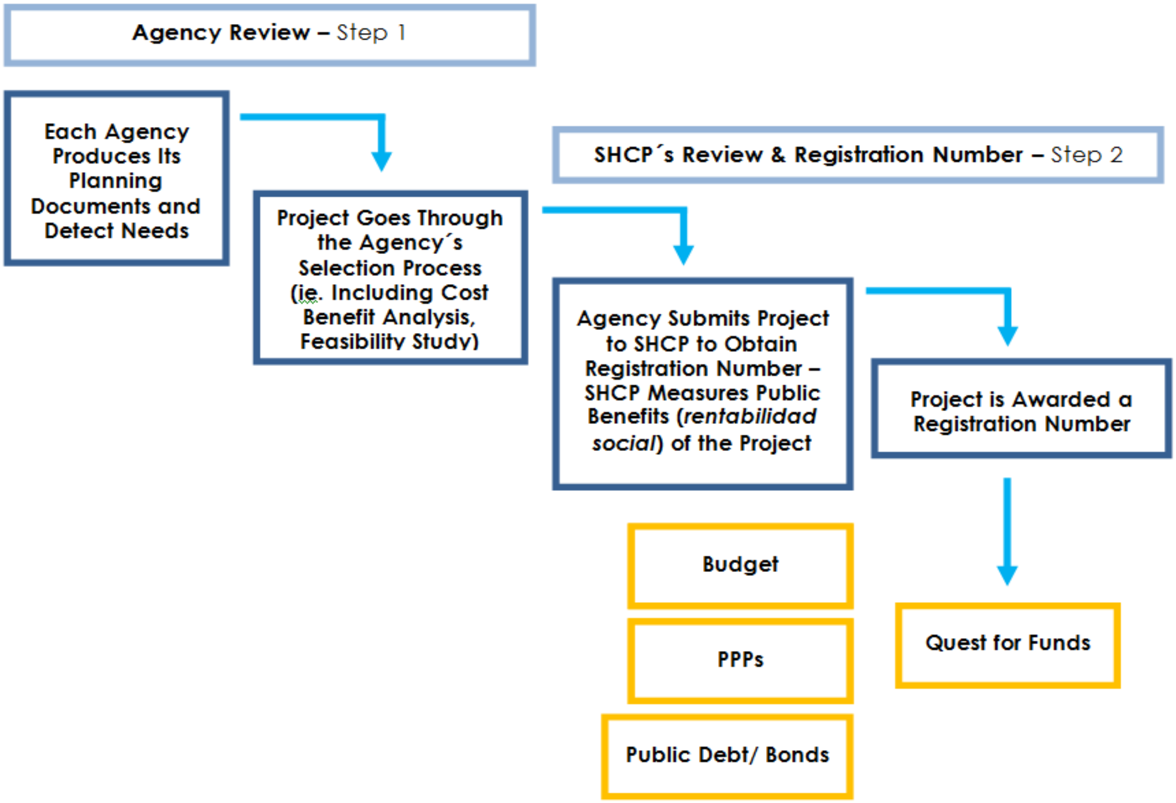


Source: SCT[18]

Figure 2.18: SCT's Decision Tree for Prioritizing Transportation Projects

SHCP has its own rules and programs that establish clear operational procedures for agencies to follow when applying for an SHCP registration number. For example, SHCP requires that the cost-benefit analysis measure public benefits (rentabilidad social) of the project. An SHCP registration number is a prerequisite for any infrastructure project to be included in the Mexican Government´s project portfolio. Regardless of the funding mechanism used for the project (private, public, or a combination), a project cannot be considered without this registration number. Figure 2.19 illustrates this two-step procedure.

Mexico does not have a dedicated funding source for transportation projects. Transportation projects thus compete with education and social programs or other infrastructure projects, among many other categories, for a share of the general revenue. An SHCP registration number does not guarantee that the project will be included in the annual budget. This lack of public funding has translated into an innovative PPP and concession-friendly environment (e.g., SCT's guide to PPPs).[40]



Source: SHCP[41]

Figure 2.19: Mexico's Two-Step Project Selection Process

Contrary to funding access in Texas, State and local governments in Mexico have limited access to transportation project funding. Notwithstanding recent administrative decentralization efforts, States and municipalities still have little to no taxing authority. Public debt and bonds, when executed or issued by a local or State entity, will generally be guaranteed through Budget Account Number 28 (Ramo 28), petroleum revenue distributed by the Federation to States and municipalities. Ramo 28's revenue is distributed by SHCP to all States or municipalities by means of an irrevocable trust (fideicomiso).[42]

States and municipalities need congressional (State) or council authorization to enter into debt or issue bonds. In addition, municipalities have to sign a document titled "irrevocable instruction" that orders SHCP to repay the loan (e.g., 30 percent of the municipality's monthly Ramo 28 Federal revenues goes to the lender). Lenders generally receive repayment directly from the trust. The structure of the transaction determines each bank's or lender's priority in terms of repayment (first, second, or third priority in terms of repayment). Because Ramo 28´s revenue may differ from month to month (e.g., because of changing oil prices), reserve sub-accounts may be created in the trust for repayment of interest and principal. The State or municipality receives the remnants after all repayments are made. At the local level, debt levels can be dramatic. In some cases, mayors may come into power only to find that more than 70 percent or 80 percent of the municipality's main revenue source, Ramo 28, has been irrevocably committed to repay the loans of previous administrations.

POEs

In accordance with the Roads, Bridges and Motor Carrier Act (Ley de Caminos, Puentes y Autotransporte Federal) and Supreme Court rulings, international bridges and crossings are Federal jurisdictions. At the Federal level, the planning for and prioritization of transportation projects in the border region are accomplished independently by the various Federal agencies (SCT, SRE, Aduanas, and INDAABIN) and through interagency committees (Border Interagency Group, Base Group, and Full Group).

Whenever a new POE is being promoted, INDAABIN determines the suitability of the land for the proposed POE. However, INDAABIN´s mandate does not allow the agency to purchase property. All land thus needs to be donated to the agency for negotiations to proceed. The land is generally donated by an interested municipality or a private party. Administratively, when land is donated to INDAABIN, it becomes the property of Mexico´s Federal Government, which authorizes INDAABIN to build and maintain the POE and SCT to manage or concession the POE.

All donated land needs to be free of buildings and construction and clear of liens. However, in practice, POE promoters who wish to accelerate the process can generally start to construct the POE buildings and facilities, given INDAABIN´s authorization and following all agencies´ instructions and manuals. Aduanas, INDAABIN, and SCT have different requirements for POE design and specifications.[43] Upon completion of the construction, the promoter needs to donate all land and improvements to INDAABIN.

If SCT concessions the POE, the POE promoters receive all international bridge tolls for a specified time period (e.g., 50 years renewable). The promoters may hire CAPUFE, an SCT entity dedicated to manage concessioned infrastructure, or another entity to manage and operate the POE facilities. If SCT does not concession the POE or the concession has expired, then CAPUFE manages and operates the POE. In the latter case, Mexico's Federal Government retains all toll proceeds except for 12.5 percent that reverts back to the municipality and another 12.5 percent that reverts back to the State, to compensate the municipality and State, respectively, for any damages imposed to their infrastructure.[44] Unless otherwise specified in the concession, 100 percent of customs and related tax proceeds are retained by the Federal Government.

SCT is responsible for identifying the most appropriate funding source for building and maintaining Mexico´s international bridges and border crossings based on the outcome of specific project studies and analyses. The studies include stated preference surveys to estimate value of time. The major funding sources are the public resources identified in the Federal budget, private financing through concessions, or a combination of the two funding sources.

A characteristic distinguishing Aduanas from other Mexican agencies is its project funding mechanism. The agency created an infrastructure fund in which 1 percent of all revenues obtained through its operations (e.g., taxes, duties, and import fees) is deposited. This enables Aduanas to fund projects that are considered a priority, e.g., in terms of security, without competing for Federal funding against social or other infrastructure projects.

Any project wishing to use this Aduanas funding must be submitted to a senior committee composed of three executive Aduanas officials. Once the project is reviewed and approved by the senior committee, it still needs to obtain an SHCP registration number.

2.8 Public Participation

2.8.1 United States

In the United States, State, regional, and local agencies are mandated to establish processes to receive public comment and input. Formal requirements and guidelines for public involvement are included in several laws, including MAP-21, the Council of Environmental Quality regulations, and the National Environmental Policy Act (NEPA).

For FHWA and States, public involvement is recognized as a fundamental component of effective transportation planning, project development, and implementation. MAP-21 considers public involvement a hallmark and establishes opportunities for public participation in transportation decision making. MAP-21 requires that States, MPOs, public transportation providers, and resource agencies be aware of the impacts of the proposed transportation project and how it will be viewed by affected communities. It is argued that early and continuing public involvement allows project sponsors to be aware of the problems and impacts and to avoid, minimize, or mitigate issues early.[45] Specifically, USDOT guidance has argued that "If the demographics, values, and desires of a community and the impacts on the community are known early and reviewed on a continuing basis through an effective public involvement process in both the transportation planning and the project development phases, then the project sponsor can better incorporate the values and desires of the community into the design of the project."[46]

TxDOT's 2004 *Environmental Manual* regards public involvement as a key element of project planning[47]. According to the manual, public involvement shall be initiated by the TxDOT district office and will depend on and be consistent with the type and complexity of the specific transportation project (see Table 2.2). The manual also states that TxDOT district staff shall maintain a list of individuals and groups interested in transportation project development and shall provide notification of public hearing activities to these individuals and groups.

Table 2.2: Public Involvement Required for TxDOT Transportation Projects

If the project involves…	Then public involvement might be…
Minor improvements; no additional right of way	None needed
Minor improvements; minor amounts of additional right of way; projects with minor design changes; temporary easements	Meetings with affected property owners
Multiple alternatives being analyzed in an early phase; public opinion needed/desirable to make decisions	Public meeting
Added capacity improvements; no/little/some additional right of way needed (minimum typical for EA/FONSI)	Opportunity for public hearing
Roadway on a new location; added capacity improvements; controversial projects (EA and EIS)	Public hearing

Source: TxDOT[47]

Public involvement is required and occurs during all phases of the transportation project life cycle: planning, development, and implementation. At the planning phase, public input is required regarding the strategic direction and long-range objectives of the transportation agency. While it is typically more challenging to engage the public at this stage, doing so can offer tremendous value and benefits.

EPMPO's *2012 Public Participation Program*[48] presents guidance and a roadmap for processes to include residents; community and neighborhood groups and associations; non-profit groups; business-sector groups; transportation providers; Federal, State, and local government agencies; and other stakeholders to participate in a proactive, predictable planning effort that provides full access to making key transportation decisions. EPMPO uses e-newsletters, websites, social media, open houses, and public meetings and hearings to disseminate information and involve as many stakeholders and members of the public as possible.[48]

In the case of POEs, U.S. Government agencies involve the public in the decision-making process regarding POE projects as required by the NEPA process. All agencies, organizations, Native American groups, and members of the public having a potential interest in proposed POE projects are thus invited through published communications to participate in the decision-making process. CBP´s Environmental Planning Program guides the public opportunities for participating in decision making on proposed projects.[49] Outreach sessions conducted by GSA and CBP are a standard component of POE project planning and execution. In addition, a 30-day public comment period allows for the public to provide written comments on shared project planning and environmental compliance information for the project. The public comment period is a requirement for conducting environmental assessments in accordance with NEPA and the general procedures for the FONSI for POE authorizations.

2.8.2 Mexico

In accordance with Article 26 of the Mexican Constitution, all planning activities should be democratic by allowing public participation of diverse social sectors and by incorporating the public's input into the development of sectoral plans (e.g., SCT's Sectoral Plan). Recently, public consultation has been accomplished by inviting associations, stakeholders, and potentially interested parties or experts to provide input regarding a planned project or a potential policy. Public consultation aimed at involving the general population has typically resulted in low participation levels. This is possibly a reflection of the fact that the population generally believes that their input will have no impact. Mexico´s public participation model thus struggles to secure general population input.[50]

When soliciting public input, SCT organizes public consultation forums that bring together academic experts, associations, and other stakeholders. In addition, several task groups, councils, or committees may be created to investigate a specific project or issue in detail. SCT's Comptroller's Office (Contraloría) provides an avenue for citizens to complain or voice their opinions regarding the agency or a specific officer's functions.

Local governments and the IMIP are mandated to involve the public in project planning and implementation. Similar to those run by SCT, public consultation forums are used to bring together academic experts, associations, and other stakeholders during a meeting or through committees that may be created to investigate a specific issue.

The Border Interagency Group, which includes Federal, State, and municipal representatives as well as private-sector stakeholders and academic experts, serves as a public consultation mechanism for the planning of new POEs. Attendance at the group's meetings is by invitation only. The group does not have a website and does not need to comply with Federal Government transparency requirements.

INDAABIN seeks the advice of the Federal operational departments, the occupants of the facility, and the Federal authorities and municipalities responsible for national, regional, and local planning in INDAABIN's development of all POE projects. In addition, INDAABIN participates in the meetings that the local governments organize to present and promote POE projects and to receive comments from different public and private entities.

2.9 Other Study Area Considerations

The study area for this Border Master Plan includes rail infrastructure concerns in City of Juárez and El Paso in need of an operational solution to allow for improved rail service in the area, as well as important livestock crossings. This section of the document discusses these cases.

2.9.1 Municipality of Juárez's Rail Infrastructure: Multiple Dimensions

Rail has served the Paso del Norte region since the end of the 19th century. Rail thus facilitated the development of both the City of Juárez and El Paso for more than a century, and remains important in attracting trade and investment and in serving the maquila[51] industry. Three companies provide rail service in the area. On the Mexican side, the sole rail provider is Ferrocarriles Mexicanos (Ferromex). On the U.S. side, two rail companies—Union Pacific Railroad and BNSF Railway Company—serve the area. Both U.S. rail companies interchange with Ferromex at their respective international rail bridge. For an extensive overview of the POEs and transportation infrastructure serving the POEs in this region, see Chapter 4 of this report. The following sections provide insight into the considerations and challenges associated with the rail infrastructure in the region.

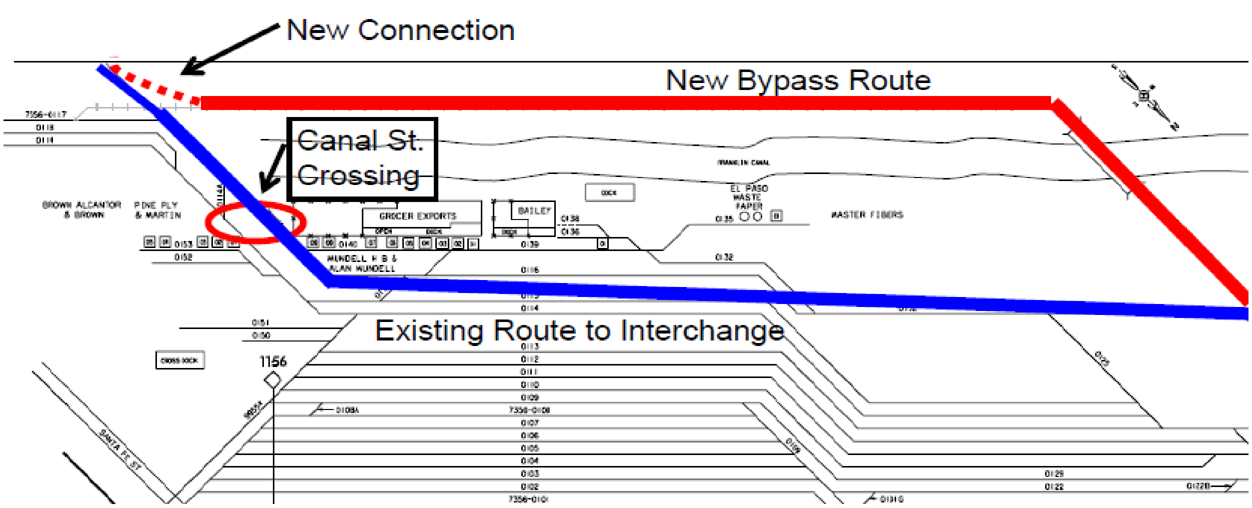
Societal Considerations

Since 1984, the planning documents of the Municipality of Juárez have reported that rail infrastructure inhibits west-east mobility and hinders appropriate urban development in the City of Juárez.[52] The rail tracks divide the city and have resulted in disproportionate development to the east relative to the west side of the rail tracks. Developments west of the rail tracks are mostly disadvantaged residential areas served by an unpaved road network.

Operational Considerations

The window for rail operating between City of Juárez and El Paso is limited to nine hours per day, from 10:00 p.m. to 7:00 a.m. This operational window allows for the interchange of a maximum of 10 trains per day. Trains moving from Mexico must follow CBP directives and change crews at the bridges. Trains moving to Mexico must comply with the regulations of Aduanas. In both cases, Ferromex's yard and the El Paso downtown rail yards are impacted by these inspections and the operating window.

Ferromex's yard is located in downtown City of Juárez, less than a mile from both international rail crossings. Northbound trains encounter four at-grade crossings upon leaving this yard: Heroico Colegio Militar (Fronterizo), David Herrera, 16 de Septiembre, and Vicente Guerrero. BNSF's and UPRR's rail yards are located in downtown El Paso. In 2010, BNSF completed a rail bypass in downtown El Paso (see Figure 2.20). The bypass precludes trains stopping at the Canal Street crossing, which used to block access to the Chihuahuita neighborhood. An American Recovery and Reinvestment Act grant partially funded this project.

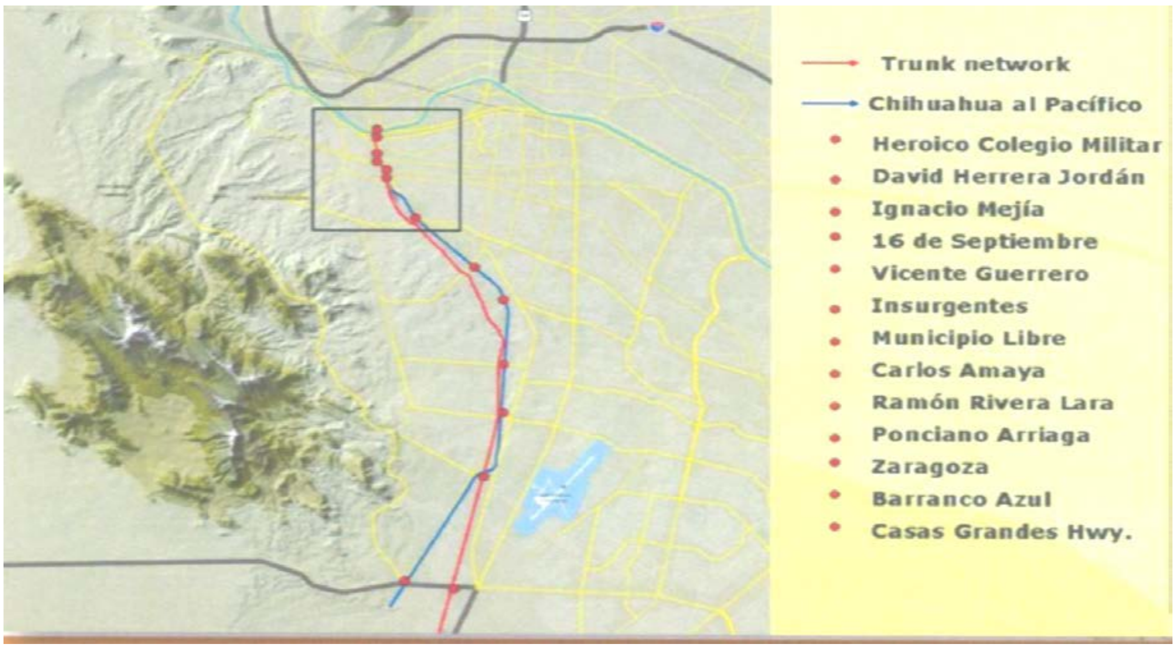


Source: BNSF[53]

Figure 2.20: Rail Yard Improvement: Chihuahuita Bypass

Safety Considerations

Figure 2.21 provides a map of Ferromex's rail infrastructure in the City of Juárez. The red and blue lines depict Ferromex's QA and A lines, and the red dots depict selected at-grade crossings in the city. Figure 2.21 shows that mobility in the City of Juárez is impacted by 13 at-grade crossings, four of which are between the Ferromex rail yard and the international bridges.



Source: IMIP, EPMPO[54]

Figure 2.21: City of Juárez: Rail Infrastructure and At-Grade Crossings

Security and Environmental Considerations

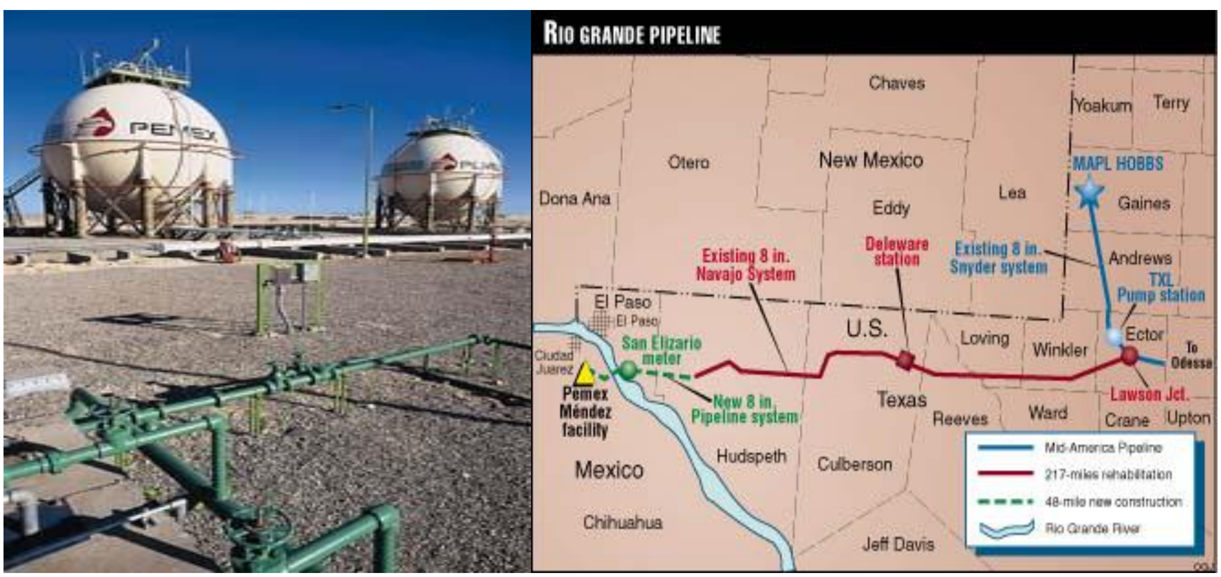
Significant amounts of propane gas[55], toxic chemicals, and fuel are transported by rail in and through the City of Juárez. Grupo Fuentes of the City of Juárez and El Paso provides residential and commercial propane service and product distribution throughout northern Mexico and the southwest United States. The company is one of Mexico's largest propane retailers with more than 30 outlets. The company's fleet is about 800 vehicles (bobtail trucks, tractors, and tank trailers) in Mexico and the United States. In addition to the trucking fleet, two rail sidings provide capacity for 10 tank cars, each capable of moving 30,000 gallons.[56] In addition, Solvay Chemicals' affiliate, Solvay Fluor México S.A. de C.V. (see Figure 2.22), operates a facility in the City of Juárez that primarily produces hydrogen fluoride and ammonium hydrogen fluoride with sulphydric acid as the primary input.[57]

Source: Solvay Chemicals[58]

Figure 2.22: Solvay Chemicals' Fluor Facility

In 2012, two trains transporting fuel derailed in the Samalayuca Ecological Reserve.[59] The cause of the derailments was inclement weather. As of January 2013, the Secretariat of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales [SEMARNAT]) acquitted Ferromex of any environmental fines or damage because of measures implemented by the rail company to mitigate the environmental damage from these accidental spills.[60]

Pétroleos Mexicanos's (PEMEX's) Méndez receiving terminal near the City of Juárez started receiving liquefied petroleum gas (LPG) shipments on April 1, 1997, from the Rio Grande LPG pipeline originating near Odessa, Texas (see Figure 2.23). The only segment of Ferromex's QA rail line currently under operation connects its downtown yard and A line to PEMEX's Méndez terminal, thereby also resulting in additional hazardous shipments in the area.



Source: Bodenhamer[61]

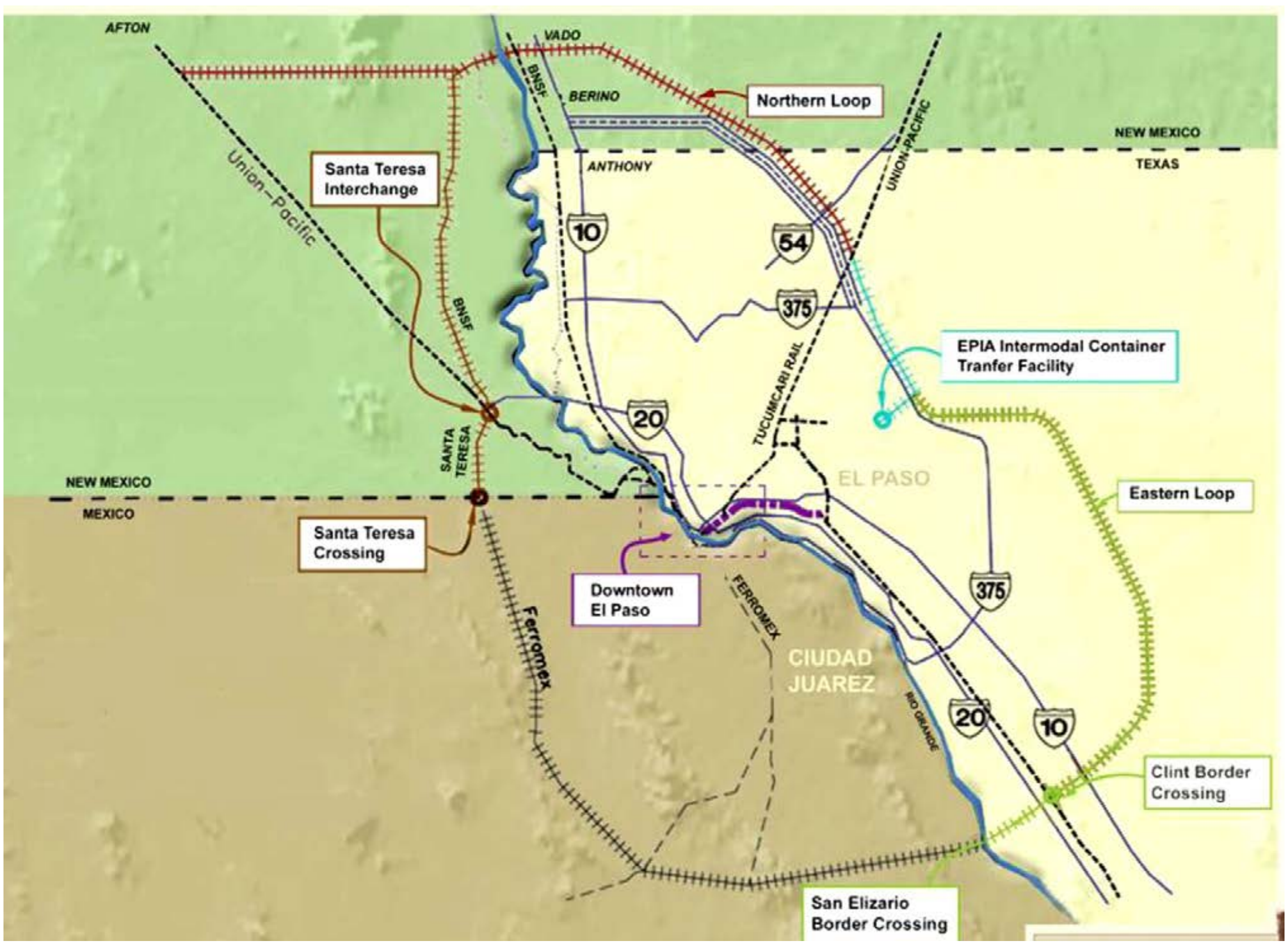
Figure 2.23: Méndez LPG Facility and Rio Grande Pipeline System

Finally, according to U.S. Federal environmental regulations, the City of Juárez–El Paso metroplex is in non-attainment for particulate matter (PM_{10}). Some of the contributing factors are unpaved roads, border traffic bottlenecks and idling, and freight transportation.[62]

Rail Bypass Initiative

President Calderón's 2007 Infrastructure Plan[63] included the construction of two rail bypasses: one in Matamoros/Brownsville and the other in the City of Juárez/El Paso. During the president's term, only the first project came to fruition.

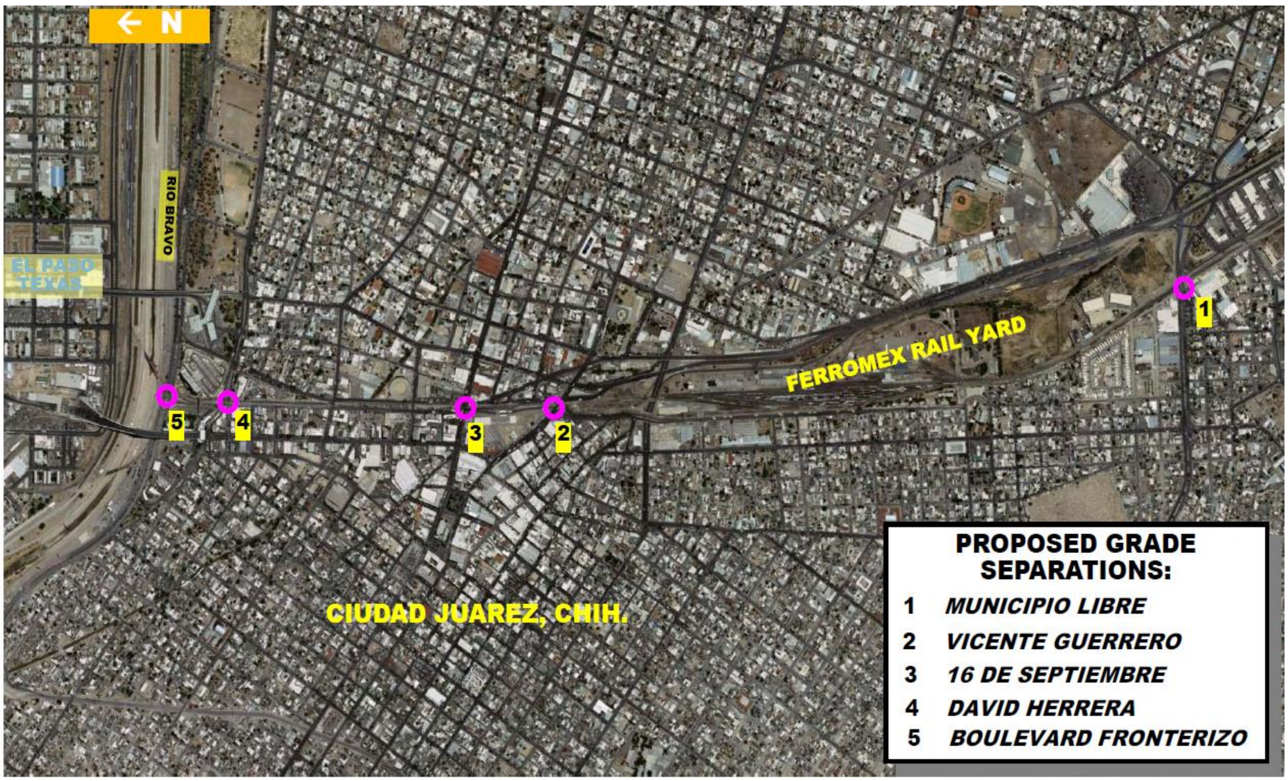
The City of Juárez/El Paso rail bypass was initially included in El Paso's *Project Feasibility and Development Report* in 2003. The initial analysis showed two potential connections: at the Santa Teresa/Jerónimo POE and at a new crossing at San Elizario/Clint (see Figure 2.24).



Source: City of El Paso[64]

Figure 2.24: El Paso Initial Rail Bypass Alternatives

However, in December 2008, President Calderón supported the building of a series of underpasses to facilitate the flow of rail traffic through the City of Juárez´s downtown. Local concern was expressed about the disruption of vehicle traffic in the City of Juárez during the several years of the construction of the underpasses. Concerns were also expressed about the increase in hazardous cargo moving through densely populated neighborhoods and undermining efforts to move cross-border rail traffic to Santa Teresa/Jerónimo. Figure 2.25 illustrates the proposed five grade separations in downtown City of Juárez.



Source: BNSF[53]

Figure 2.25: Proposed Downtown City of Juárez Grade Separations

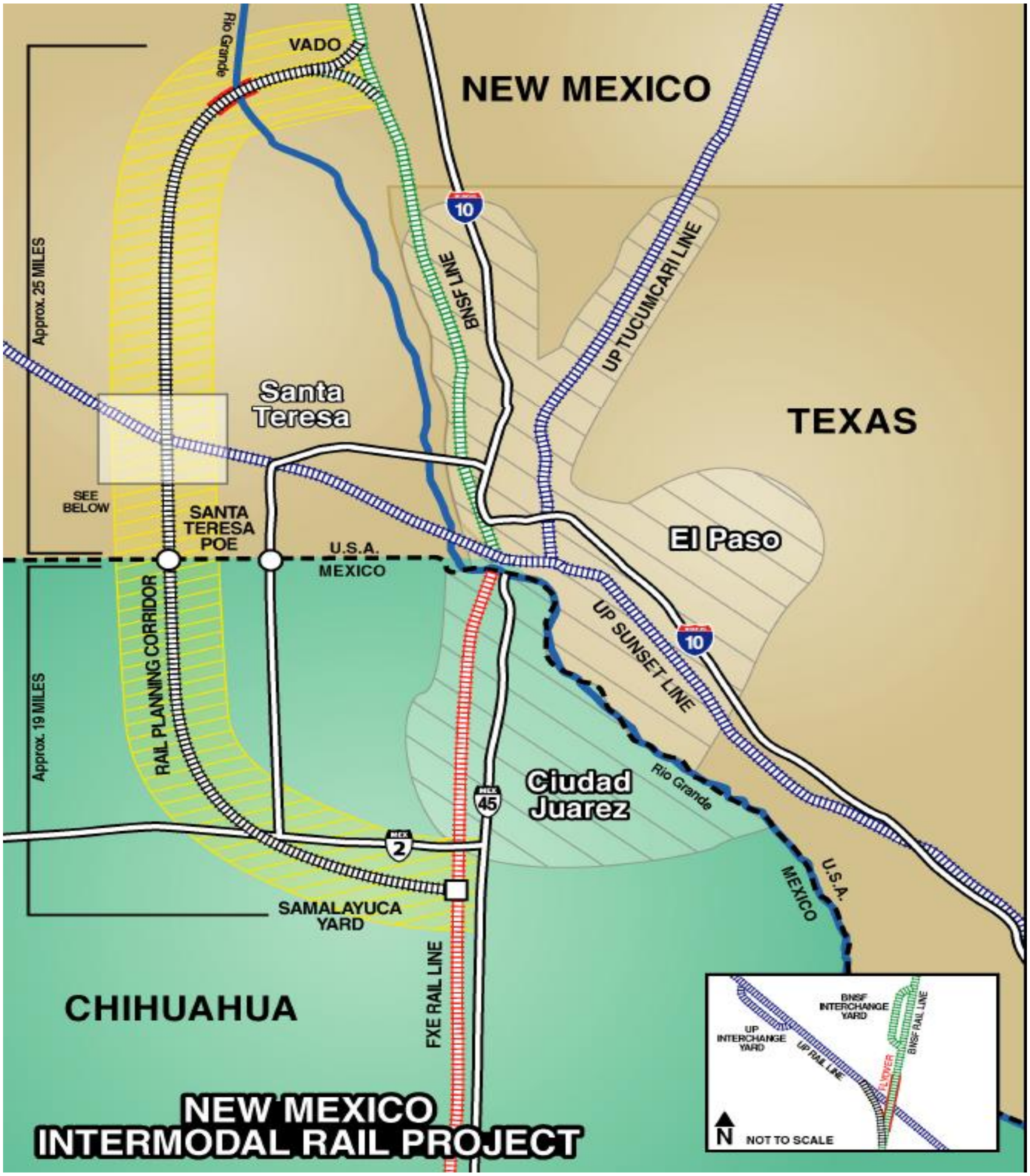
In February 2010, an agreement to build the Santa Teresa/Jerónimo bypass was executed.[65] Federal (SCT), State (Chihuahua), and local (Municipality of Juárez) stakeholders and Ferromex signed the agreement. The agreement provided for the construction of three grade separations at Vicente Guerrero, David Herrera, and 16 de Septiembre in downtown City of Juárez in Phase 1 of the bypass project. The cost of these overpasses was estimated at MXP $126 million, MXP $115 million, and MXP $196 million, respectively, to total MXP $437 million.[66] SCT agreed to provide 87.5 percent of the funds necessary, and the State of Chihuahua agreed to provide the remaining 12.5 percent. Phase II includes a number of longer-term projects including construction of a rail bypass that will cross through the Santa Teresa/Jerónimo POE, the authorization of a new crossing, and construction of a rail yard. The State of Chihuahua and the Municipality of Juárez agreed to take the lead in coordinating all entities to proceed and promote Phase II. Ferromex agreed to deliver the executive studies and analyses for the overpasses in Phase I and to promote the bypass in Phase II.

The first completed underpass at Boulevard Fronterizo (H. Colegio Militar) was inaugurated in September 2012 (see Figure 2.26). On October 26, 2012, however, a group of 13,000 local business owners, citizens, and a municipal officer filed an injunction in Federal courts seeking to prevent the construction of the remaining four grade separations.[67] Work on the remaining four grade separations is, however, expected to move forward under President Peña´s administration.

Source: César Duarte[68]

Figure 2.26: Inauguration Ceremony: First Grade Separation in Downtown City of Juárez

Figure 2.27 provides a more recent proposal for the Santa Teresa/Jerónimo rail POE and bypass. The proposal includes the construction of a new Ferromex rail yard near Samalayuca, a flyover from BNSF over UPRR lines, and a potential rail connection in Vado, New Mexico. This new rail line would measure approximately 19 miles on the Mexican side and 25 miles on the U.S. side.



Source: BNSF[53]

Figure 2.27: Current Options for the Santa Teresa/Jerónimo Rail Bypass

Santa Teresa/Jerónimo Location

The Santa Teresa/Jerónimo POE was inaugurated in 1993. Since then, NMBA has promoted the crossing and attempted to attract investment to the area. On both the U.S. and Mexican sides, most of the land near or leading to the POE belongs to Eloy Vallina, a former banker. The land on the U.S. side has been developed through the Verde Group, of which Mr. Vallina is the main partner. On the Mexican side, a few communal (ejido) properties and private land owners have interests in the area. UPRR is also an important stakeholder in the area and is currently constructing a US $400 million[69] state-of-the-art rail facility in Santa Teresa. The company is envisioning this area to be a strategic focal point for shipments destined for the southwestern United States. The new facility (see Figure 2.28) will feature an intermodal ramp, fueling facilities, and an intermodal block swap/switching yard. Construction began in early August 2011, and the Santa Teresa Terminal is scheduled to open in March 2014.

Source: Union Pacific Railroad[69]

Figure 2.28: UPRR´s Santa Teresa Terminal

FOXCONN

Hon Hai Precision Industries Co., Ltd., registered the FOXCONN brand as a subsidiary in 1974. This corporate group conducts business in America, Asia, and Europe. FOXCONN provides services related to the design, manufacture, assembly, and post-consumer service of electronic equipment, including computers, communications, and electronic devices. The company manufactures components for Apple, Cisco, Dell, IBM, Motorola, Nokia, and Sony, among others, and is the largest assembler of computer equipment and video games.

FOXCONN invested US $145 million in its industrial campus at Jerónimo and currently employs 4,329 people directly and 1,189 people indirectly, for a total of more than 5,000 employees.

Source: larednoticias.com, 2010

FOXCONN factory at the Santa Teresa/Jerónimo POE

In addition, FOXCONN has invested in two other factories in the State of Chihuahua: in the City of Juárez and in Chihuahua.

Source: PROMEXICO[70]

2.9.2 Livestock Crossings

Cattle producers in northern Mexico have a long history of exporting young feeder animals to the U.S. market. Relationships between cattle industry stakeholders in the U.S.-Mexico border region are thus strong and well established[71]. In 2005, exporting procedures for cattle from Mexico to the United States changed in response to heightened animal health concerns. Although exported cattle were already subject to extensive inspection and controls, the changes in procedures resulted in the additional scrutiny of animals moving from Mexico to the United States.

Cattle generally enter the United States from Mexico through 10 POEs.[71] The cattle are destined for pasture, backgrounding, finishing, and slaughter. Almost half of the animals cross through the Santa Teresa/Jerónimo and Columbus/Palomas POEs in New Mexico and the Presidio/Ojinaga POE in Texas. Most of the cattle coming to the United States through these ports originate in the State of Chihuahua. Table 2.3 shows that between September 2012 and January 2013, approximately 77 percent of all livestock from Mexico crossed through the Santa Teresa/Jerónimo livestock facilities, and 19 percent crossed at the Presidio/Ojinaga bridge. Table 2.3 also shows that most of the livestock crossings are cattle crossings, with rodeo animals and horses representing less than 2.0 percent of the livestock crossings.

Table 2.3: Livestock Crossings at Chihuahua POEs (September 2012 to January 2013)

	Cattle	Rodeo	Horses	Total
Livestock originating in the State of Chihuahua	*130,062*	*3,673*	*67*	*133,802*
Presidio/Ojinaga	10,273	0	0	10,273
Columbus/Palomas	9,541	0	0	9,541
Santa Teresa/Jerónimo	110,248	3,673	67	113,988
Livestock originating in other States	*89,971*	*291*	*357*	*90,619*
Presidio/Ojinaga	31,449	0	0	31,449
Santa Teresa/Jerónimo	58,522	291	357	59,170
TOTAL	*220,033*	*3,964*	*424*	*224,421*

Source: State of Chihuahua[72]

2.10 Concluding Remarks

The planning of transportation infrastructure and POE projects is a binational, multi-step, multi-agency process that involves all levels of government in both the United States and Mexico. The Federal, State, regional, and local agencies on both sides of the border have different project evaluation processes in the preparation of POE and transportation planning documents. These evaluation processes range from qualitative assessments to detailed quantitative studies (e.g., feasibility studies and cost-benefit analyses). Furthermore, planning horizons for POE and transportation infrastructure differ.

Collaboration and communication are thus critical to ensure coordinated project implementation. However, staff turnover, budget schedules, and bureaucratic processes have inhibited coordination in the development of POE facilities in the past. The development of border master plans represents an effort to ensure continued coordination and communication among all levels of government in developing a list of binational priorities for both POEs and the transportation infrastructure servings POEs.

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Chapter 3. Demographic, Socio-economic, and Land Use Profile

This chapter of the Border Master Plan provides an overview of the current and projected demographic and socio-economic information obtained for the El Paso/Santa Teresa–Chihuahua Border Master Plan. The chapter summarizes available population, employment, income, and land use data for the Area of Influence. It also includes summary information for the trade corridors that traverse the study area.

3.1 U.S. Demographic and Socio-economic Characteristics

The following sections outline the demographic, socio-economic, and land use data obtained from the Texas State Data Center and Office of the State Demographer, the Texas Health and Human Services Commission, the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis, and UTEP. The demographic and socio-economic data reflect the latest available data (e.g., 2010 Census data).

As described in Chapter 1, the Area of Influence on the U.S. side is made up of the following border counties: El Paso, Hudspeth, Jeff Davis, and Presidio in Texas and Doña Ana in New Mexico (see Figure 3.1). The U.S. Area of Influence is bordered by:

- TxDOT's Odessa District to the east.
- Brewster and Culberson Counties (part of TxDOT's El Paso District) to the east and north, respectively.
- Reeves and Pecos Counties (part of TxDOT's Odessa District) to the northeast.
- Sierra and Luna Counties (part of NMDOT's District 1) to the north.
- Otero County (part of NMDOT's District 2) to the north.
- Mexico's State of Chihuahua to the south.

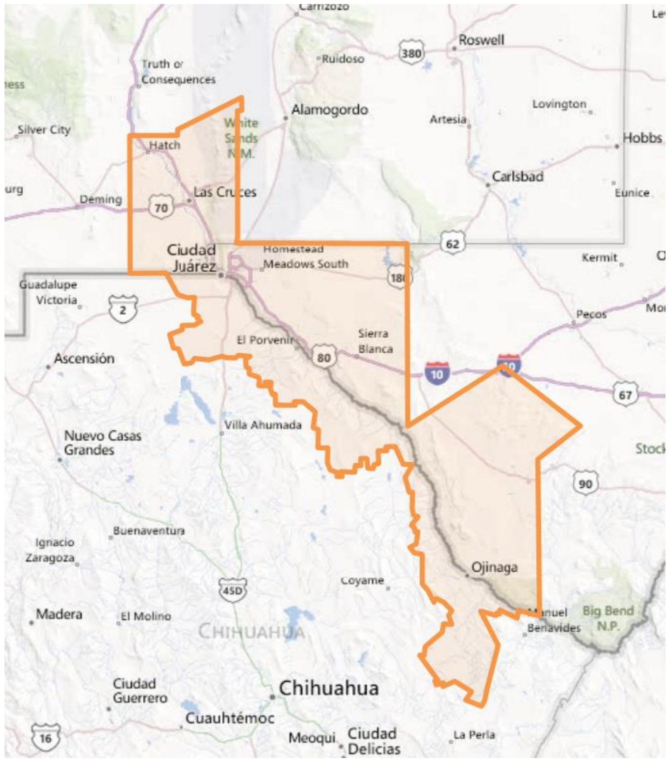


Figure 3.1: Area of Influence

3.1.1 Population

Table 3.1 shows that the total population of the U.S. counties included in the Area of Influence was 929,228 in 2005. Between 2005 and 2010, population in the area increased at an annual average rate of 1.95 percent, to reach a total of 1,023,516 in 2010 (or approximately 3.8 percent of Texas's and New Mexico's total population in 2010).

It is expected that the region's population will continue to increase on average at a rate of 1.38 percent per year between 2010 and 2030. It is anticipated that the population of El Paso County will increase at a marginally higher rate (1.39 percent), while Hudspeth County, Presidio County, and Doña Ana County will see an average increase in their populations of 1.07 percent, 0.95 percent, and 1.35 percent, respectively. Alternately, the population in Jeff Davis County is expected to decrease on average 0.10 percent per year between 2010 and 2030. By 2030, the population in the U.S. Area of Influence is expected to reach 1,345,462, representing an increase of 321,946 people between 2010 and 2030.

Table 3.1: Population (2005–2030)

County	Year			AAGR*	
	2005	2010	2030	2005–2010	2010–2030
El Paso	726,006**	800,647∞	1,055,903∞	1.98%	1.39%
Hudspeth	3,566**	3,476∞	4,304∞	−0.51%	1.07%
Jeff Davis	2,503**	2,342∞	2,297∞	−1.32%	−0.10%
Presidio	7,954**	7,818∞	9,445∞	−0.34%	0.95%
Doña Ana	189,199	209,233	273,513	2.03%	1.35%
U.S. Area of Influence	*929,228*	*1,023,516*	*1,345,462*	*1.95%*	*1.38%*
Texas	*22,859,968***	*25,145,561*∞	*32,927,245*∞	*1.92%*	*1.36%*
New Mexico	*1,932,274* ^	*2,059,179* ^	*2,613,332*§	*1.28%*	*1.20%*

Note: * Average annual growth rate (AAGR)[1]

Source: ** Texas Department of State Health Services[2]

∞ Texas State Data Center 2012 population projections using 0.5 migration scenario[3]

^ New Mexico Department of Workforce Solutions[4]

§ University of New Mexico Geospatial and Population Studies Group population projections[5]

3.1.2 Employment

Table 3.2 shows that 355,430 people were employed in the U.S. counties in the Area of Influence in 2005. Between 2005 and 2010, employment increased at an average annual rate of 1.4 percent to reach 381,823 in 2010 (representing 3.1 percent of the total employment in Texas and New Mexico). Table 3.2 indicates that the highest average annual increases in employment between 2005 and 2010 occurred in Hudspeth County (6.6 percent) and Presidio County (2.6 percent). El Paso County and Dona Aña County experienced an average annual increase in employment of 1.5 percent and 1.2 percent, respectively. In Jeff Davis County, employment decreased at an average annual rate of 0.2 percent.

Employment in 2030 was estimated by applying the AAGR for employment between 2002 and 2012 to the 2010 employment numbers. Between 2010 and 2030, employment in the Area of Influence is expected to increase at a lower rate of 1.3 percent, to reach approximately 495,490 in 2030, using the calculated AAGR between 2002 and 2012. The highest annual average increase in employment (3.0 percent) is expected in Hudspeth County. Presidio County will also see an increase in employment at an average annual rate of 2.3 percent. Although employment in El Paso County will continue to increase, it will do so at a lower annual average rate of 1.2 percent. Finally, employment in Jeff Davis County and Doña Ana County is expected to continue to increase at an average annual rate of 1.3 and 1.6 percent, respectively.

Table 3.2: Employment (2005–2030)

County	Year			AAGR	
	2005	2010	2030*	2005–2010	2010–2030*
El Paso**	270,293	290,859	369,226	1.5%	1.2%
Hudspeth**	1,240	1,703	3,076	6.6%	3.0%
Jeff Davis**	1,159	1,150	1,489	−0.2%	1.3%
Presidio**	2,892	3,293	5,189	2.6%	2.3%
Doña Ana∞	79,846	84,818	116,510	1.2%	1.6%
U.S. Area of Influence	*355,430*	*381,823*	*495,490*	*1.4%*	*1.3%*
*Texas***	*10,551,547*	*11,273,239*	*15,183,418*	*1.3%*	*1.5%*
New Mexico∞	*866,349*	*861,503*	*970,994*	*−0.1%*	*0.6%*

Note: * Employment projections for 2030 were determined using the AAGR between 2002 and 2012.

Source: ** Texas Workforce Commission[6]

∞ New Mexico Department of Workforce Solutions[4]

3.1.3 Income

The per-capita income in the U.S. Area of Influence of $21,679 was below the statewide per-capita income of $33,220 for Texas and $28,641 for New Mexico in 2005 (see Table 3.3). Between 2005 and 2010, the compound annual growth rate (CAGR) for per-capita income increased by 5.8 percent in the Area of Influence relative to the State average annual growth rates of 2.8 percent for both Texas and New Mexico. Table 3.3 shows all the counties in the U.S. Area of Influence experienced higher average annual per-capita income increases than the statewide averages. Specifically, Hudspeth County and Presidio County experienced average annual income growth rates of 8.5 percent and 7.6 percent, respectively. Per-capita income estimates for the Area of Influence for 2030 were calculated using the 2001 to 2011 CAGR for the counties and were on average 5.8 percent annually.

Table 3.3: Per-Capita Income (2005–2030)

County	Year			CAGR	
	2005*	2010*	2030 **	2005–2010	2010–2030**
El Paso	$23,486	$28,665	$90,213	4.1%	5.9%
Hudspeth	$18,309	$27,543	$97,052	8.5%	6.5%
Jeff Davis	$24,844	$32,205	$87,092	5.3%	5.1%
Presidio	$17,739	$25,627	$69,303	7.6%	5.1%
Doña Ana	$24,017	$29,431	$96,186	4.2%	6.1%
U.S. Area of Influence	*$21,679*	*$28,694*	*$87,969*	*5.8%*	*5.8%*
Texas	*$33,220*	*$38,222*	*$113,656*	*2.8%*	*5.6%*
New Mexico	*$28,641*	*$32,940*	*$82,539*	*2.8%*	*4.7%*

Source: * U.S. Department of Commerce Bureau of Economic Analysis BEARFACTS[7]

** Projections are based on 2002 to 2012 CAGR for States and 2001 to 2011 CAGR for counties, and are not adjusted for inflation.

3.1.4 Land Use

Table 3.4 provides land use information for Texas, New Mexico, and the U.S. Area of Influence. Table 3.4 shows that most of the land area in Texas is designated as farmland (approximately 78.0 percent[8]), while only 55.7 percent of the land area in New Mexico is designated as farmland. Similarly, 71.7 percent of the land area in Texas counties in the Area of Influence is designated as farmland, while 24.1 percent of the land in Dona Aña County is designated as farm land. Table 3.4 indicates that the highest population densities are found in El Paso County and Doña Ana County at 79.4 and 55.0 persons per square mile, respectively. On the other hand, the population densities in Hudspeth, Jeff Davis, and Presidio Counties are well below the population densities in El Paso County, Doña Ana County, and Texas as a whole.

El Paso has grown considerably in the last 50 years. In the 1950s, 19 separate annexations added 90 square miles of developable land to El Paso. In the 1970s, 24 additional annexations (totaling 120 square miles) occurred. In the 1980s, the number of annexations decreased, but expansion continued, filling out the current city boundaries east of Loop 375.[9] The rate at which the city was expanding slowed because the city required annexation of developable land before providing water and sewer services. Recently, the city has occasionally agreed to provide water and sewer services to new subdivisions without the need for annexation.[9]

Table 3.4: Land Use Data

County	Farm Land (Square Miles)*	Land Area (Square Miles)	Population Density (Persons/ Square Miles)
El Paso	263	1,013	79.4
Hudspeth	3,527	4,571	0.8
Jeff Davis	2,173	2,265	1.0
Presidio	2,437	3,855	2.0
Doña Ana	921	3,806	55.0
U.S. Area of Influence	*9,321*	*15,510*	*66.0*
Texas	*203,748*	*261,232*	*96.3*
New Mexico	*67,559*	*121,298*	*17.0*

Note: * Based on 2007 statistics

Source: U.S. Department of Agriculture, Census of Agriculture[10]
U.S. Census Bureau[11]

Two-thirds of the city's current housing units are detached homes. Early industrial development concentrated around the west side at the American Smelting and Refining Company smelter and on the east side around Western Refining. Newer industrial developments such as warehousing and distribution, which primarily serve maquiladoras in the Municipality of Juárez, are located in large industrial parks with access to Zaragoza Road or Loop 375.[9] Newer commercial developments have been occurring on large parcels of land with access to IH 10 or other major arterials. The city's expansion has raised concerns about the effects on farmland surrounding the city.[9]

Table 3.5 provides summarized land use information for El Paso. Only 13.86 percent of the total land area in El Paso is designated as residential. This includes residential areas with high (0.10 percent), medium (12.77 percent), and low (0.99 percent) densities (see Table 3.5). Developed open space accounts for a very small percentage of land use (0.41 percent). Interestingly, most of the land area in El Paso is categorized as vegetation; specifically, 65.72 percent of the total land area is categorized as shrub. Only a small percentage of the land is used for cultivation (6.62 percent). The rest of the area is open water (0.42 percent), grassland (8.76 percent), and barren land of rock, sand, and clay (4.21 percent).

Table 3.5: El Paso Land Use Data

Land Use Category	Percentage of Land Area	Land Area (Square Miles)
High-Density Residential	0.10	0.99
Medium-Density Residential	12.77	129.59
Low-Density Residential	0.99	10.00
Developed Open Space	0.41	4.16
Cultivated Crops	6.62	67.21
Open Water	0.42	4.25
Grassland	8.76	88.84
Shrub	65.72	666.77
Barren Land	4.21	42.69
Total	***100.00***	***1,014.49***

Source: Regional Geospatial Service Center at UTEP[12]

Existing land use maps are provided in Figures 3.2, 3.3, and 3.4. These land use maps represent the Westside/Central/Downtown, Northeast, and Eastside/Mission Valley areas, respectively.

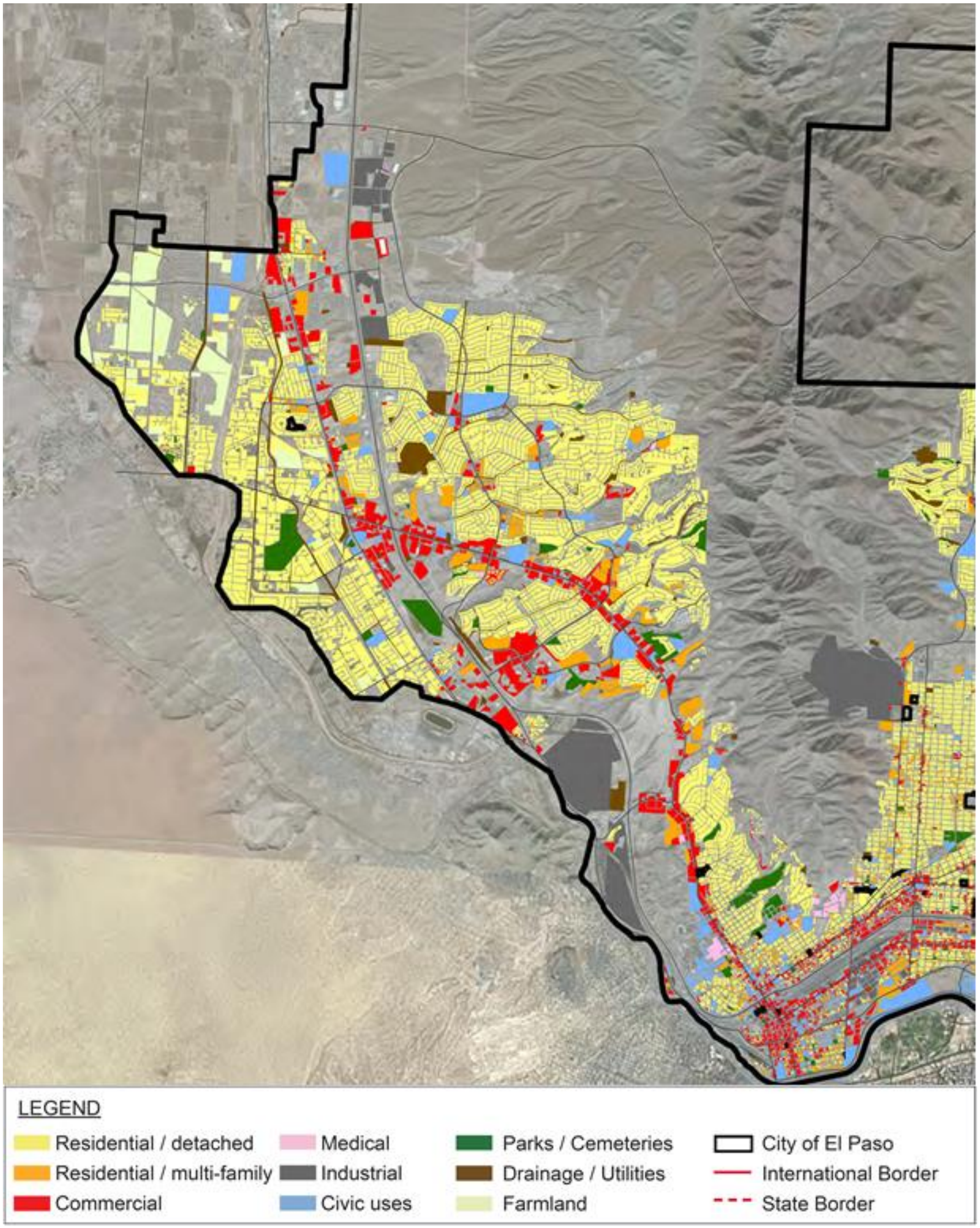
The city also recently developed a Future Land Use Map "…to provide a clear guide to the form, direction, and timing of future growth for the area."[9] Sixteen sectors were identified (see Figure 3.5):

- Seven were designated "O" for open-space sectors where growth will be delayed or is not anticipated.
- Nine were designated "G" for growth sectors where urban development will be encouraged.

Additional information on the Future Land Use Map can be found in the City of El Paso Comprehensive Plan.[13, 9]

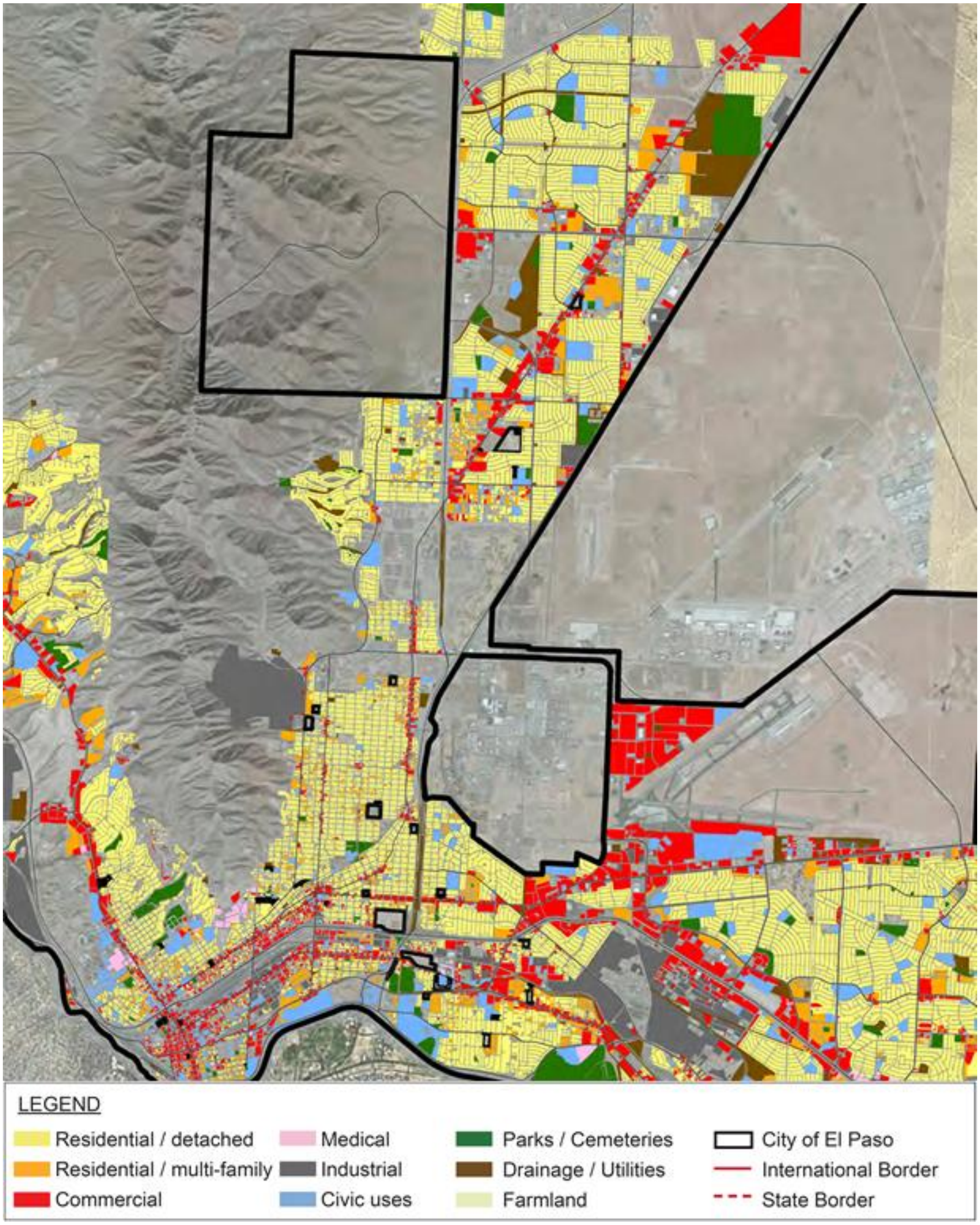
Figure 3.6 provides land use information for Doña Ana County with inlet maps for Las Cruces and Sunland Park. According to the *Doña Ana County New Mexico Regional Plan,*[14] 8.6 percent of the land area in Doña Ana County, excluding Las Cruces, is privately owned.

The remaining land is owned by the Bureau of Land Management (46.7 percent), Department of Defense (23.3 percent), Fish and Wildlife Service (2.6 percent), State Land Trust (11.3 percent), and National Parks Service (2.5 percent).[14] Most of the residential properties are located in the southern parts of the county, near El Paso.[14]



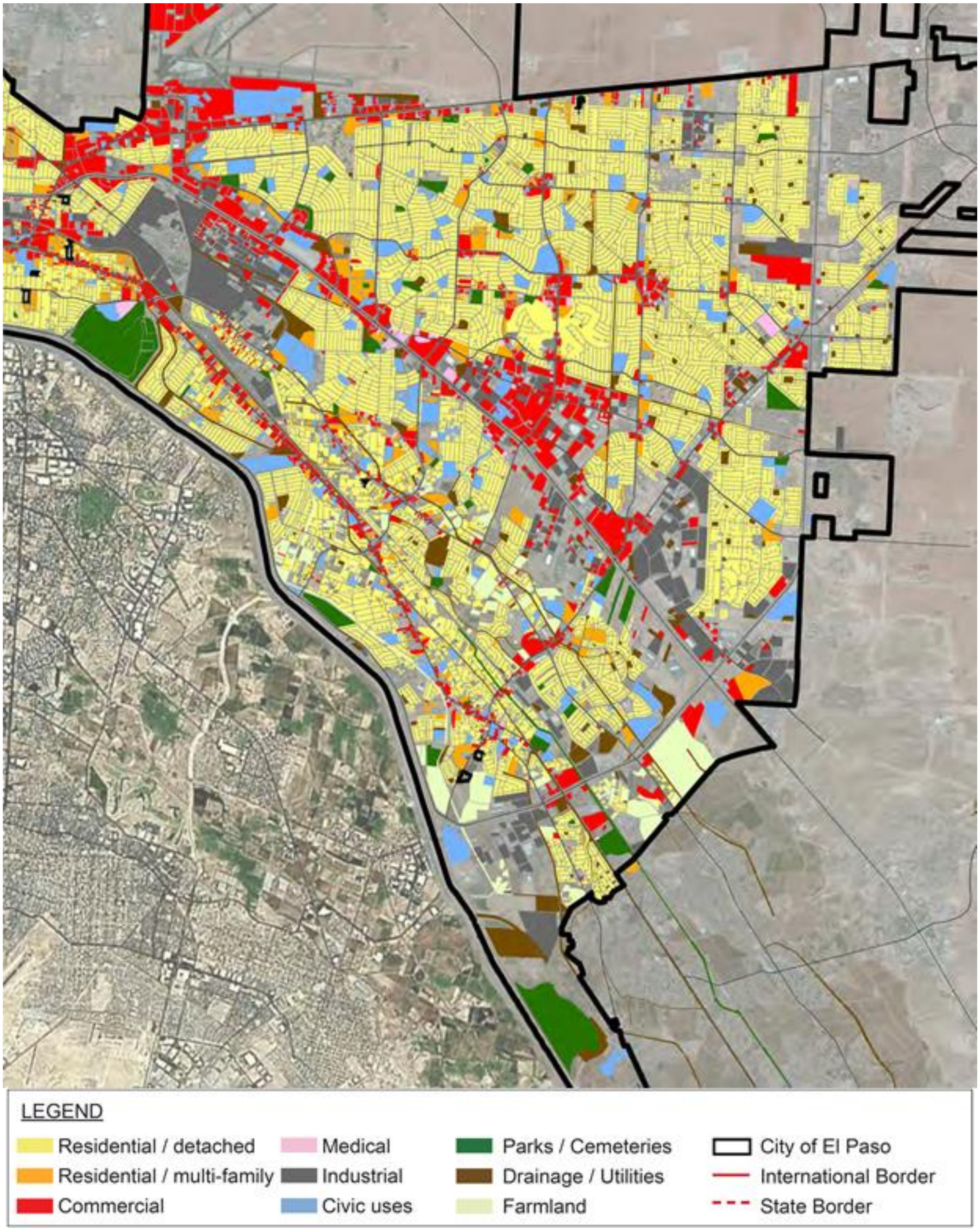
Source: City of El Paso Comprehensive Plan[9]

Figure 3.2: Westside/Central/Downtown Land Use Map



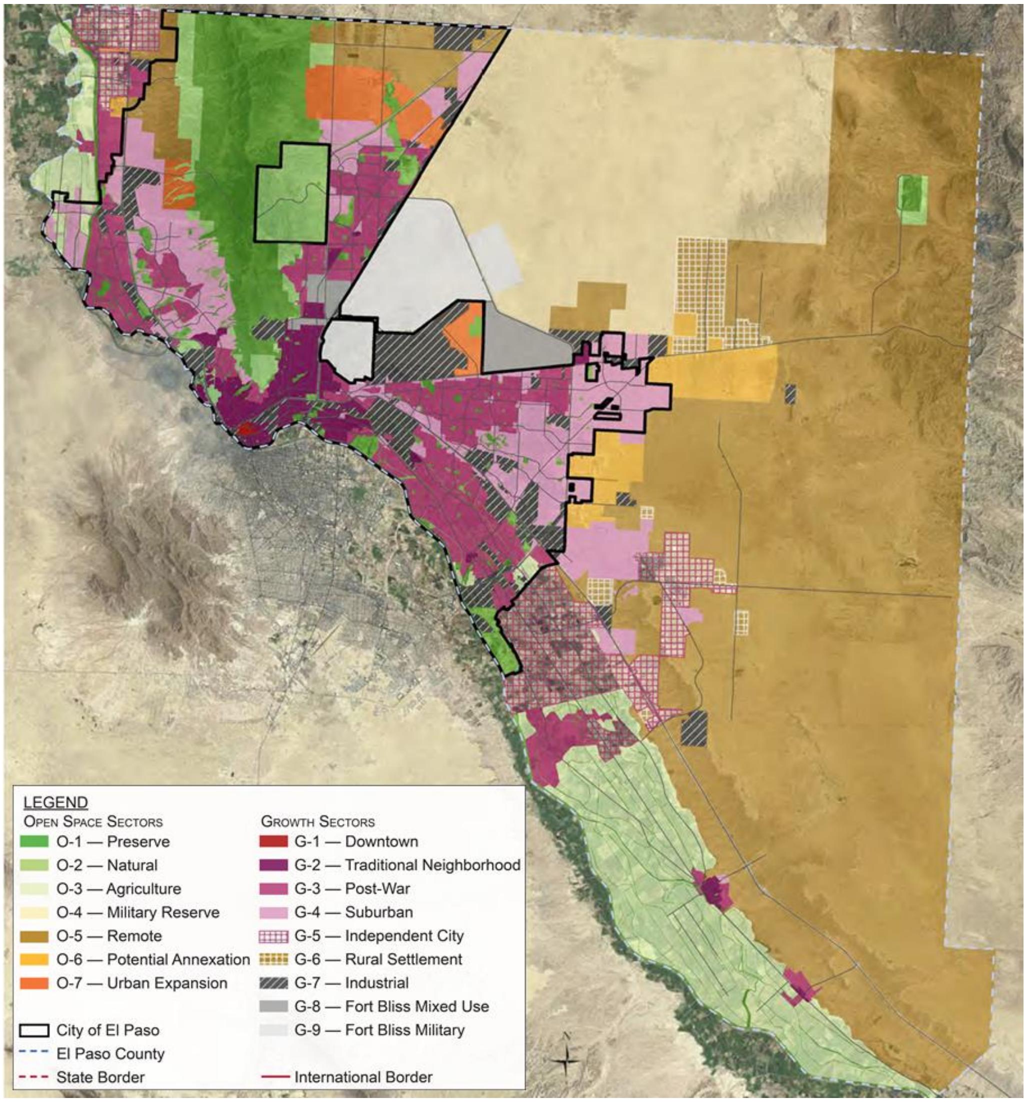
Source: City of El Paso Comprehensive Plan[9]

Figure 3.3: Northeast Land Use Map



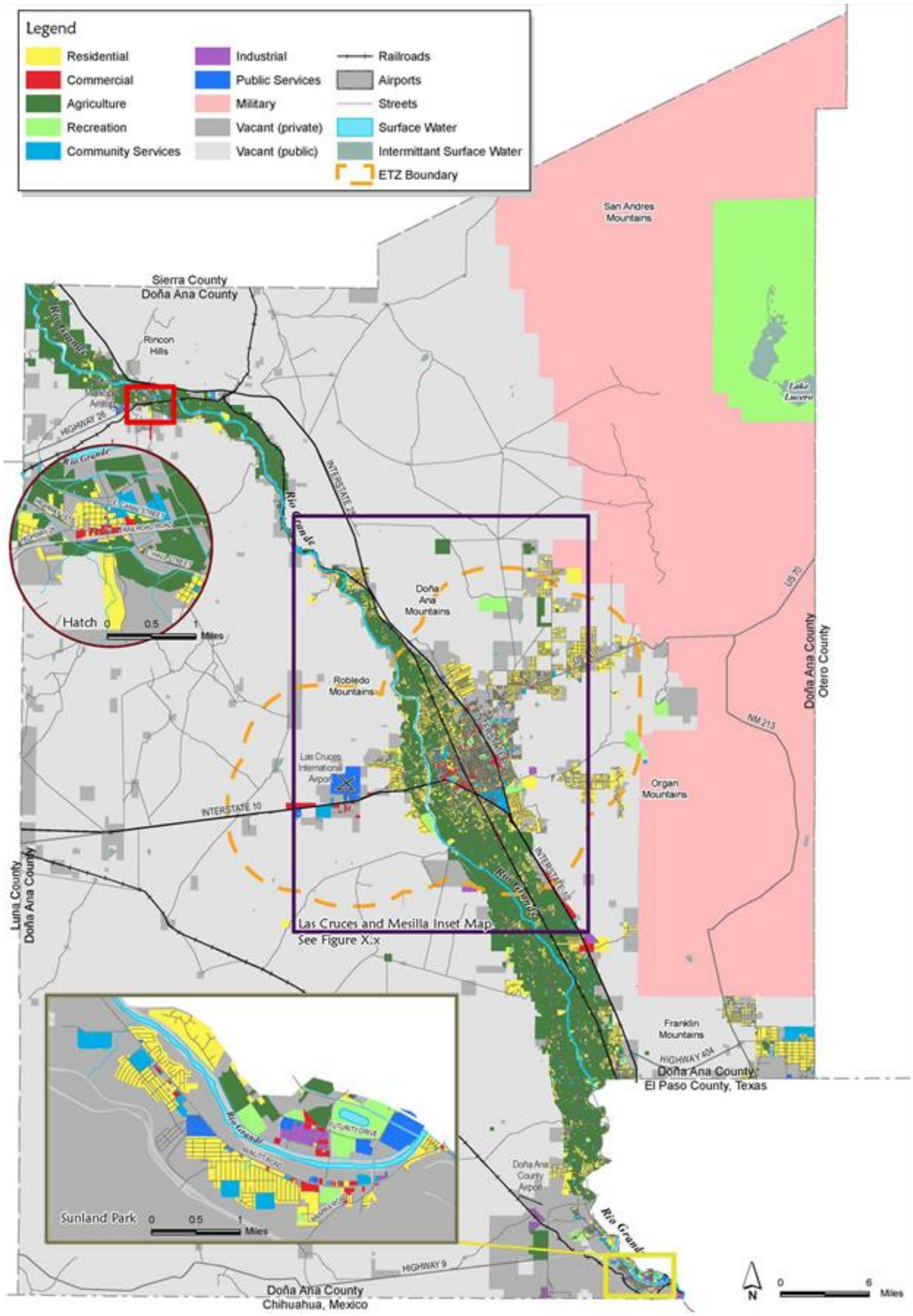
Source: City of El Paso Comprehensive Plan[9]

Figure 3.4: Eastside/Mission Valley Land Use Map



Source: City of El Paso Comprehensive Plan[9]

Figure 3.5: Future Land Use Map[15]—Base Sectors



Source: Doña Ana County New Mexico Regional Plan[14]

Figure 3.6: Doña Ana County Existing Land Use Map

Table 3.6 provides land use information for Las Cruces. Most of the land area (62.5 percent) in Las Cruces was vacant land, excluding right of way; 17.5 percent was residential; 7.7 percent was public; 5.3 percent was commercial; 4.2 percent was community; 1.7 percent was recreational; 1.1 percent was agricultural; and 0.1 percent was industrial.[14] Since 2007, the city has grown due to annexation by an estimated 8.2 square miles to its current land area of 76.87 square miles. [14,16] However, no updated land use information is available.

Table 3.6: Las Cruces Land Use Data (2007)

Land Use Category	Percentage of Land Area	Land Area (Square Miles)
Vacant	62.5	42.92
Agricultural	1.1	0.76
Residential	17.5	11.99
Commercial	5.3	3.61
Industrial	0.1	0.07
Community	4.2	2.88
Public	7.7	5.26
Recreational	1.7	1.17
Total	***100.0***	***68.67***

Source: Doña Ana County New Mexico Regional Plan[14]

According to the *Doña Ana County New Mexico Regional Plan,*[14] 75 percent of the land in Sunland Park is privately owned and 25 percent is owned by the State Land Trust. Table 3.7 shows that 66.4 percent of the Sunland Park land area was vacant land, excluding right of way; 14.0 percent was residential; 4.9 percent was community; 4.1 percent was recreational; 3.4 percent was agricultural; 2.9 percent was industrial; 2.8 percent was public; and 1.6 percent was commercial.

Table 3.7: Sunland Park Land Use Data (2007)

Land Use Category	Percentage of Land Area	Land Area (Square Miles)
Vacant	66.4	7.17
Agricultural	3.4	0.37
Residential	14	1.51
Commercial	1.6	0.17
Industrial	2.9	0.31
Community	4.9	0.53
Public	2.8	0.30
Recreational	4.1	0.44
Total	***100.0***	***10.80***

Source: Doña Ana County New Mexico Regional Plan[14]

3.2 U.S. Trade Corridors

Texas is the leading U.S. State for exports, and its economy generates substantial import volumes as well. Trade corridors facilitate the movement of goods, both domestic and international, and are therefore an essential component of Texas's transportation system.[17] A number of trade corridors traverse the U.S. Area of Influence in Texas and New Mexico: the IH 10, US 54, and US 67 corridors. This section of the report summarizes some of the salient information about these trade corridors.

3.2.1 IH 10 Corridor

The IH 10 corridor is perhaps the most important NAFTA trade corridor in the U.S. Area of Influence. IH 10 stretches from the Pacific Ocean at State Route 1 (Pacific Coast Highway) in Santa Monica, California, to IH 95 in Jacksonville, Florida. In the U.S. Area of Influence, the corridor stretches from Anthony, New Mexico, in the west to Fort Hancock, Texas, in the east (see Figure 3.7). Two projects are planned for this corridor: the IH 10 Collector-Distributor Lanes and Northeast Parkway. These planned projects are briefly discussed in the following sections.

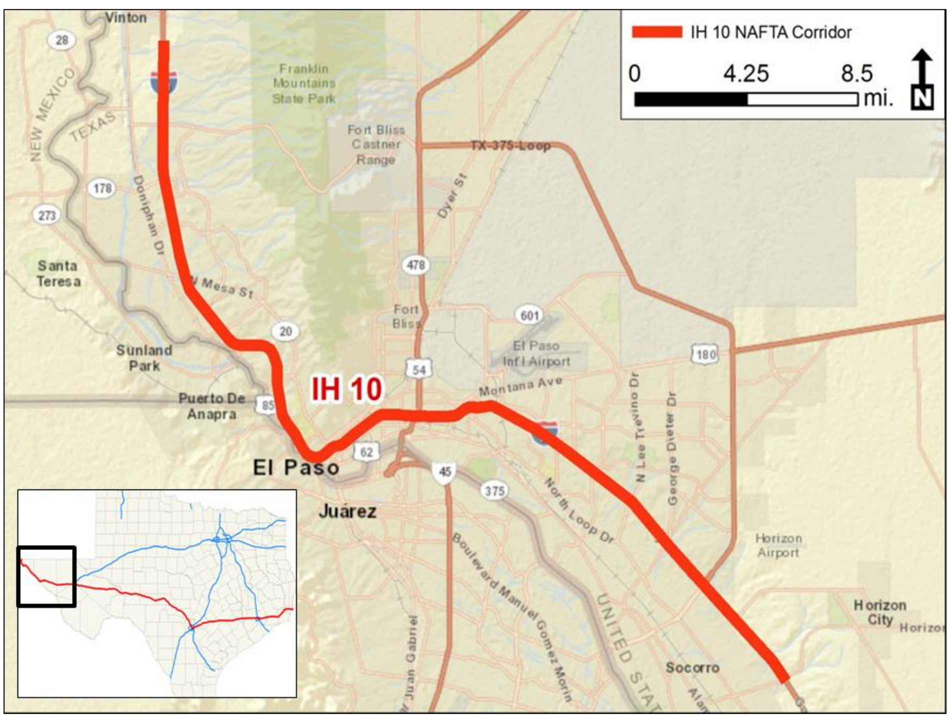


Figure 3.7: IH 10 in El Paso

IH 10 Collector-Distributor Lanes

The planned project includes the construction of collector-distributor (C-D) lanes and improvements to the IH 10 and US 85 interchange. The project has been included in

TxDOT's 2014 UTP and is funded in 2019 with Category 2 (Metropolitan and Urban Area Corridor Projects) Funds. The total project length is approximately 5.75 miles between SH 20 (Mesa Street) and Executive Center Boulevard (see Figure 3.8). The planned improvements will reduce weaving movements and improve safety on the IH 10 main lanes and at the interchanges. The C-D lanes will be constructed adjacent to the outside edges of the existing main lanes. The existing direct connectors at Resler Drive and Sunland Park Drive will be replaced.

The planned project will improve the five major intersections/interchanges within the project limits. At Mesa Street and Sunland Park, improvements include the reconstruction of the existing IH 10 overpass and bridge structure to accommodate new turnarounds and the reconstruction of entrance and exit ramps to accommodate the proposed C-D lanes. At Resler Drive, a new single-lane direct connector and ground ramp will be reconstructed and tied into the proposed C-D lanes. The IH 10/US 85 interchange will be reconstructed to provide full directional access to IH 10 and to provide access to Resler Drive and Sunland Park Drive via the proposed C-D lanes.[18] Most improvements will be accommodated within the existing right of way. Only about 2 acres of additional right of way will be required, which will not result in the displacement of any residences or commercial structures.[19]

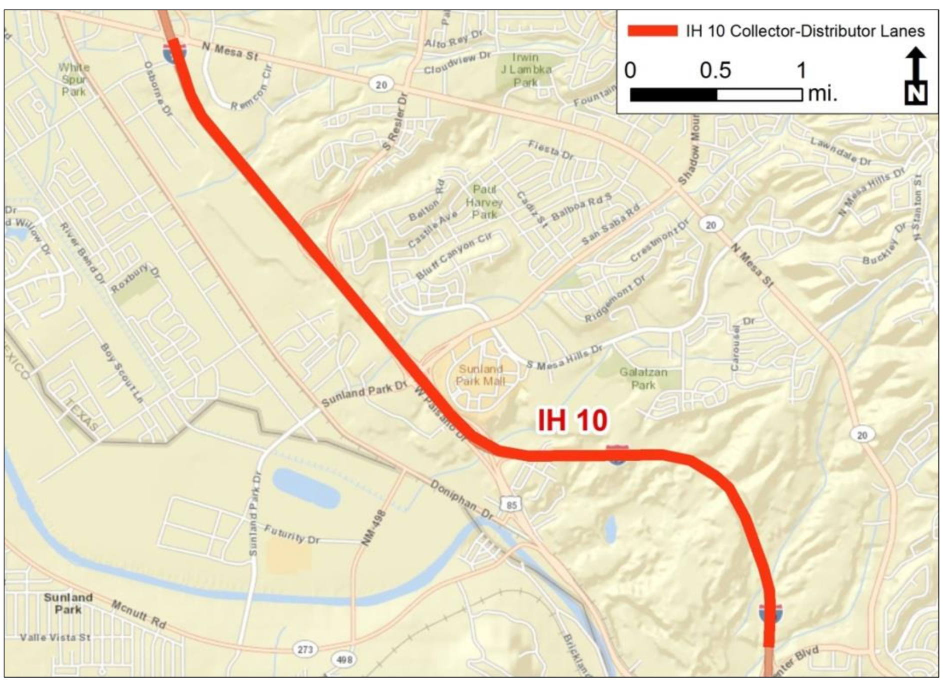
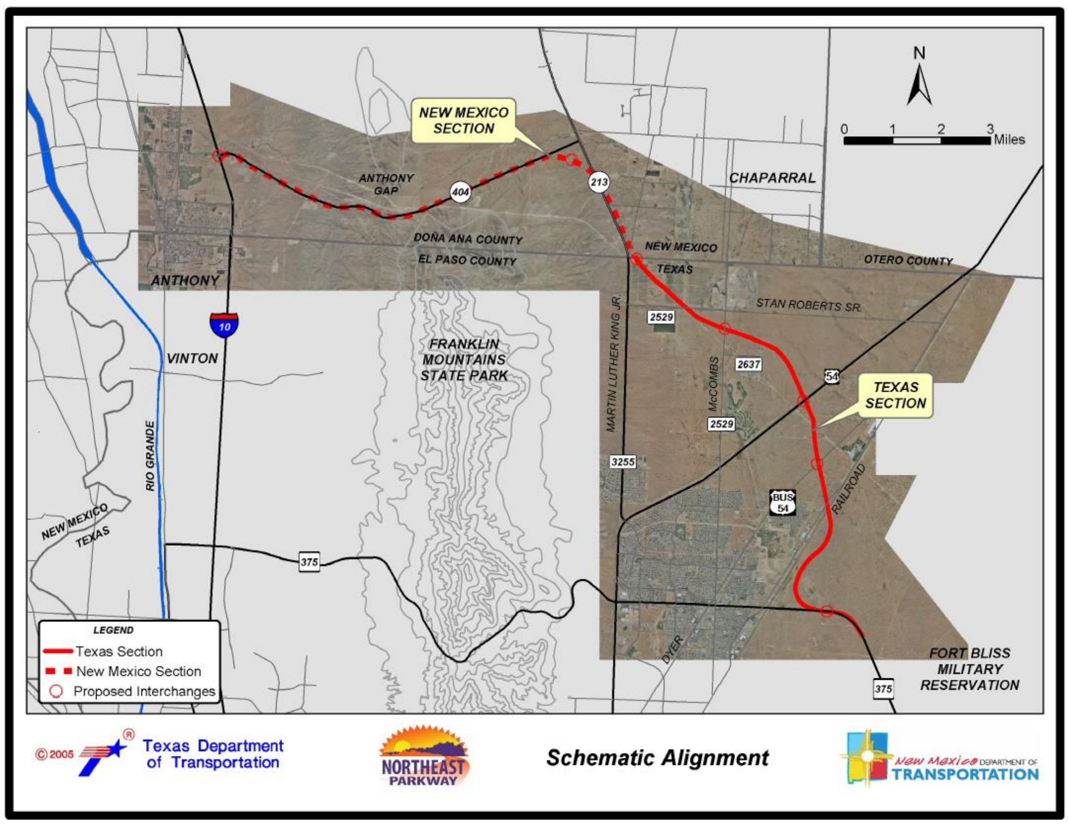


Figure 3.8: Location of New IH 10 Collector-Distributor Lanes

Northeast Parkway

A 21-mile, limited-access highway connecting Loop 375 in northeast El Paso near Railroad Drive to IH 10 in Anthony, New Mexico, has been studied by TxDOT and NMDOT (see Figure 3.9). The planned project is currently included in the 2008 Comprehensive Mobility Plan. The proposed parkway will serve as a bypass for the IH 10 segment that traverses the center of El Paso, an alternate route for traffic destined for the Fort Bliss area, and an emergency evacuation route for Fort Bliss and surrounding areas. The cost of the Texas portion of the project is estimated at $226 million.[20]



Source: TxDOT[18]

Figure 3.9: Schematic Alignment for Northeast Parkway

3.2.2 US 54 Corridor

The US 54 corridor (see Figure 3.10) is experiencing increasing congestion because of recent exponential growth in northeast El Paso. Proposed improvements to the corridor include widening the existing four-lane divided facility to a six-lane divided facility from Yandell Drive to Hondo Pass Drive, a distance of approximately 6.35 miles. This investment will improve local traffic access to four neighborhoods, as well as commercial and business properties located on the east side of US 54 from

Cohen Avenue to the north. A $32.5 million traffic management system (TMS) is planned along the corridor. Bridge and overpass projects along the corridor are planned at Fred Wilson Avenue, Broaddus Avenue, Ellerthorpe Avenue, Hercules Avenue, and Hondo Pass Drive.

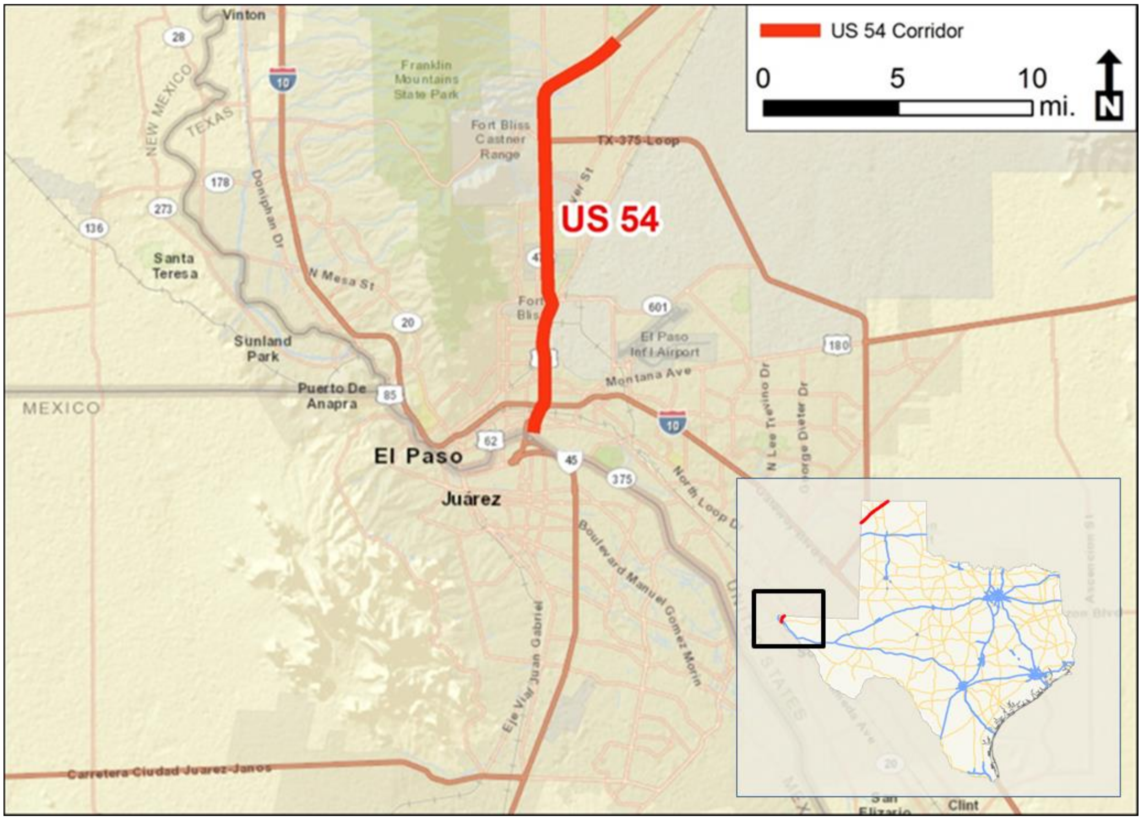


Figure 3.10: US 54 in El Paso

3.2.3 US 67 Corridor

US 67 is part of the La Entrada al Pacifico trade corridor, which was designated as Trade Corridor 56 by the Intermodal Surface Transportation Efficiency Act. The La Entrada al Pacifico corridor starts at Topolobampo in Mexico and proceeds northeast through Texas. The section of the corridor in the U.S. Area of Influence is shown in Figure 3.11. Because US 67 is a component of the La Entrada al Pacifico trade corridor project, the objective of investing in US 67 is to increase the efficiency of people and goods movement from the Pacific Coast ports in Mexico northeast to Midland/Odessa, Texas. The Mexican Pacific Coast ports, such as the Port of Topolobampo, are potentially viable alternatives to the congested ports of Los Angeles and Long Beach in California. In addition, the underused border crossing at Presidio is an opportunity to divert traffic from the congested crossings in El Paso.

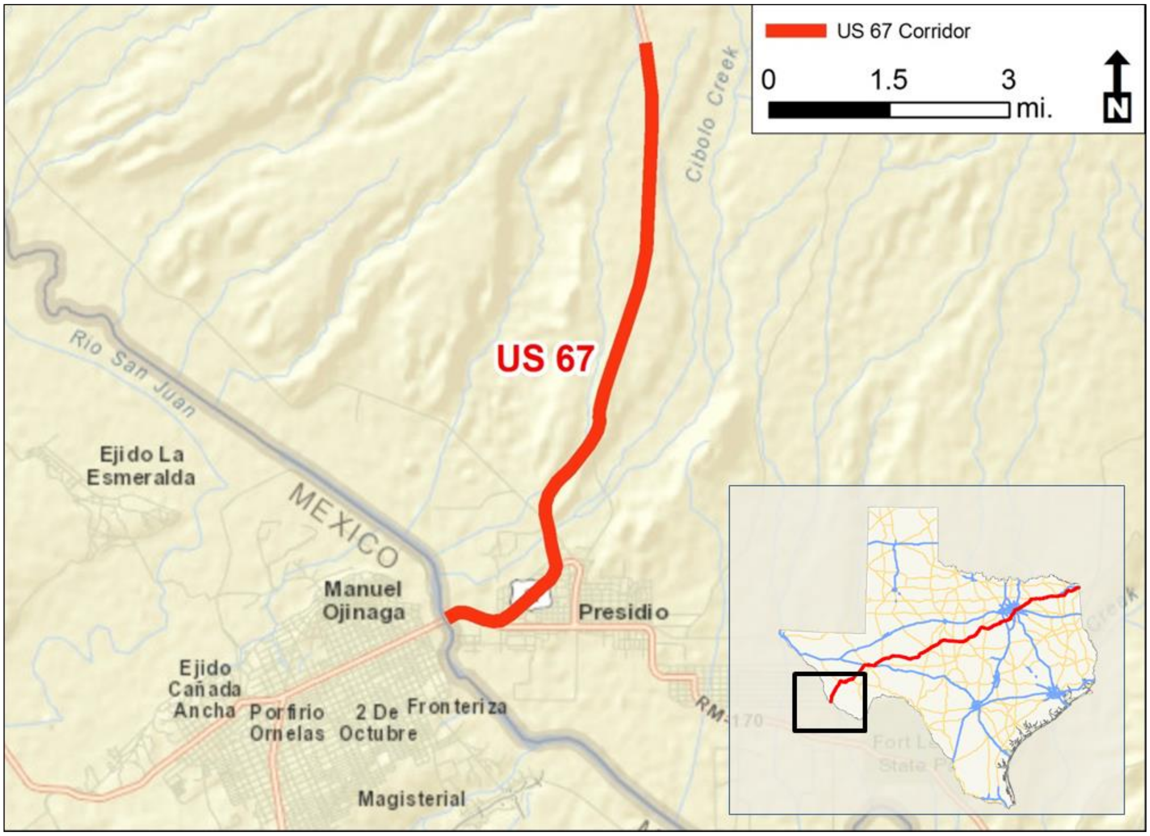


Figure 3.11: US 67 in Presidio

3.3 Mexico's Demographic and Socio-economic Characteristics

As described in Chapter 1 and shown in Figure 3.1, the Area of Influence on the Mexican side includes the Mexican border Municipalities of Guadalupe, Juárez, Ojinaga, and Práxedis G. Guerrero in the State of Chihuahua.

The following demographic, socio-economic, and land use data were obtained from CONAPO, INEGI, and CONASAMI.

3.3.1 Population

Table 3.8 shows that the total population of the Mexican municipalities included in the Area of Influence was 1,352,157 in 2005 (or about 41.7 percent of the total population of Chihuahua in 2005). Between 2005 and 2010, the population in the Area of Influence increased at an average annual rate of 0.3 percent to reach a total of 1,369,692 in 2010 (or about 40.2 percent of the total population in Chihuahua in 2010). The population has increased in only two of the four Mexican Municipalities: Juárez and Ojinaga. The population in the Municipalities of Guadalupe and Práxedis G. Guerrero decreased substantially between 2005 and 2010. In the Municipality of Guadalupe, the population decreased on average 6.7 percent per year between 2005 and 2010. In the

Municipality of Práxedis G. Guerrero, the population decreased even more, at an average annual rate of 10.8 percent.

Between 2010 and 2030, it is expected that the Mexican Area of Influence's population will increase at a higher rate of 1.8 percent per year to reach a total of 1,956,032 by 2030—an increase of 586,340 people. However, only the Municipality of Juárez is anticipated to see an increase in population (of 598,732) between 2010 and 2030. All the remaining municipalities—Guadalupe, Ojinaga, and Práxedis G. Guerrero—are expected to see a decline in population of 2.0 percent per year on average.

Table 3.8: Population (2005–2030)

State/Municipality	Year			AAGR	
	2005	2010	2030	2005–2010	2010–2030
Guadalupe	9,148	6,458	4,313	−6.7%	−2.0%
Juárez	1,313,338	1,332,131	1,930,863	0.3%	1.9%
Ojinaga	21,157	26,304	17,687	4.5%	−2.0%
Práxedis G. Guerrero	8,514	4,799	3,169	−10.8%	−2.1%
Mexican Area of Influence	*1,352,157*	*1,369,692*	*1,956,032*	*0.3%*	*1.8%*
Chihuahua	*3,241,444*	*3,406,465*	*3,838,176*	*1.0%*	*0.6%*

Source: CONAPO[21] and INEGI[22]

3.3.2 Employment

Table 3.9 shows that 563,954 people were employed in the Mexican municipalities in the Area of Influence in 2005 (representing 41.7 percent of the total employment in the State of Chihuahua in 2005). Between 2005 and 2010, employment increased at an average annual rate of 0.9 percent to reach 588,190 in 2010 (representing 40.2 percent of the total employment in the State of Chihuahua). Similar to the population statistics, two municipalities—the Municipalities of Juárez and Ojinaga—experienced an increase in employment, while employment in Guadalupe and Práxedis G. Guerrero decreased between 2005 and 2010 by 6.2 percent and 10.3 percent, respectively.

Between 2010 and 2030, employment is expected to increase at a higher rate of 2.6 percent per year to reach a total of 980,304 by 2030—an increase of 392,114 between 2010 and 2030 (see Table 3.9). Only the Municipality of Juárez is anticipated to see an increase in employment (of 395,630) between 2010 and 2030. All the remaining municipalities—Guadalupe, Ojinaga, and Práxedis G. Guerrero—are expected to see a decline in employment of 1.2 percent per year on average.

Table 3.9: Employment (2005–2030)

State/Municipality	Year			AAGR	
	2005	2010	2030	2005–2010	2010–2030
Guadalupe	3,815	2,773	2,162	−6.2%	−1.2%
Juárez	547,764	572,060	967,690	0.9%	2.7%
Ojinaga	8,824	11,296	8,864	5.1%	−1.2%
Práxedis G. Guerrero	3,551	2,061	1,588	−10.3%	−1.3%
Mexican Area of Influence	*563,954*	*588,190*	*980,304*	*0.9%*	*2.6%*
Chihuahua	*1,351,934*	*1,462,847*	*1,923,578*	*1.6%*	*1.4%*

Note: The employment information for each municipality is estimated by INEGI from the population data for the respective municipality and States' percentage of economically active population

Source: CONAPO[21] and INEGI[22]

3.3.3 Income

Limited income information is available for the State of Chihuahua and the Mexican municipalities in the Area of Influence. The minimum annual wage in the State of Chihuahua was MXN $46.80 per day in 2005. This number was converted into an annual wage in U.S. dollars of $1,113, assuming a six-day week for 52 weeks a year and using the average annual exchange rate reported by Banco de México, Mexico's central bank, on November 8, 2012.

Table 3.10 shows that the average minimum annual wage increased on average 1.3 percent in the Mexican municipalities in the Area of Influence between 2005 and 2010 to reach US $1,188 in 2010. Between 2010 and 2012, the minimum wage increased at an average annual rate of 2.7 percent to reach the current US $1,253. For comparison, the minimum wage in Texas is US $15,080 per year (assuming a 40-hour week for 52 weeks a year).

Table 3.10: Minimum Wage (2005–2012)

State/Municipality	Year			AAGR	
	2005	2010	2012	2005–2010	2010–2012
Guadalupe	$1,113	$1,188	$1,253	1.3%	2.7%
Juárez	$1,113	$1,188	$1,2453	1.3%	2.7%
Ojinaga*	$1,051	$1,120	$1,182	1.3%	2.7%
Práxedis G. Guerrero	$1,113	$1,188	$1,253	1.3%	2.7%
Chihuahua	$1,113	$1,188	$1,253	1.3%	2.7%

Note: Mexican pesos have been converted based on the exchange rate of MXN $13.11 per dollar reported by Banco de México, Mexico's Central Bank, on November 8, 2012

Minimum wages are calculated based on 48 hours a week for 52 weeks a year

* The Municipality of Ojinaga is classified by CONASAMI[23] as Geographical Area B. Thus, the minimum wage is slightly lower compared to the Municipalities of Guadalupe, Juárez, and Práxedis Guerrero, which are classified as Geographical Area A.

Source: CONASAMI[23] and INEGI[22]

Table 3.11 presents the percentages of workers that have minimum wage jobs in the State of Chihuahua. Approximately 50 percent of the working population has between one and three minimum wage jobs, earning salaries between US $1,188 and US $3,564 on a yearly basis. Chihuahua has a low percentage of workers that earn less than the minimum wage at 4.9 percent and only 11 percent of its workers that earn five or more minimum wages.

Table 3.11: Number of Minimum Wages Earned by the Working Population in Chihuahua (2010)

States	Number of Minimum Wages					Others	
	<1	1–2	2–3	3–5	>5	No Income	Not specified
Chihuahua	4.9%	24.2%	25.6%	18.2%	11%	2.5%	13.6%

Note: The data correspond to the entire State, not only to the municipalities in the Area of Influence

Source: INEGI[22]

3.3.4 Land Use

Tables 3.12 and 3.13 provide land use information for the State of Chihuahua and the Mexican municipalities in the Area of Influence. Table 3.12 indicates that most of the available land in the Area of Influence (approximately 87.4 percent) is currently not developed. Of the developed land area, 11.1 percent is used for agriculture and grazing, and only 1.5 percent is currently designated for urban use (commercial, industrial, and residential purposes). In terms of land area, the largest urban area is found in the Municipality of Juárez (see Table 3.13).

Table 3.12: Land Use Percentages

State/Municipality	Land Use Category			
	Agriculture & Grazing	Not Developed	Urban	Other
Guadalupe	6.0%	93.9%	0.1%	0.0%
Juárez	7.0%	86.8%	6.2%	0.0%
Ojinaga	16.6%	83.1%	0.2%	0.0%
Práxedis G. Guerrero	31.6%	67.4%	1.0%	0.0%
Mexican Area of Influence	11.1%	87.4%	1.5%	0.0%
Chihuahua	26.2%	73.2%	0.3%	0.3%

Source: INEGI[22]

Table 3.13: Land Use Data

State/Municipality	Area (Square Miles)										
	Agriculture	Pasture	Forest	Jungle	Bush	Other Vegetation	Secondary Vegetation	No Vegetation	Water Bodies	Urban	Total
Guadalupe	56.9	82.8	10.9	0.0	2,013.1	9.0	129.0	9.0	0.2	1.3	2,312.1
Juárez	32.7	64.0	0.0	0.0	1,108.9	24.7	0.0	59.8	0.0	84.9	1,375.0
Ojinaga	130.1	304.9	0.0	0.0	2,123.5	30.8	25.7	1.8	1.3	6.0	2,624.1
Práxedis G. Guerrero	43.5	2.0	0.0	0.0	96.3	1.0	0.0	0.0	0.0	1.4	144.2
Mexican Area of Influence	*263.3*	*453.7*	*10.9*	*0.0*	*5,341.6*	*65.5*	*154.7*	*70.6*	*1. 5*	*93.7*	*6,455.4*
Chihuahua	*7,352.3*	*17,696.2*	*22,738.3*	*1,514.2*	*31,112.5*	*253.3*	*13,959.4*	*351.7*	*265.4*	*299.9*	*95,543.0*

Note: Based on 2005 statistics

Source: INEGI[22]

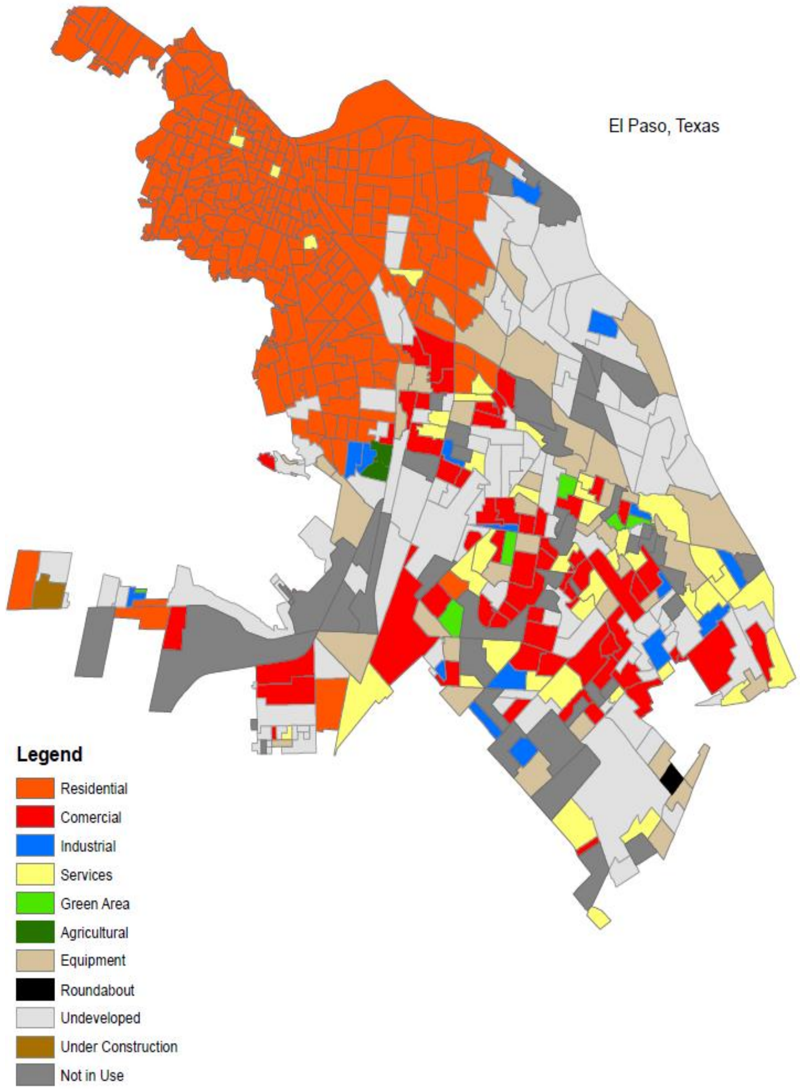
Table 3.14 and Figure 3.12 provide land use information for the City of Juárez. Table 3.14 shows that almost one-third (30.16 percent) of the total land area in the City of Juárez is used for residential purposes. Land used for commercial purposes accounts for 11.54 percent of the total land area, and land designated for industrial purposes accounts for 2.16 percent of the total land area. A significant percentage of the total land area is undeveloped (24.70 percent) or not in use (13.41 percent), and thus potentially available to accommodate future growth.

Table 3.14: City of Juárez Land Use Data

Land Use Category	Percentage of Land Area	Land Area (Square Miles)
Residential	30.16	103.94
Commercial	11.54	39.76
Industrial	2.16	7.45
Services	6.80	23.45
Green Area	0.62	2.12
Agricultural	0.25	0.86
Equipment	9.94	34.27
Roundabout	0.12	0.42
Undeveloped	24.70	85.12
Under Construction	0.29	1.00
Not in Use	13.41	46.22
Total	***100.00***	***344.20***

Source: Regional Geospatial Service Center at UTEP[12]

Table 3.15 provides economic statistics—such as the number of companies, number of employees, total income, total fixed assets, and gross value added (GVA)—for the manufacturing, commercial, and services sectors in the Municipality of Juárez. Table 3.15 shows that there are more commercial establishments (14,943) in the municipality than manufacturing (2,315) or services (12,329) establishments. Nonetheless, the manufacturing sector is the largest employer in the Municipality of Juárez, accounting for 58 percent (or 230,790 jobs) of the total employment in the municipality.



Source: TxDOT[24]

Figure 3.12: Municipality of Juárez Land Use Map (2007)

Table 3.15: Municipality of Juárez Economic Statistics

Measure	Economic Activity			
	Manufacturing	Commercial	Services	Total*
Units—Companies	2,315	14,943	12,329	29,986
Number of Employees	230,790	64,783	79,835	396,911
Total Income**	23,943	2,216	3,569	31,599
Total Fixed Assets**	25,416	5,886	9,008	47,381
Gross Value Added**	43,205	6,214	8,200	62,921

Note: Based on 2009 statistics

* Total includes other activities that were excluded for confidentiality reasons

** Millions of pesos

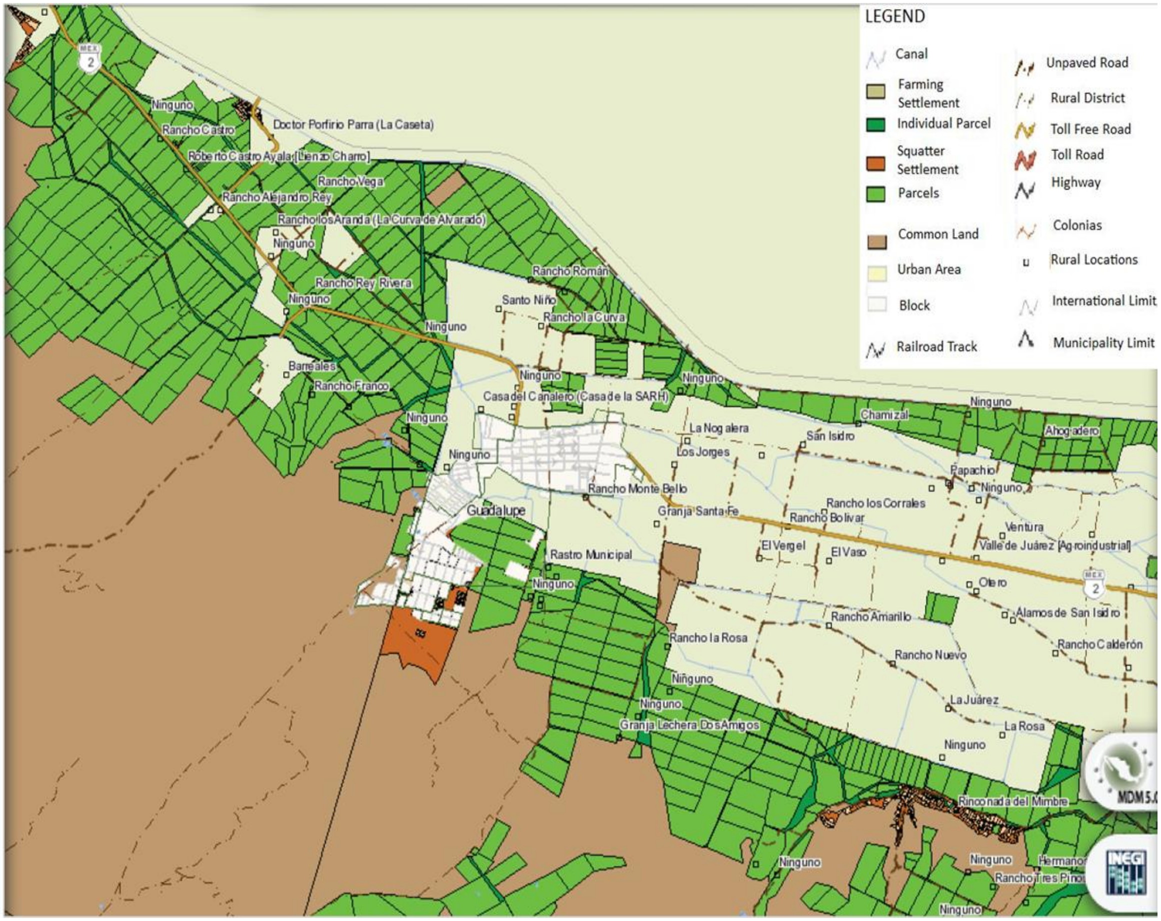
Source: INEGI[22]

In comparison, the commercial sector accounted for 64,783 jobs, and the services sector employed 79,835 people. The total sector income for the manufacturing, commercial, and services industries amounted to MXN $23,943 million, $2,216 million, and $3,569 million, respectively, in 2009. Total income includes salary and benefits paid to employees. Total fixed assets represent buildings, office equipment, machinery, land, and property. The manufacturing sector owned more fixed assets compared to the commercial and services sectors; this is expected because the manufacturing sector is more capital intensive than the commercial and services sectors.

The GVA measures the value of goods and services produced minus the cost of production and consumption. Table 3.15 shows that the manufacturing sector contributed the most to the economy of the municipality, with a GVA of MXN $43,205 million (or 68.99 percent of the total GVA of the municipality). The GVA for the services sector was MXN $8,200 million, and the GVA for the commercial sector was MXN $6,214 million.

Figure 3.13 provides land use information for the Municipality of Guadalupe.

Table 3.16 provides economic statistics for the manufacturing, commercial, and services sectors of the Municipality of Guadalupe. Table 3.16 shows that the commercial sector dominates the Municipality of Guadalupe's economy, accounting for more than half (52.68 percent) of the total employment, 50.68 percent of the number of establishments, 60 percent of the total income generated, and 58.06 percent of the GVA generated in the municipality. In 2009, the commercial sector employed 226 people, accounted for 74 establishments in the municipality, and generated MXN $6 million in total income and MXN $18 million in GVA.



Source: UTEP[24]

Figure 3.13: Municipality of Guadalupe Land Use Map (2009)

Table 3.16: Municipality of Guadalupe Economic Statistics

Measure	Economic Activity			
	Manufacturing	Commercial	Services	Total*
Units	12	74	57	146
Number of Employees	31	226	141	429
Total Income**	0	6	2	10
Total Fixed Assets**	2	43	13	63
Gross Value Added**	1	18	8	31

Note: Based on 2009 Economic Census

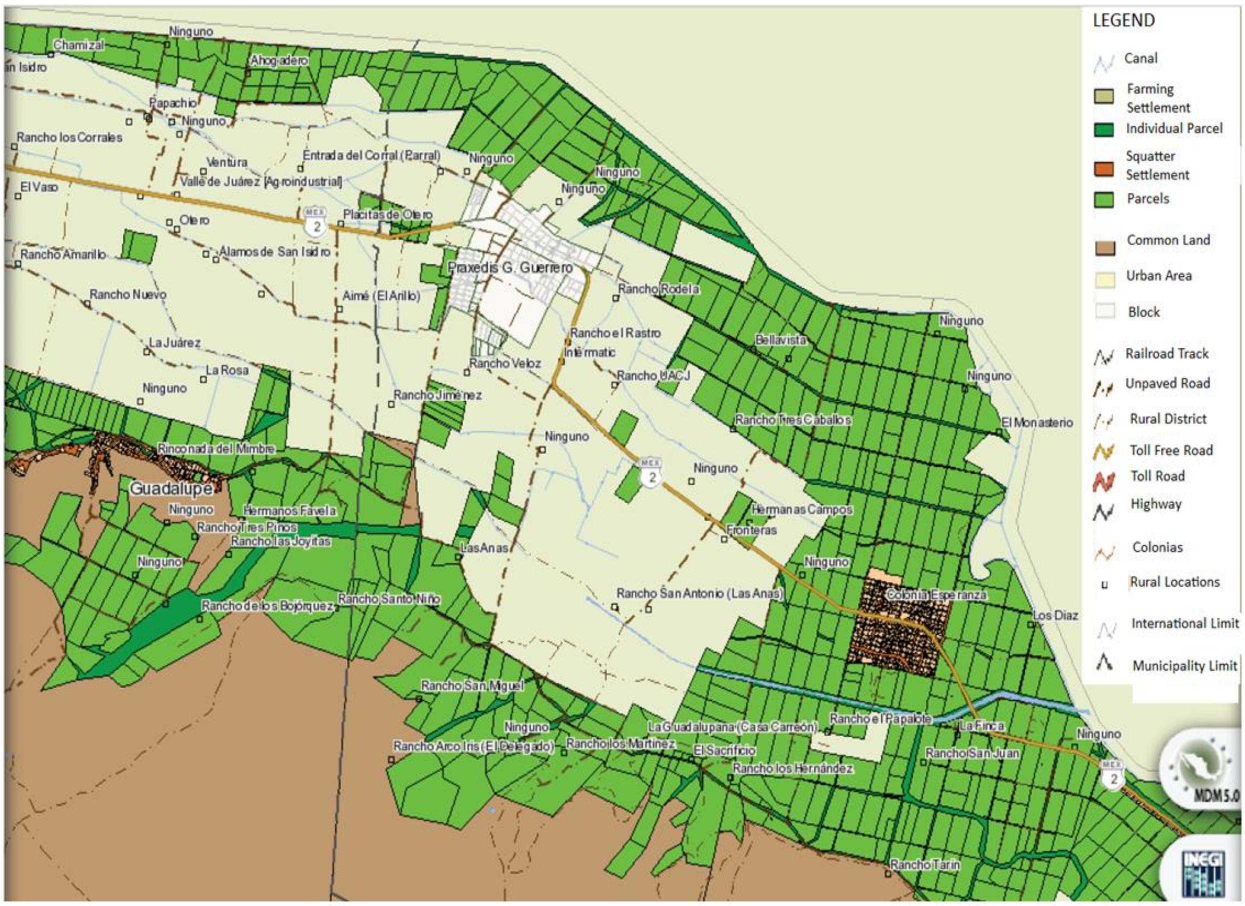
* Total includes other activities that were excluded for confidentiality reasons

** Millions of pesos

Source: INEGI[22]

The services sector is also a major contributor to the municipality's economy. In 2009, the services sector accounted for 57 establishments, employed 141 people, generated MXN $2 million in total income, and accounted for MXN $8 million in GVA. The manufacturing sector accounted for 12 establishments, employed 31 people, and generated MXN $1 million in GVA.

Figure 3.14 provides land use information for the Municipality of Práxedis G. Guerrero.



Source: UTEP[24]

Figure 3.14: Municipality of Práxedis G. Guerrero Land Use Map (2009)

Table 3.17 provides economic statistics for the manufacturing, commercial, and services sectors of the Municipality of Práxedis G. Guerrero. Table 3.17 shows that the commercial sector employs more people (302 as opposed to 238) and has more establishments (109 as opposed to 14) than the manufacturing sector, but the manufacturing sector generates more income (MXN $9 million as opposed to MXN $3 million) and GVA (MXN $14 million as opposed to MXN $11 million) than the commercial sector.

The services sector is also an important contributor to the municipality's economy. In 2009, the services sector accounted for 62 establishments, employed 162 people, generated MXN $2 million in total income, and accounted for MXN $4 million in GVA.

Table 3.17: Municipality of Práxedis G. Guerrero Economic Statistics

Measure	Economic Activity			
	Manufacturing	Commercial	Services	Total*
Units	14	109	62	188
Number of Employees	238	302	162	733
Total Income**	9	3	2	16
Total Fixed Assets**	26	20	8	57
Gross Value Added**	14	11	4	35

Note: Based on 2009 Economic Census

* Total includes other activities that were excluded for confidentiality reasons

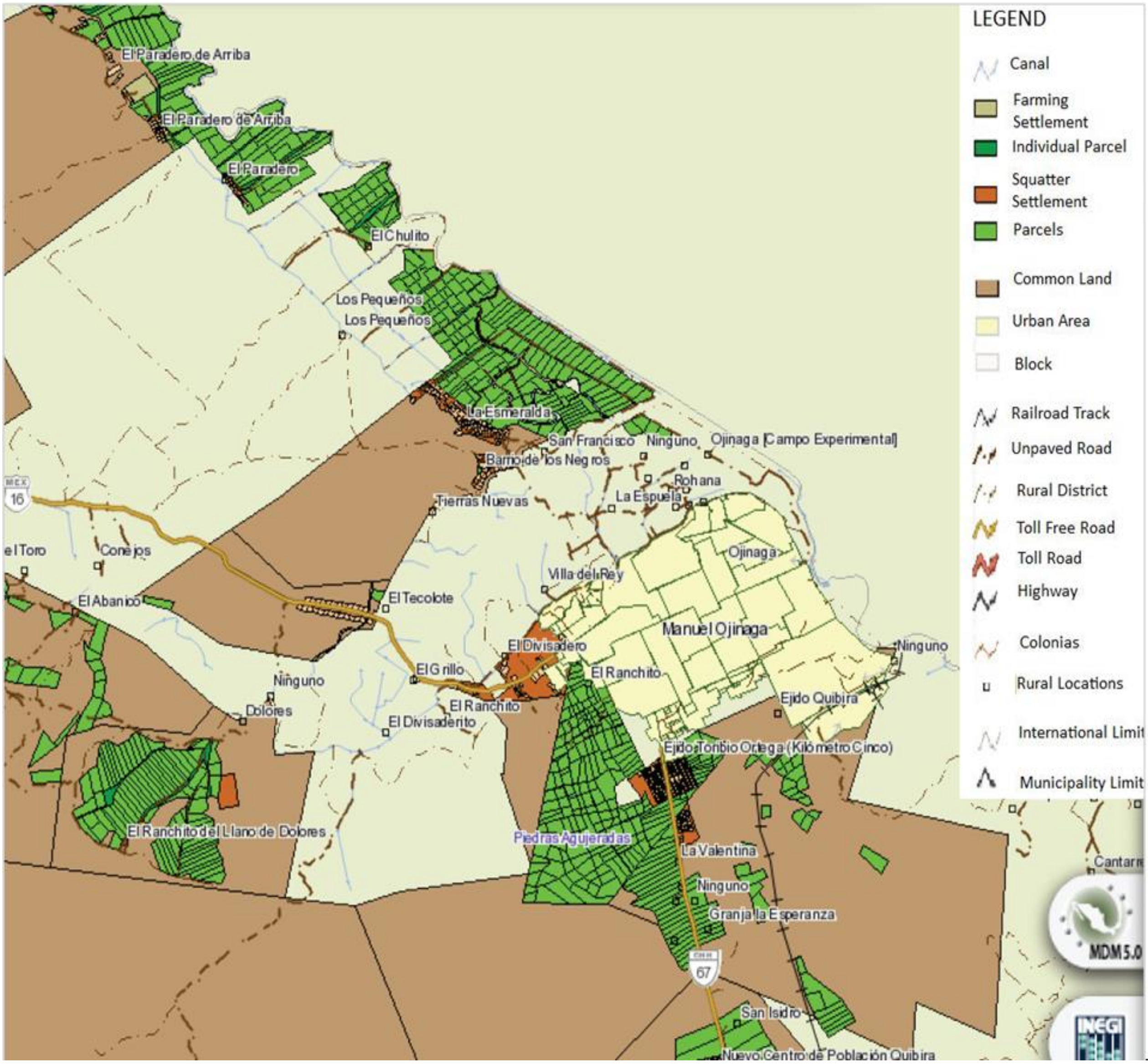
** Millions of pesos

Source: INEGI[22]

Figure 3.15 provides land use information for the Municipality of Ojinaga.

Table 3.18 provides economic statistics for the manufacturing, commercial, and services sectors of the Municipality of Ojinaga. Table 3.18 shows that the commercial and services sectors dominate the Municipality of Ojinaga's economy in terms of employment and the number of establishments, accounting for 72.41 percent of total employment and 87.45 percent of the number of establishments in the municipality. In 2009, the commercial sector employed 1,461 people, accounted for 445 establishments in the municipality, and generated MXN $43 million in total income and MXN $186 million in GVA.

In the same year, the services sector accounted for 440 establishments, employed 1,353 people, generated MXN $27 million in total income, and accounted for MXN $75 million in GVA. The manufacturing sector accounted for 112 establishments, employed 833 people, and generated MXN $34 million in total income and MXN $74 million in GVA.



Source: UTEP[24]

Figure 3.15: Municipality of Ojinaga Land Use Map (2009)

Table 3.18: Municipality of Ojinaga Economic Statistics

Measure	Economic Activity			
	Manufacturing	Commercial	Services	Total*
Units	112	445	440	1,012
Number of Employees	833	1,461	1,353	3,886
Total Income**	34	43	27	124
Total Fixed Assets**	78	204	138	520
Gross Value Added**	74	186	75	388

Note: Based on 2009 Economic Census

* Total includes other activities that were excluded for confidentiality reasons

** Millions of pesos

Source: INEGI[22]

3.4 Mexico's Trade Corridors

This section uses information from Mexico's Multimodal Corridor Master Plan (MCMP), which was concluded in 2010 for SCT.[25] The study was funded by the U.S. Trade Development Agency (USTDA) and conducted by Wilbur Smith Associates, with TTI; IHS Global Insight; Felipe Ochoa y Asociados, S.C.; and Romero Hicks and Galindo Abogados (RHG). The goal of the MCMP is to provide SCT with a tool to plan and promote investments in infrastructure and logistics systems that would serve the needs of Mexico's domestic market and enhance international trade with NAFTA partners and other countries.[26]

The study included several tasks that are relevant to the development of this Border Master Plan. One of the tasks involved performing a detailed analysis of current and future freight demand and supply. A lack of data required development of a freight demand model that was used to estimate:

- Freight flows through Mexico's major seaports.
- Cross-border traffic with the United States.
- Domestic freight flows with origins and destinations in Mexico.

The report stated that by 2020, Chihuahua would be one of the 10 Mexican States[27] with the highest economic growth (a 70.7 percent increase in gross domestic product (GDP) and an AAGR of 3.9 percent) and that cross-border trade with the United States would grow at an average annual rate of 4.9 percent. These estimates translate into an increase of approximately 110 million tons in cross-border trade between 2010 and 2020.

The study team performed a detailed analysis of 18 multimodal corridors in Mexico. These corridors were identified considering the spatial concentration of population and employment, as well as the existing freight transportation network and facilities. Two of the 18 corridors are located within the State of Chihuahua:

- The corridor from Manzanillo to Gómez Palacio to Monterrey to the City of Juárez.
- The corridor from Topolobampo to Chihuahua to Ojinaga.

The corridor from Manzanillo to Gómez Palacio to Monterrey to the City of Juárez traverses nine Mexican States: Colima, Jalisco, Guanajuato, Aguascalientes, Zacatecas, Durango, Nuevo León, Chihuahua, and Coahuila (see Figure 3.16). The corridor from Topolobampo to Chihuahua to Ojinaga traverses two Mexican States: Chihuahua and Sinaloa (see Figure 3.17). Cross-border rail trade with the United States along the corridor from Topolobampo to Chihuahua to Ojinaga is expected to increase at an average annual rate of 2.1 percent.

The 18 corridors were prioritized qualitatively and quantitatively using multi-attribute criteria. Tables 3.19 and 3.20 provide summaries of the results of the qualitative assessment that was done for the corridor from Manzanillo to Gómez Palacio to Monterrey to the City of Juárez and for the corridor from Topolobampo to Chihuahua to Ojinaga, respectively.

Table 3.19 shows that the Manzanillo–Gómez Palacio–Monterrey–City of Juárez corridor was rated high in terms of demand (freight volumes) for multimodal development and long-haul movements, but low for international traffic. This corridor was also rated important as a multimodal corridor for facilitating domestic and international trade, and stimulating regional growth. Concerns related to freight infrastructure included delays due to at-grade railroad crossings in urban areas, insufficient terminals for freight handling at the origin, and insufficient terminals for freight handling at the destination.

Source: SCT[25]

Figure 3.16: Manzanillo–Gómez Palacio–Monterrey–City of Juárez Corridor

Source: SCT[25]

Figure 3.17: Topolobampo–Chihuahua–Ojinaga Corridor

Table 3.19: Summary of Qualitative Evaluation for Manzanillo–Gómez Palacio–Monterrey–City of Juárez Corridor

Criteria		Qualitative Grade
Demand (freight volume)	For multimodal development	High
	For international traffic	Low
	For long-haul movements	High
Value of the multimodal corridor	Domestic trade	High
	International trade	High
	Transshipment trade	Low
	Stimulate regional growth	High
Shortages in current service levels compared to transport users' requirement that increases goods' delivery time	Interlinear railway problems for freight during long hauls	Not problematic
	Railroad equipment	Insufficient
	Railroad infrastructure	Some specific deficiencies
	Delays due to at-grade railroad crossings in urban areas	Problematic
	Delays due to at-grade highway crossings in urban areas	Partially problematic
	Enough logistics companies operating in the corridor	Sufficient
	Customs procedures	Partially problematic
Excessive logistical costs for shippers, affecting the competitiveness of industries in Mexico, and increased prices for consumers	Railway	Competitive
	Highway and automotive transportation	Competitive
	Port terminals (origin/destination)	Not competitive
	Domestic terminals	Competitive
	Land terminals (origin/destination)	Not competitive
Inadequate infrastructure capacity, resulting in bottlenecks	Terminals for freight handling at the origin	Insufficient
	Terminals for freight handling at the destination	Insufficient
	Domestic terminals	Sufficient
	Highway network	Sufficient
Deficits in safety that limit exports by not being able to satisfy new requirements or safety standards	Security deficiencies in the railroad network	Problematic
	Security deficiencies in the highway network	Problematic

Source: SCT[25]

As shown in Table 3.20, the Topolobampo–Chihuahua–Ojinaga corridor was rated low in terms of demand (freight volumes) for multimodal development, international traffic, and long-haul movements. This corridor was rated an important multimodal corridor for facilitating international and transshipment trade. Concerns related to freight infrastructure included inadequate railroad infrastructure, some delays due to at-grade highway crossings in urban areas, and an insufficient highway network.

The qualitative assessment was supplemented with a quantitative assessment of the 18 corridors. Table 3.21 summarizes the outcome of the quantitative assessment. In this assessment, the metric used to score each criterion ranged from 8 to 24. Based on this scale and the use of six criteria, total scores ranged from 48 to 144. Corridors that scored higher than 120 were prioritized for investments in the short term, those that scored between 100 and 120 were prioritized for investments in the medium term, and those that scored below 100 were prioritized for investment in the long term. The Manzanillo–Gómez Palacio–Monterrey–City of Juárez corridor was thus prioritized for investments in the medium term, and the Topolobampo–Chihuahua–Ojinaga corridor was prioritized for investments in the long term.

Each member of the SCT committee[28] assigned a weight to each criterion. The assigned weights were subsequently averaged and used to calculate the average weight attributed to each criterion (see Table 3.22). These weights were applied to the results in Table 3.21 to calculate a score based on the importance of each criterion (see Table 3.23).

Table 3.23 shows that the Manzanillo–Gómez Palacio–Monterrey–City of Juárez corridor scored relatively high on future demand, potential for increased rail, potential for increased container usage, connectivity, and infrastructure service/quality. This corridor scored relatively low on the potential for national economic development. The needs analysis revealed concerns about insufficient equipment, lack of rail bypasses, lack of terminal capacity, and security deficiencies.

The Topolobampo–Chihuahua–Ojinaga corridor ranked average on most of the criteria. The needs analysis revealed concerns about insufficient railway equipment, security deficiencies in the railroad network, and an inadequate highway network between the Port of Topolobampo and Ojinaga. The inadequate highway network between the Port of Topolobampo and Ojinaga results from the Sierra Madre Occidental—a mountain range characterized by high elevations and a complex topography that includes numerous mountain peaks and ridges—that extends south of the southwestern U.S. border into central Mexico. Over the long term, addressing these concerns will facilitate movement of freight between the Port of Topolobampo and the border crossings at Ojinaga.

Table 3.20: Summary of Qualitative Evaluation for Topolobampo–Chihuahua–Ojinaga Corridor

Criterion		Qualitative Grade
Demand (Freight Volume)	For multimodal development	Low
	For international traffic	Low
	For long-haul movements	Low
Value of the multimodal corridor	Domestic trade	Average
	International trade	High
	Transshipment trade	High
	Stimulate regional growth	Average
Shortages in current service levels compared to transport users' requirement that increases goods' delivery time	Interlinear railway problems for freight during long hauls	Not problematic
	Railroad equipment	Insufficient
	Railroad infrastructure	Problematic
	Delays due to at-grade railroad crossings in urban areas	With some deficiencies
	Delays due to at-grade highway crossings in urban areas	Not problematic
	Enough logistics companies operating in the corridor	Sufficient
	Customs procedures	Problematic
Excessive logistical costs for shippers, affecting the competitiveness of industries in Mexico, and increased prices for consumers	Railway	Not competitive
	Highway and automotive transportation	Not competitive
	Port terminals (origin/destination)	Competitive
	Domestic terminals	Competitive
	Land terminals (origin/destination)	Competitive
Inadequate infrastructure capacity, resulting in bottlenecks	Terminals for freight handling at the origin	Sufficient
	Terminals for freight handling at the destination	Sufficient
	Domestic terminals	Sufficient
	Highway network	Insufficient
Deficits in safety that limit exports by not being able to satisfy new requirements or safety standards	Security deficiencies in the railroad network	Problematic
	Security deficiencies in the highway network	Not problematic

Source: SCT[25]

Table 3.21: Summary of Quantitative Evaluation of the Corridors

Corridors	Criteria to Identify the Priority Corridors						
	Future demand	Potential increase for rail to participate	Potential increase in container usage	Potential for national economic development	Connectivity	Infrastructure/ service quality	Total
Mexicali–Guadalajara–México City	22	22	21	17	20	19	121
Manzanillo–Guadalajara–México City	23	22	22	19	20	18	124
Lázaro Cárdenas–México City	23	20	20	18	20	22	123
Manzanillo–Gómez Palacio–Monterrey–City of Juárez	***16***	***19***	***19***	***15***	***19***	***18***	***106***
Monterrey–Altamira/Tampico	16	18	19	16	16	17	102
Lázaro Cárdenas–Querétaro–San Luis Potosí–Monterrey–Nuevo Laredo	22	22	23	22	21	22	132
Veracruz–Querétaro	15	17	20	15	17	21	105
Veracruz–México City	21	16	19	17	21	21	115
Salina Cruz–Coatzacoalcos	15	15	15	20	14	15	94
Topolobampo–Chihuahua–Ojinaga	***13***	***16***	***14***	***17***	***13***	***15***	***88***
Guaymas–Nogales	19	17	18	19	17	17	107
Ensenada–Tijuana	13	9	12	17	12	16	79
Lázaro Cárdenas–México City–Veracruz	11	11	11	13	16	16	77
México City–Salina Cruz–Hidalgo	11	11	8	19	11	8	67

Corridors	Criteria to Identify the Priority Corridors						
	Future demand	Potential increase for rail to participate	Potential increase in container usage	Potential for national economic development	Connectivity	Infrastructure/ service quality	Total
Veracruz–Coatzacoalcos–Mérida	8	8	8	16	11	11	61
Altamira–San Luis Potosí–Manzanillo	13	11	11	11	13	13	72
Mazatlán–Matamoros	8	8	11	11	11	11	59
Salina Cruz–Mérida	8	8	8	16	8	8	56

Source: SCT[25]

Table 3.22: Criterion Weights to Evaluate the Corridors

Corridors	Criteria to Identify the Priority Corridors						
	Future demand	Potential increase for rail to participate	Potential increase in container usage	Potential for national economic development	Connectivity	Infrastructure/ service quality	Total
Average of the Committee	22%	17%	14%	16%	18%	14%	100%

Source: SCT[25]

Table 3.23: Summary of Quantitative Evaluation for the Corridors (Weighted)

Corridors	Criteria to Identify the Priority Corridors						
	Future demand	Potential increase for rail to participate	Potential increase in container usage	Potential for national economic development	Connectivity	Infrastructure/ service quality	Total
Mexicali–Guadalajara–México City	4.80	3.70	2.95	2.55	3.55	2.75	20.30
Manzanillo–Guadalajara–México City	4.95	3.80	2.95	3.00	3.60	2.65	20.95
Lázaro Cárdenas–México City	4.95	3.45	2.75	2.85	3.60	3.20	20.80
Manzanillo–Gómez Palacio–Monterrey–City of Juárez	***3.25***	***3.30***	***2.60***	***2.40***	***3.35***	***2.55***	***17.45***
Monterrey–Altamira/Tampico	3.65	2.85	2.65	2.50	2.85	2.50	17.00
Lázaro Cárdenas–Querétaro–San Luis Potosí–Monterrey–Nuevo Laredo	4.85	3.70	3.20	3.50	3.60	3.20	22.05
Veracruz–Querétaro	3.25	2.95	2.65	2.40	3.10	3.05	17.40
Veracruz–México City	4.70	2.75	2.50	2.60	3.75	3.05	19.35
Salina Cruz–Coatzacoalcos	3.25	2.50	2.10	3.15	2.60	2.30	15.90
Topolobampo–Chihuahua–Ojinaga	***2.90***	***2.75***	***2.00***	***2.65***	***2.35***	***2.30***	***14.95***
Guaymas–Nogales	4.05	2.75	2.50	3.10	3.10	2.45	17.95
Ensenada–Tijuana	2.75	1.50	1.55	2.70	2.20	2.30	13.00
Lázaro Cárdenas–México City–Veracruz	2.13	1.60	1.60	2.67	2.40	2.40	12.80
México City–Salina Cruz–Hidalgo	2.13	1.60	1.20	3.73	1.60	1.20	11.47

Corridors	Criteria to Identify the Priority Corridors						
	Future demand	Potential increase for rail to participate	Potential increase in container usage	Potential for national economic development	Connectivity	Infrastructure/ service quality	Total
Veracruz–Coatzacoalcos–Mérida	1.60	1.20	1.20	3.20	1.60	1.60	10.40
Altamira–San Luis Potosí–Manzanillo	2.67	1.60	1.60	2.13	2.00	2.00	12.00
Mazatlán–Matamoros	1.60	1.20	1.60	2.13	1.60	1.60	9.73
Salina Cruz–Mérida	1.60	1.20	1.20	3.20	1.20	1.20	9.60

Source: SCT[25]

3.5 Binational North-South Trade Corridors

The study team identified two binational north-south trade corridors in the Area of Influence. The first corridor includes US 54 on the U.S. side and MEX 45 on the Mexican side (see Figure 3.18). Both of these facilities are controlled-access highways with divided lanes. Both highways also have two or more lanes in either direction near the U.S.-Mexico border to facilitate high-traffic flows across the border. This corridor also connects via US 54 to IH 10, an important trade corridor that connects the Pacific Ocean at State Route 1 (Pacific Coast Highway) in Santa Monica, California, to IH 95 in Jacksonville, Florida (see Figure 3.18). IH 10 is a controlled-access highway with four or more lanes near the U.S.-Mexico border and at least two lanes in each direction outside the El Paso city limits.

The second corridor includes US 67 on the U.S. side and MEX 16 on the Mexican side (see Figure 3.19). Both highways are rural, two-lane undivided facilities. US 67 connects to IH 10 near Fort Stockton (not shown) on the U.S. side, and MEX 16 is a direct connector to Chihuahua (not shown) in Mexico.

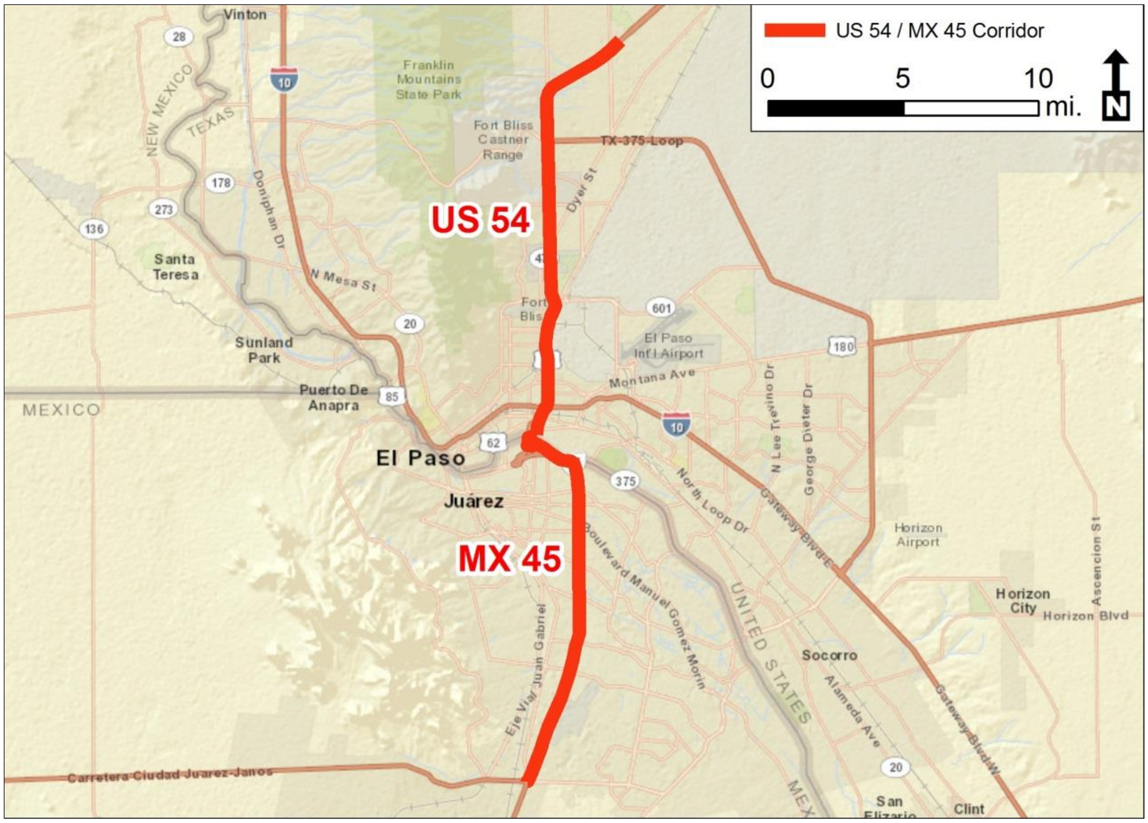


Figure 3.18: US 54 and MEX 45 Corridor

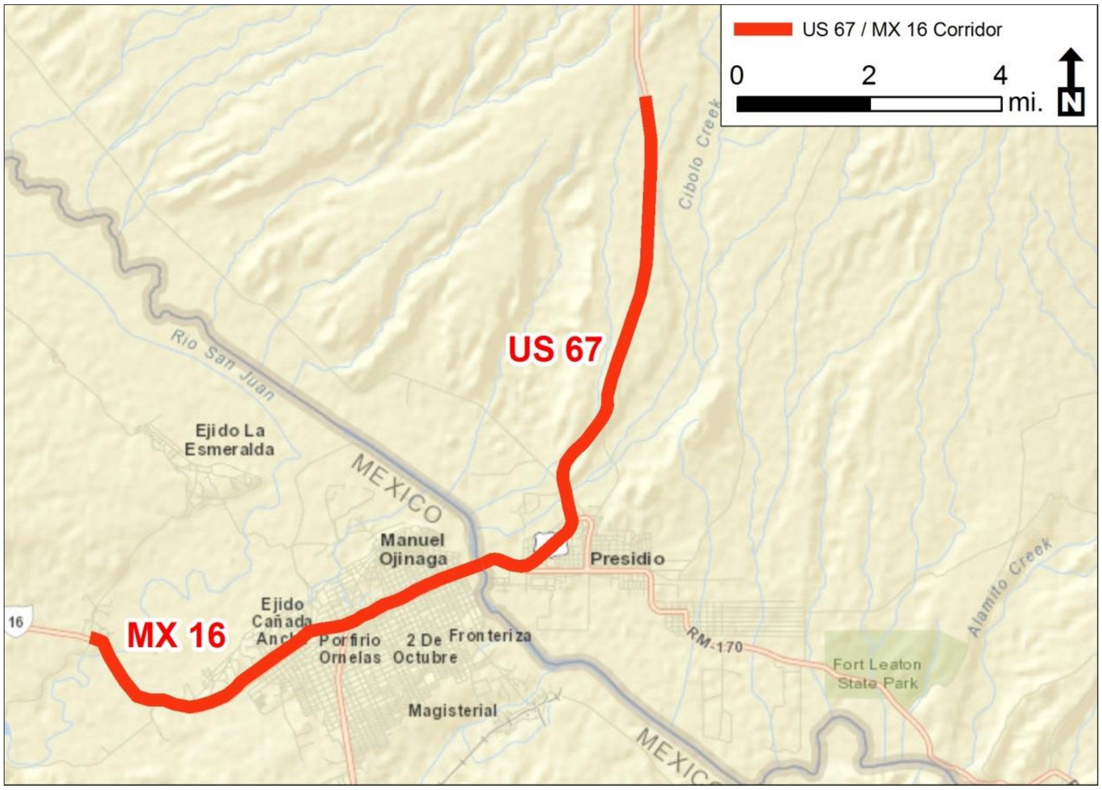


Figure 3.19: US 67 and MEX 16 Corridor

3.6 Concluding Remarks

Between 2010 and 2030, the total population and total employment in the Area of Influence are anticipated to increase by approximately 50 percent and 52 percent, respectively. Total population is expected to increase from 2,393,208 in 2010 to 3,595,608 in 2030—an increase of 1,202,400 people. Total employment is expected to increase from 977,027 in 2010 to 1,481,624 in 2030—an increase of 504,597 employment opportunities.

Given the major trade corridors traversing the study area and the anticipated increase in population and employment in the Area of Influence, the current capacity of existing POEs and the transportation facilities serving these POEs might be strained in the future, given no additional capacity improvements. Chapter 4 provides an overview of the current POEs and the transportation facilities serving those POEs.

1 "The annual average growth rate, abbreviated as AAGR and more accurately known as the compound annual growth rate, shows an average value for the annual rate of change over a period of time (typically several years) allowing for the compound effect of growth. This rate facilitates comparisons of rates of change for periods of different lengths, for example, comparing annual, five-yearly and ten-yearly rates of change. This rate is calculated by taking the nth root of the rate of change (as a percentage) between the value at the beginning and end of the period, where n is the number of years between the beginning the two values." From European Commission, Glossary: Annual Average Growth Rate (AAGR), Statistics Explained, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Compound_annual_growth_rate (accessed June 2013).

2 Texas Department of State Health Services, Texas Population, 2005, http://www.dshs.state.tx.us/chs/popdat/ST2005.shtm (accessed June 2013).

3 Texas State Data Center, Texas Population Projections Program, http://txsdc.utsa.edu/Data/TPEPP/Projections/Index.aspx (accessed February 2011).

4 New Mexico Department of Workforce Solutions, New Mexico Workforce Connection—Historical Data Analysis, https://www.jobs.state.nm.us/analyzer/default.asp (accessed June 2013).

5 University of New Mexico Geospatial and Population Studies Group, Population Projections for New Mexico, http://bber.unm.edu/demo/PopProjTable1.htm (accessed December 2012).

6 Texas Workforce Commission, TRACER, http://www.tracer2.com/ (accessed June 2013).

7 U.S. Department of Commerce Bureau of Economic Analysis, BEARFACTS, http://www.bea.gov/regional/bearfacts/action.cfm (accessed June 2013).

8 Farm land (square miles) as a percentage of the total land area (square miles).

9 City of El Paso Comprehensive Plan, 2012, Plan El Paso, http://planelpaso.org/comprehensive-plan-elements/ (accessed June 2013).

10 U.S. Department of Agriculture, Census of Agriculture, 2007, http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Texas/ (accessed September 2012).

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12 UTEP, Regional Geospatial Service Center, http://gis.utep.edu/index.html (accessed June 2013).

13 City of El Paso Comprehensive Plan, 2012, Plan El Paso, http://planelpaso.org/comprehensive-plan-elements/ (accessed June 2013).

14 Doña Ana County New Mexico Regional Plan, One Valley, One Vision 2040, http://www.las-cruces.org/code/vision_2040/documents/plan.pdf (accessed Jun 2013).

15 Under Texas law, a comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries.

16 U.S. Census Bureau, State and County QuickFacts, Las Cruces, New Mexico http://quickfacts.census.gov/qfd/states/35/3539380.html (accessed June 2013).

17 R. Harrison, N. Hutson, D. Seedah, J. Kruse, and C. Morgan, Emerging Trade Corridors and Texas Transportation Planning, Project Summary Report 0-5973-S, 2010, http://ftp.dot.state.tx.us/pub/txdot-info/rti/psr/5973.pdf (accessed June 2013).

18 Texas Department of Transportation, Personal Communication with TxDOT El Paso District (August 2013).

19 Texas Department of Transportation, I-10 Collector-Distributor Lanes, http://www.txdot.gov/inside-txdot/projects/studies/el-paso/i10-cd.html (accessed June 2013).

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21 CONAPO, http://www.conapo.gob.mx/ (accessed June 2013).

22 INEGI, Anuario de Estadísticas por Entidad Federativa 2011, http://www.inegi.org.mx/ (accessed June 2013).

23 CONASAMI, www.conasami.gob.mx (accessed June 2013).

24 TxDOT, 2013 Unified Transportation Program (UTP), 2013, http://ftp.dot.state.tx.us/pub/txdot-info/tpp/utp/2013/final_2013.pdf (accessed October 2013).

25 SCT, 2010, www.sct.gob.mx/ (accessed June 2013).

26 "The methodology developed during the study provides the SCT with a tool that can be used to prioritize multimodal corridors for future development based on pre-defined criteria and guide investments and actions needed to make the multimodal transportation system in Mexico more efficient." SCT, 2010, www.sct.gob.mx/ (accessed June 2013).

27 Mexico has 31 States and one Federal district.

28 The SCT committee was made up of officials from the following SCT divisions: Rail (three officials), Planning (one official), Ports (two officials), Freight (one official), and the Mexican Transportation Institute (one official).

Chapter 4. Current POEs and Related Transportation Facilities

In 2012, the total value of U.S.-Mexico trade that crossed the Focused Study Area border was $86.1 billion—$38.1 billion in exports and $48.0 billion in imports. In El Paso, Texas, the total value of U.S.-Mexico trade that crossed the border was $65.7 billion—$29.7 billion in exports and $36.0 billion in imports. Santa Teresa, New Mexico, accounted for $19.9 billion in total trade—$8.1 billion in exports and $11.8 billion in imports. Presidio, Texas, accounted for $498.4 million in U.S.-Mexico trade—$318.8 million in exports and $179.6 million in imports[1]. The rail carriers operating in the Focused Study Area are UPRR, Ferromex, and BNSF Railway Company.

This chapter of the Border Master Plan describes the current and projected conditions of the four POEs[2] that are located in the Focused Study Area—Presidio, Fabens, El Paso, and Santa Teresa—and the current and planned transportation infrastructure for these POEs. There are eight vehicular or pedestrian bridges/crossings and three rail bridges in the Focused Study Area. In addition, the Guadalupe-Tornillo Bridge is currently under construction. The bridges/crossings are listed in Table 4.1, and their locations are illustrated in Figure 4.1.

The current number of lanes, rail tracks, and booths by bridge in the Focused Study Area is presented in Table 4.2. In 2011, the Bridge of the Americas had the highest number of lanes (12). The Ysleta-Zaragoza International Bridge and the Bridge of the Americas had the most booths (20 each).

Table 4.1: Number of Bridges/Crossings in Focused Study Area

POE*	U.S. County/ Chihuahua Municipality	Bridges/Crossings	Number of Vehicular/ Pedestrian Bridges and Crossings	Number of Rail Bridges
Presidio	Presidio/Ojinaga	Presidio-Ojinaga International Bridge	1	1 (closed)
		Presidio-Ojinaga Rail Bridge		
Fabens	Hudspeth/Práxedis G. Guerrero	Fort Hancock-El Porvenir International Bridge	1	0
	El Paso/Guadalupe	Fabens-Caseta International Bridge	1	0
El Paso	El Paso/Juárez	Ysleta-Zaragoza International Bridge	4	2
		Bridge of the Americas		
		Good Neighbor International Bridge		
		Paso del Norte International Bridge		
		Santa Fe Railroad Bridge		
		UPRR Bridge		
Santa Teresa	Doña Ana/Juárez	Santa Teresa/Jerónimo POE	1	0
	Total		*8*	*3*

Note: * POEs as defined by CBP

Source: New Mexico Border Authority[3] and TxDOT[4]

ID	Project Name
1	Santa Teresa/Jerónimo POE
2	Paso Del Norte Bridge
3	Santa Fe Railroad Bridge
4	UP Railroad Bridge
5	Good Neighbor Bridge
6	Bridge of the Americas
7	Ysleta-Zaragoza International Bridge
8	Guadalupe-Tornillo Bridge
9	Fabens-Caseta International Bridge
10	Fort Hancock-El Porvenir International Bridge
11	Presidio-Ojinaga International Bridge
12	Presidio-Ojinaga Rail Bridge

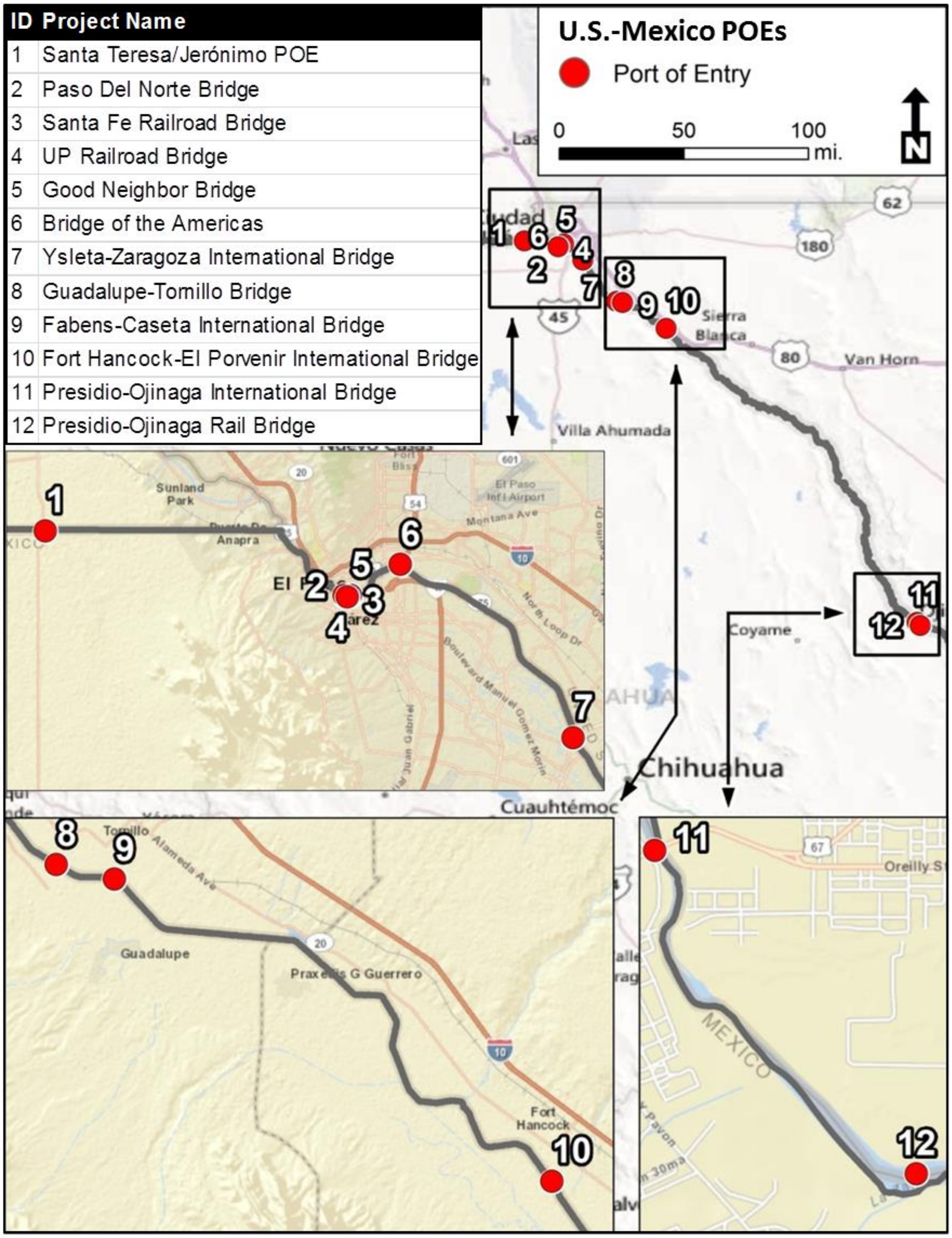


Figure 4.1: Location of Bridges/Crossings in Focused Study Area

Table 4.2: Characteristics of Bridges/Crossings in Focused Study Area

Bridge	Total Number of Inbound Lanes (POV and Cargo combined)	Total Number of Inbound Booths* (POV and Cargo combined)	Number of Inbound Pedestrian Turnstiles	Number of Dedicated FAST Lanes**	Number of Dedicated POV SENTRI Lanes***	Number of Pedestrian SENTRI Lanes	Number of Outbound Lanes (POV and Cargo combined)	Number of Outbound Booths (POV and Cargo combined)
Presidio-Ojinaga International Bridge	4	3	1	0	0	0	3	1
Presidio-Ojinaga Rail Bridge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fort Hancock-El Porvenir International Bridge	2)	2	1	0	0	0	1	0
Fabens-Caseta International Bridge	2	2	1	0	0	0	1	0
Ysleta-Zaragoza International Bridge	20	20	3	2	1	0	7	4
Bridge of the Americas	20	20	4	2	0	0	4	1
Good Neighbor International Bridge	3	3	0	0	3	0	0	0
Paso del Norte International Bridge	12	12	14	0	0	1	0	0
Santa Fe Railroad Bridge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UPRR Bridge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Santa Teresa/Jerónimo POE	7	7	2	1	0	0	3	2

Note: * Secure Electronic Network for Traveler's Rapid Inspection (SENTRI) provides expedited CBP processing for pre-approved, low-risk travelers.

** Free and Secure Trade (FAST)—a commercial clearance program—provides for expedited trade processing while ensuring safety and security. All lanes (POV and cargo) of the Ysleta-Zaragoza International Bridge, Bridge of the Americas, and Paso del Norte International Bridge are capable of being FAST lanes. The POE determines the need.

Source: New Mexico Border Authority[3] and TxDOT[4]

Notes:

1. The bridge crossing sections reflect the latest data available from CBP (northbound bridge crossings) and the bridge directors (southbound bridge crossings). Southbound bridge crossing data were not available for all modes.
2. 2010 and 2030 AADT and percent truck data for Texas roadways were obtained from TxDOT's 2010 TLOG database. 2010 and 2030 AADT and percent truck data for New Mexico roadways were provided by NMDOT. 2010 AADT and percent truck data for Mexico roadways were provided by SCT, Dirección General de Servicios Técnicos. 2030 AADT data for Mexico were not made available to the study team at the time of publication.
3. Accident data for Texas were calculated using the 2010 Crash Records Information System (CRIS) database. The number of accidents per mile on a roadway is equal to the number of accidents along the roadway's control section divided by the length of the control section.
4. Accident data for New Mexico and Mexico roadways were not made available to the study team at the time of publication.
5. The term "commercial truck" is used as defined by CBP when referring to bridge crossings, and the term "truck," in relation to truck percentage of AADT, refers to the percent of single and combination trucks using a roadway as defined by TXDOT, NMDOT, and SCT.
6. Bridge toll rates are current as of June 2013, and a 12.50 Mexico peso (MXN) to 1 U.S. dollar (US$) currency conversion rate is used for all bridge toll rates.[5]
7. Bridge hours of operation are provided in the time zone the bridge is located in.

4.1 Texas/Mexico—Presidio/Ojinaga

Presidio County and the Municipality of Ojinaga have one bridge crossing and one rail crossing. The bridge crossing serves pedestrians and non-commercial and commercial vehicles (see Table 4.3). As mentioned previously, the Presidio-Ojinaga Railroad Bridge is closed.

Table 4.3: Summary of Presidio County/Municipality of Ojinaga Bridges

Bridge	Location	Pedestrians	Non-commercial Vehicles	Commercial Vehicles	Rail
Presidio-Ojinaga International Bridge	Presidio/ Ojinaga	Yes	Yes	Yes	No
Presidio-Ojinaga Rail Bridge	Presidio/ Ojinaga	No	No	No	Yes (closed)

4.1.1 Presidio-Ojinaga International Bridge

On the U.S. side, the Presidio-Ojinaga International Bridge is owned by the State of Texas and operated by TxDOT. On the Mexican side, the bridge is owned by the Mexican Federal Government and operated by CAPUFE. The bridge is 791 feet long and has two lanes, one in each direction. The bridge opened in 1985. The bridge connects to US 67 on the U.S. side and Libre Comercio on the Mexican side. The crossing is known locally as the Presidio-Ojinaga Bridge or Puente Ojinaga.

Border Station

The U.S. border station is owned by a private individual (Richard Slack) and is leased to GSA. There are plans to expand the non-commercial inspection areas and the commercial lot entry and exit, but no time frame for construction has been established. On the Mexican side, the Government of Mexico (Customs and Immigration) operates the border station.[4]

Hours of Operation

The bridge currently operates 24 hours a day for privately owned vehicles (POVs). For commercial/cargo vehicles, the bridge operates from 10:00 a.m. to 6:00 p.m. Monday through Friday[6].

Tolls

The current reported toll rates for the Presidio-Ojinaga International Bridge are provided in Table 4.4.

Table 4.4: Toll Rates for Presidio-Ojinaga International Bridge

	Southbound		Northbound	
Mode	**(US$)**	**(MXN)**	**(MXN)**	**(US$)**
Pedestrian	N/A	N/A	N/A	N/A
POV/Motorbike	1.95	24.38	22.00	1.76
Passenger Bus	N/A	N/A	42.00	3.36
Truck (up to 9-Axle LCVs*)	N/A	N/A	42.00	3.36

Note: * Long Combination Vehicle

Source: TxDOT[4] and SCT[7]

Wait Times

Table 4.5 shows that the average daytime wait times at the Presidio-Ojinaga International Bridge have been minimal, averaging 4.3 minutes for POVs and 0.2 minutes for commercial vehicles.

Table 4.5: Average Daytime Wait Times for Presidio-Ojinaga International Bridge (in Minutes)

Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Presidio-Ojinaga International Bridge	POV	0.2	0.2	2.6	8.3	7.8	6.9	4.3
	Commercial	0.0	0.0	0.2	0.7	0.2	0.0	0.2

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

Source: Bureau of Transportation Statistics[8]

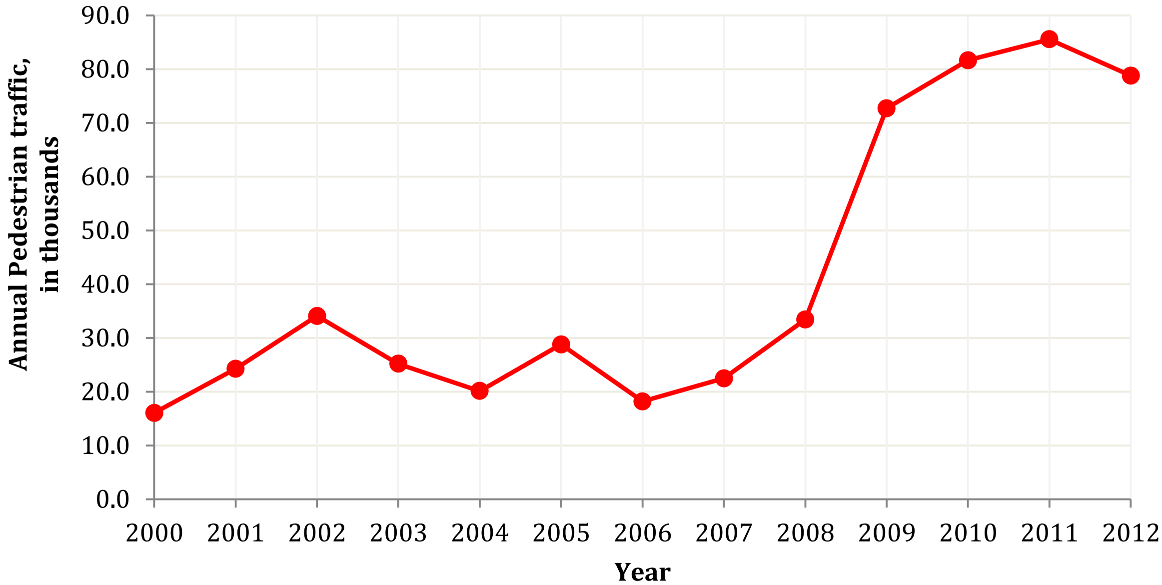
Northbound Bridge Crossings

Figures 4.2 through 4.5 illustrate annual northbound crossings by mode (pedestrian, POV, bus, and commercial truck) between the United States and Mexico between 2000 and 2012 at the Presidio-Ojinaga International Bridge. Southbound crossing data are not available for this bridge.

Figure 4.2 shows that the annual number of northbound pedestrian crossings at the Presidio-Ojinaga International Bridge increased by 391.7 percent between 2000 and 2012. Between 2006 and 2011, the annual number of northbound pedestrian crossings increased 371.1 percent to reach a peak of 85,545 in 2011. In 2012, the annual number of northbound pedestrian crossings decreased 7.9 percent compared to 2011 to reach 78,768.

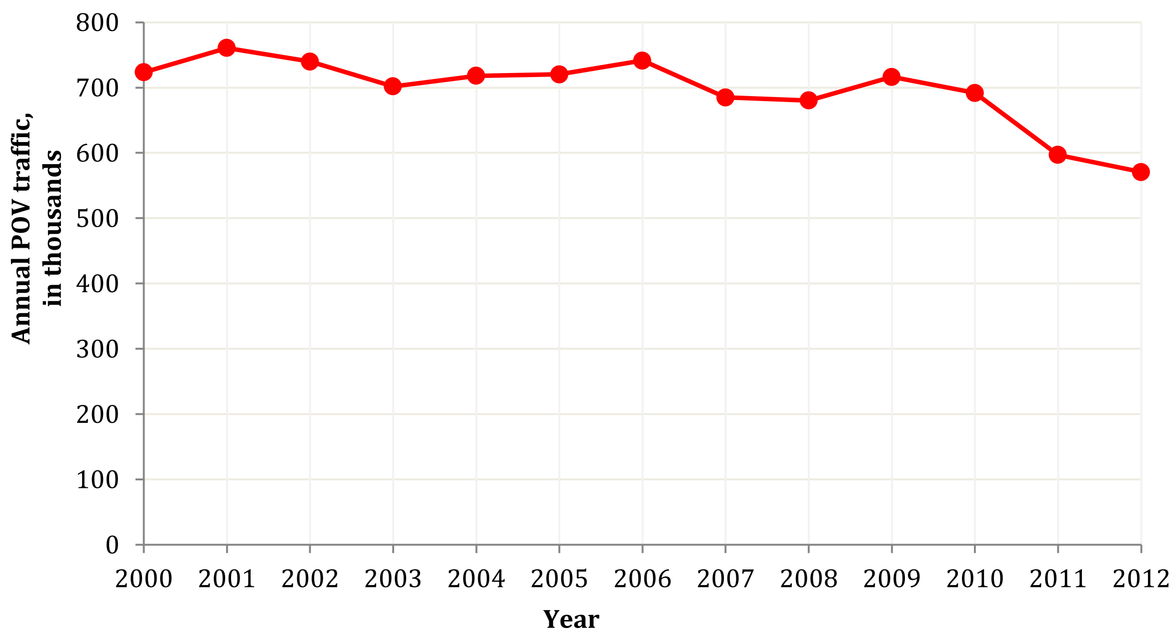
Annual northbound POV crossings have generally ranged between 680,000 and 760,000 between 2000 and 2010 (see Figure 4.3). In 2012, the annual number of northbound POV crossings decreased 17.5 percent compared to 2010 to reach 570,671—the lowest number of northbound crossings recorded since 2000.

Figure 4.4 shows that the annual number of northbound bus crossings at the Presidio-Ojinaga International Bridge ranged between 300 and 410 between 2000 and 2004. In 2005, the number of northbound bus crossings peaked at 965 crossings. Since 2005, the number of northbound bus crossings has decreased to reach the lowest level of 146 in 2008. Between 2008 and 2012, however, annual northbound bus crossings increased at an average annual rate of 31.4 percent to reach 435 crossings in 2012.



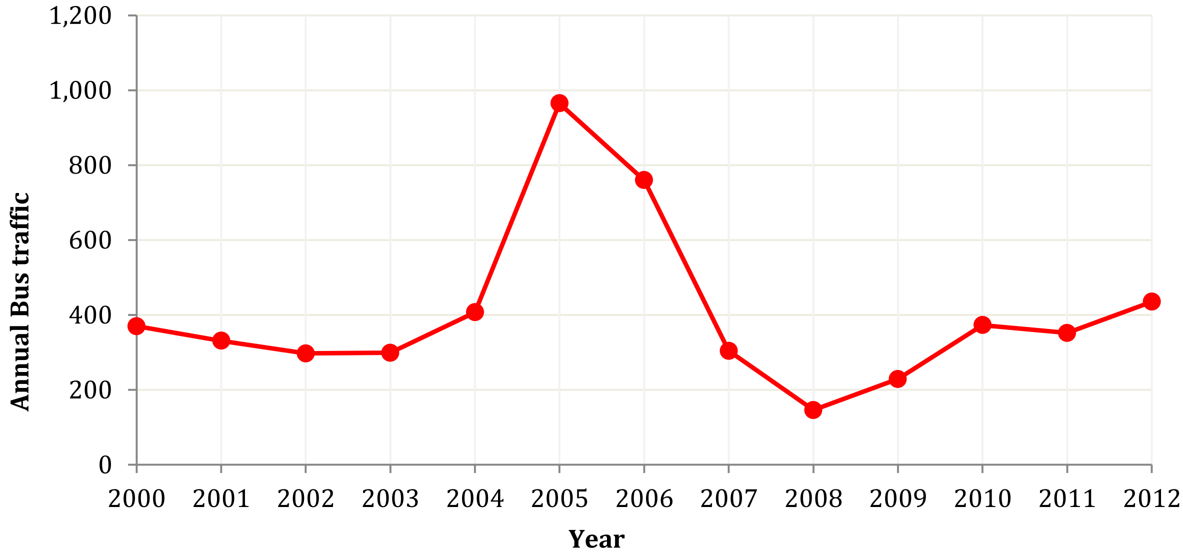
Source: CBP[9]

Figure 4.2: Presidio-Ojinaga International Bridge Northbound Pedestrian Crossings



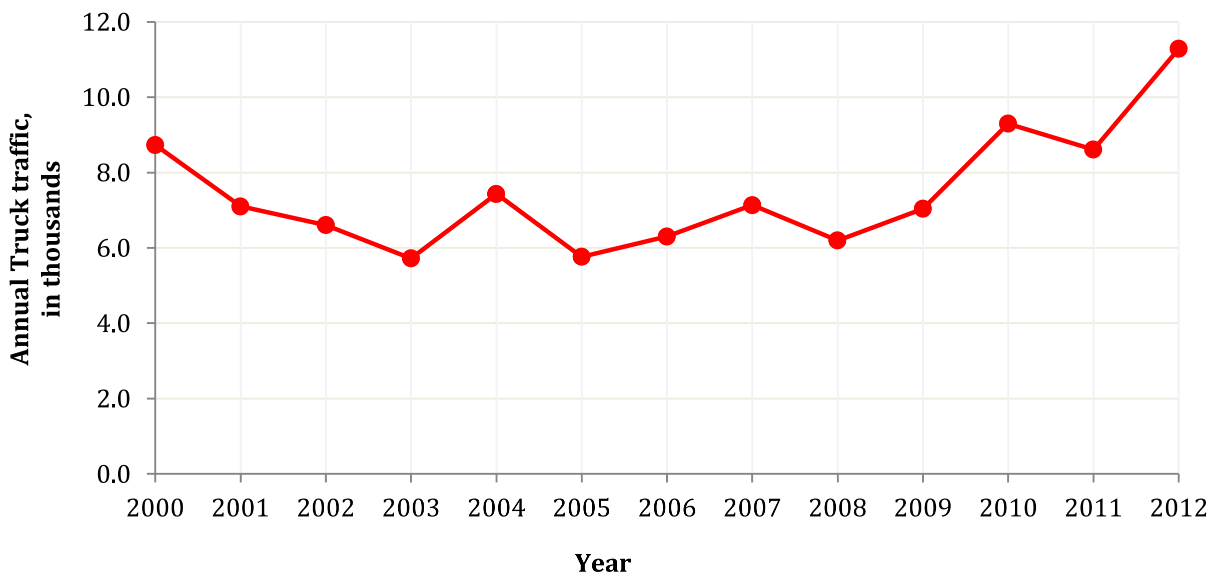
Source: CBP[9]

Figure 4.3 Presidio-Ojinaga International Bridge Northbound POV Crossings



Source: CBP[9]

Figure 4.4: Presidio-Ojinaga International Bridge Northbound Bus Crossings



Source: CBP[9]

Figure 4.5: Presidio-Ojinaga International Bridge Northbound Commercial Truck Crossings

Figure 4.5 shows that the number of northbound commercial crossings was similar in 2011 compared to 2000 (8,612 in 2011 and 8,734 in 2000). The number of commercial crossings in the intermediate years, however, varied. Between 2000 and 2003, the annual number of commercial crossings decreased an average of 13.2 percent per year. Between 2003 and 2008, the number of northbound crossings ranged between 5,700 and 7,450. Between 2008 and 2010, the number of northbound commercial crossings increased an average of 22.5 percent per year to reach 9,298 crossings in 2010. In 2011, the number of northbound crossings decreased 7.4 percent compared to 2010 to reach 8,612. In 2012, the number of northbound crossings increased 31.0 percent compared to 2011 to reach a peak of 11,286.

Primary Roadways Serving the Presidio-Ojinaga International Bridge

On the U.S. side, US 67 is the primary ingress and egress to the bridge (see Figure 4.6). About 0.75 miles from the bridge, US 67 branches into US 67 and O'Reilly Street (BUS 67A) before converging again about 2 miles north of the bridge. US 67 runs north and connects the bridge with the Presidio Lely International Airport. US 67 is a two-lane undivided highway. In 2010, the AADT on US 67 was 1,800 vehicles of which 6.9 percent were trucks. It is estimated that the AADT on this highway will reach 2,740 vehicles by 2030. There were 0.29 accidents reported per mile on this highway in 2010. In the same year, the LOS on US 67 was level A.

O'Reilly Street is a two-lane undivided highway that provides access between the bridge and Presidio. In 2010, the AADT on O'Reilly Street was 4,100 vehicles, of which 6.1 percent were trucks. No accidents were reported on this section of O'Reilly Street in 2010. In the same year, the LOS on O'Reilly Street was at level A.

On the Mexican side, Libre Comercio—a six-lane divided facility—is the primary ingress and egress to the bridge. Libre Comercio becomes MEX 16, which directly connects Ojinaga to the State capital of Chihuahua. In 2010, the AADT on MEX 16 was 2,238 vehicles, of which 12.8 percent were trucks. Another major street in Ojinaga is De La Juventud—a four-lane facility—that becomes CHIH-018, which connects Ojinaga to Camargo and Manuel Benavidez. In 2010, the AADT on CHIH-018 was 2,033 vehicles, of which 8.5 percent were trucks. Other important arterials in Ojinaga are 20A (six lanes), Avenida Cuauhtémoc (four lanes), Coronado (four lanes), Hidalgo (four lanes), Morelos (two lanes), and Internacional (two lanes).

Figure 4.6: Presidio-Ojinaga International Bridge
Existing Infrastructure Map

Planned Changes in Infrastructure (Present to 2030)

On the U.S. side, TxDOT is planning to improve the section of US 67 between O'Reilly Street and the bridge over a three-year period at an estimated cost of $1.67 million. Given that US 67 is the most important highway in the Presidio area, it is expected that the planned investment will improve mobility in the region.

4.1.2 Presidio-Ojinaga Rail Bridge

This bridge is currently closed. In 2005, Texas Pacifico (TXPF), a subsidiary of Grupo Mexico and the current operator of the rail line leading to the Presidio-Ojinaga Rail Bridge, interchanged 98 carloads with Ferromex at the Presidio border crossing. In 2006, the interchange was 51 carloads. No cars have interchanged at the border since August 2006.

The Presidio-Ojinaga Rail Bridge on the U.S. side was a wood structure. On February 29, 2008, a portion of the bridge south of the levee at Presidio burned to the ground. On March 1, 2009, a second section of the bridge north of the levee at Presidio burned. In February 2011, Presidio's rail depot was also destroyed by fire. The Mexican portion of the bridge is a metallic structure and remains operational. TXPF is planning to replace the bridge because of the potential to move rail freight from Mexico's marine ports on the Pacific Ocean to Texas and the United States.

Primary Rail Lines Serving the Presidio-Ojinaga Rail Bridge

On the U.S. side, the South Orient Rail Line (SORR) is approximately 391 miles long, starting at San Angelo Junction (in Coleman County, 5 miles southwest of Coleman) moving through San Angelo, Texas, and ending at Presidio on the Texas-Mexico border. The section of the rail line between San Angelo Junction and Alpine, Texas, was originally constructed in the early 1900s, with the section between Alpine and Presidio being completed in 1928. The line has always supported mining activities (e.g., sulfur and oil) and bulk shippers in the San Angelo area. Low traffic volumes and a filing for abandonment, however, resulted in deferred maintenance on the SORR.

In 1991, the State of Texas partnered with the South Orient Railroad Company (SORC)—the owner of the SORR—to prevent abandonment of the rail line. In this agreement, the State acquired the railroad right of way and a security interest in the tracks. In 1999, SORC expressed interest in abandoning the railroad. The Texas Legislature appropriated an additional $6 million to TxDOT toward a purchase price of $9.5 million for the railroad infrastructure. TXPF, a subsidiary of Grupo Mexico, provided another $3.5 million.

On February 2, 2001, TxDOT acquired ownership of SORR and entered into a 40-year lease and operating agreement with TXPF. Figure 4.7 illustrates the TXPF rail line in green. The other colored rail lines are not pertinent to this study. Since 2001, several investments have been made to improve the infrastructure and operating speed of SORR. TXPF invested approximately $9 million to perform limited rehabilitation of the line at critical locations to enable continued service. In 2004, TxDOT received a U.S. congressional appropriation of $5.5 million for further rehabilitation of the infrastructure. These funds were used for ties (the majority of which were installed from near Alpine to Presidio), ballast, track alignment, and improvements to grade crossings in Fort Stockton, Texas.

Source: Texas Pacifico Grupo Mexico[10]

Figure 4.7: Texas Pacífico Railroad Line and Trackage Rights

In 2008, the Martifer-Hirschfeld Energy Corporation announced plans to develop a wind tower manufacturing facility in San Angelo. Rail service was seen as critical for transportation of the company's raw materials and finished products. Since that time, TxDOT has invested more than $25 million to replace cross ties and worn rail, has reconstructed 103 roadway-rail crossings, has undertaken miscellaneous bridge repairs, and has replaced a truss bridge at Ballinger, Texas. With these investments, the line became operable at 25 mph from San Angelo Junction to Sulphur Junction.

Rail is regarded as vital to economic growth and development in the region. At the same time, high energy prices and the surge in energy and mining activity have resulted in an unprecedented demand for rail service in the area.

On the Mexican side, Ferromex operates the Chihuahua Pacífico System, which includes lines A, Q, and P (see Figure 4.8). The Q line runs from Topolobampo, Sinaloa, to Presidio/Ojinaga, and the A line connects Torreon to the City of Juárez. The capacity of the Q line is 120 tons (indicated in yellow in Figure 4.9) from Ojinaga to Topolobampo. The exception is the section between La Junta and Chihuahua, which has a capacity of 123 tons (indicated in dark blue in Figure 4.9). The capacity of the A line is 130 tons (indicated in light blue in Figure 4.9).

Source: Ferromex[11]

Figure 4.8: Ferromex's Chihuahua Pacífico System Lines A, Q, and P

Source: Ferromex[12]

Figure 4.9: Ferromex's Ojinaga-Topolobampo Line's Capacity (in Tons)

4.2 Texas/Mexico—Hudspeth/Práxedis G. Guerrero

There is one bridge crossing in Hudspeth County and the Municipality of Práxedis G. Guerrero. The bridge crossing serves pedestrian and non-commercial vehicles only (see Table 4.6).

Table 4.6: Summary of Hudspeth County/Municipality of Práxedis G. Guerrero Bridges

Bridge	Location	Pedestrians	Non-commercial Vehicles	Commercial Vehicles	Rail
Fort Hancock-El Porvenir International Bridge	Fort Hancock/ El Porvenir	Yes	Yes	No	No

4.2.1 Fort Hancock-El Porvenir International Bridge

On the U.S. side, the Fort Hancock-El Porvenir International Bridge is owned by IBWC and operated by CBP. On the Mexican side, the bridge is owned by the Mexican Federal Government and operated by CAPUFE and CILA. The bridge is a two-lane facility (one lane in each direction) and is 510 feet long. The bridge opened in 1936 and was renovated in 1993. It connects to FM 1088 on the U.S. side and to a service road connecting to MEX 2 on the Mexican side. The bridge is known locally as Puente El Porvenir.

Border Station

The original U.S. border station at this bridge was constructed in 1955 and owned by the Immigration and Naturalization Service. The new U.S. border station (LPOE Fort Hancock) was completed in April 2003 and is owned by GSA. On the Mexican side, the Mexican Government operates the border station.[4]

Hours of Operation

The bridge currently operates from 6:00 a.m. to 10:00 p.m. for POVs.

Tolls

No tolls are charged to cross at the Fort Hancock-El Porvenir International Bridge.

Wait Times

Table 4.7 shows that the average daytime waiting time at the Fort Hancock-El Porvenir International Bridge has been minimal, averaging half a minute for POVs.

Table 4.7: Average Daytime Wait Times for Fort Hancock-El Porvenir International Bridge (in Minutes)

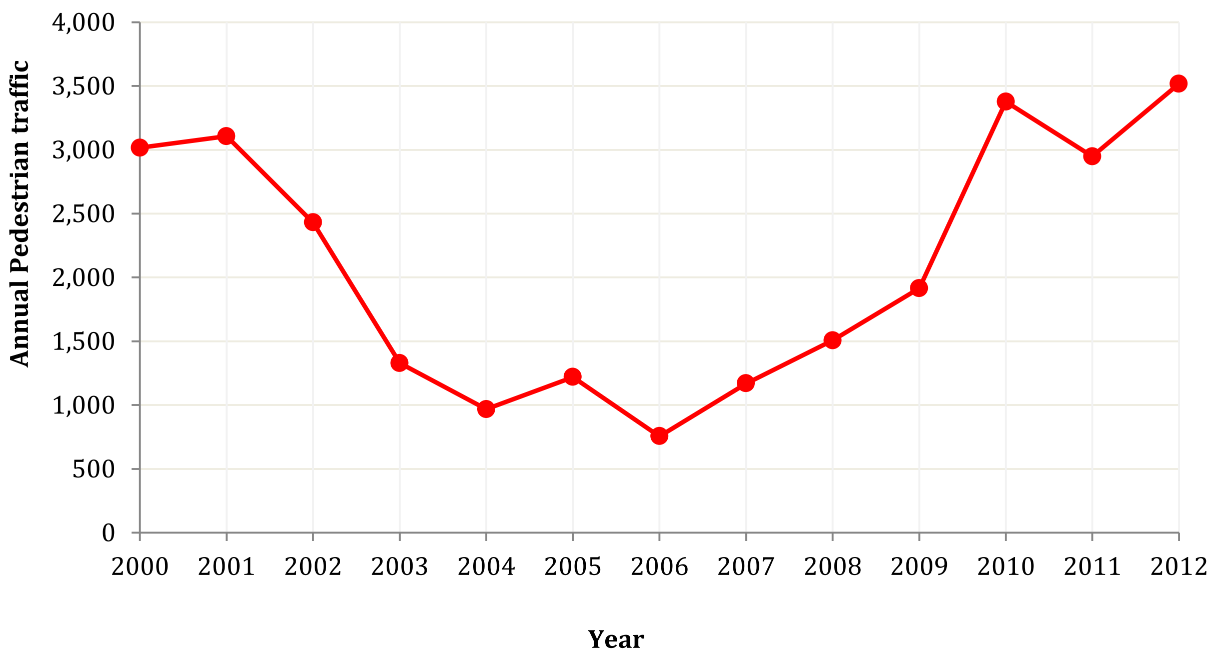
Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Fort Hancock-El Porvenir International Bridge	POV	N/A	N/A	N/A	0.5	0.5	0.6	0.5

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

Source: Bureau of Transportation Statistics [8]

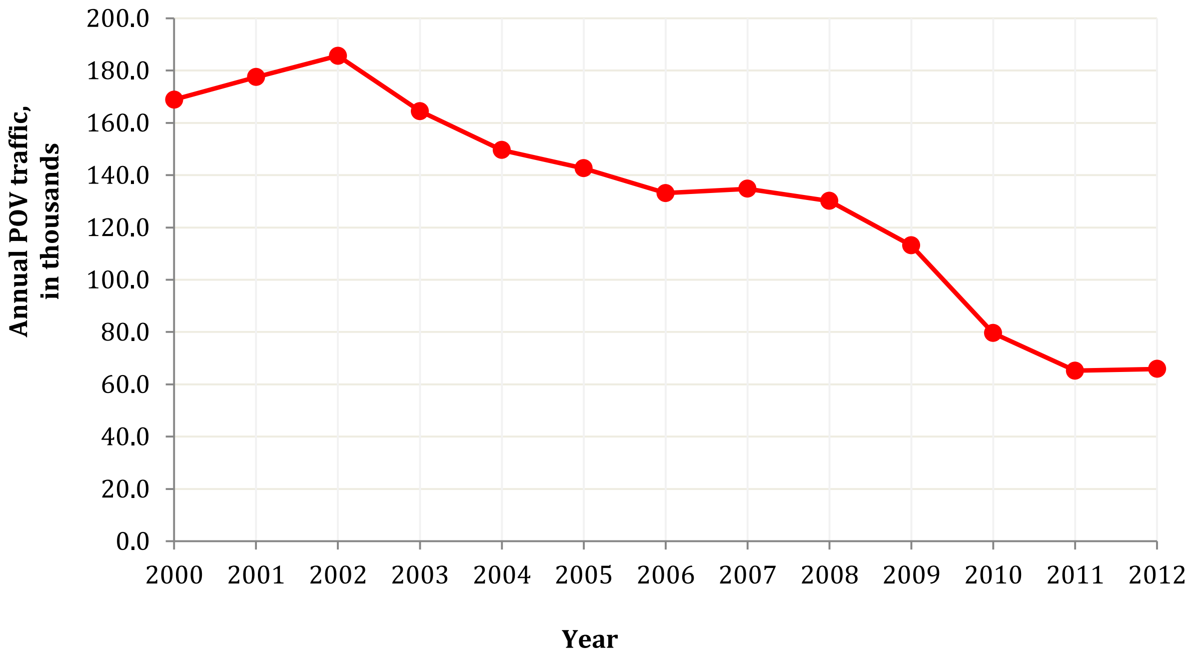
Northbound Bridge Crossings

Figures 4.10 and 4.11 illustrate the number of northbound crossings by mode between Mexico and the United States at the Fort Hancock-El Porvenir International Bridge between 2000 and 2012, the latest year for which data were available.



Source: CBP[9]

Figure 4.10: Fort Hancock-El Porvenir International Bridge Northbound Pedestrian Crossings



Source: CBP[9]

Figure 4.11: Fort Hancock-El Porvenir International Bridge Northbound POV Crossings

Figure 4.10 shows that the number of northbound pedestrian crossings at the bridge largely decreased between 2000 and 2006, with exceptions in 2001 and 2005, at an average rate of 20.6 percent per year. Between 2006 and 2010, however, the number of northbound pedestrian crossings increased an average of 45.4 percent per year to peak at 3,377 crossings in 2010. In 2011, the number of northbound pedestrian crossings decreased 12.7 percent to reach 2,949 crossings. In 2012, the number of northbound pedestrian crossings increased 19.3 percent to reach 3,518.

Figure 4.11 shows that the number of northbound POV crossings has decreased between 2002 and 2011 from 185,635 crossings in 2002 to 65,208 crossings in 2011—a decrease of 64.9 percent. The number of northbound POV crossings in 2012 was similar to the number of crossings in 2011 at 65,868.

Primary Roadways Serving Fort Hancock-El Porvenir International Bridge

On the U.S. side, FM 1088 is the primary ingress and egress to the bridge, providing direct access to major thoroughfares including SH 20, which leads to IH 10 (see Figure 4.12). FM 1088 is a two-lane undivided facility with an AADT of 720 vehicles in 2010, of which 10.7 percent were trucks. No traffic accidents were recorded for this facility. Current demand and capacity suggest that this facility was operating at LOS A.

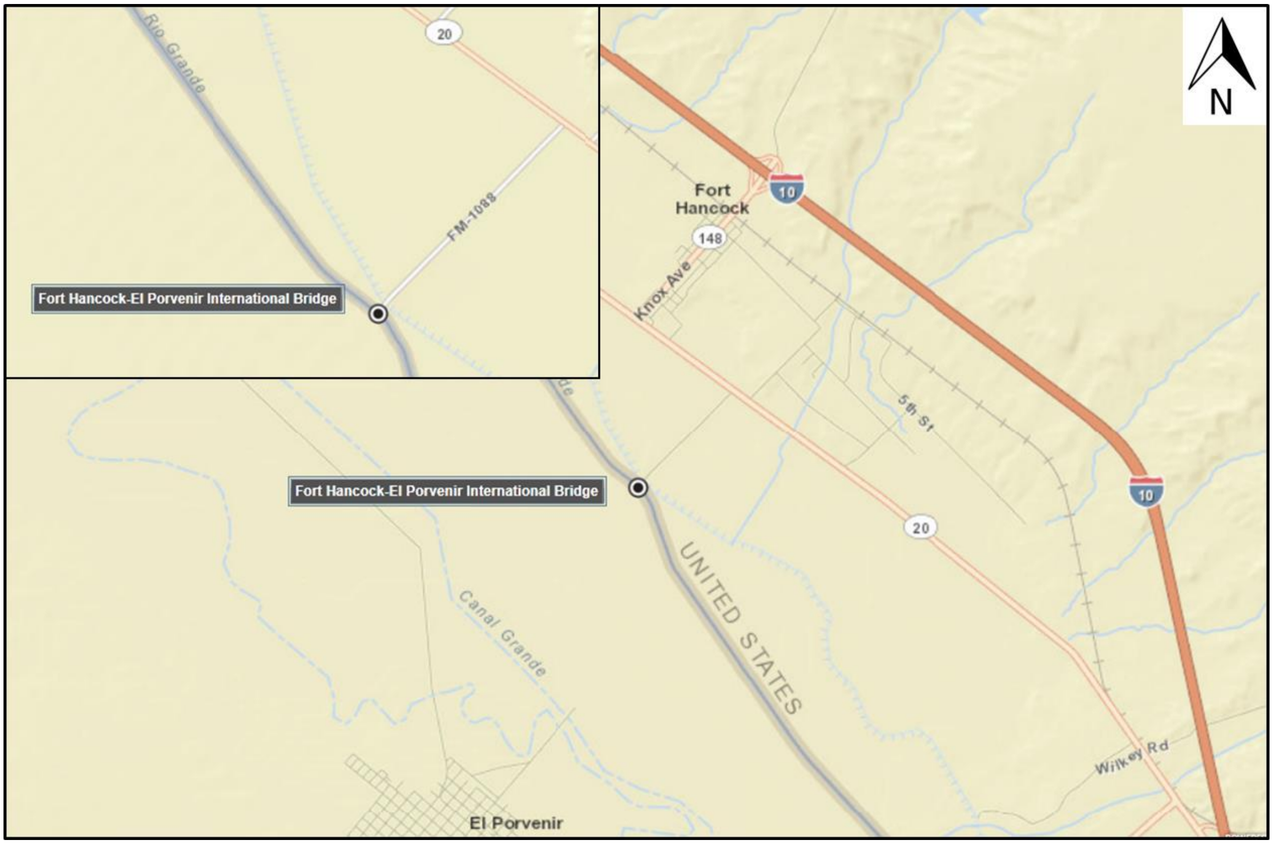


Figure 4.12: Fort Hancock-El Porvenir International Bridge Existing Infrastructure Map

Intersecting FM 1088 about 1 mile from the bridge is SH 20. SH 20 is a two-lane undivided highway that runs parallel to the U.S.-Mexico border on the U.S. side. In 2010, the AADT on SH 20 was 1,750 vehicles, of which 38.6 percent were trucks. There were 0.18 accidents reported per mile on SH 20 in 2010, and the LOS on the facility was level A.

On the Mexican side, an unnamed two-lane facility is the primary ingress and egress to the bridge. The egress road connects to MEX 2, a two-lane Federal highway facility, which connects the bridge to Porvenir (1 mile) to the east and to Práxedis G. Guerrero (10 miles) and the City of Juárez (60 miles) to the west. In 2010, the AADT on MEX 2 was 2,177 vehicles, of which 2.8 percent were trucks.

Planned Changes in Infrastructure (Present to 2030)

No planned changes to the transportation infrastructure near the Fort Hancock-El Porvenir International Bridge were identified on either side of the border.

4.3 Texas/Mexico—El Paso/Guadalupe

There is one bridge crossing between El Paso County and the Municipality of Guadalupe. The Fabens-Caseta International Bridge serves pedestrians and non-commercial vehicles (see Table 4.8).

Table 4.8: Summary of El Paso County/Municipality of Guadalupe Bridges

Bridge	Location	Pedestrians	Non-commercial Vehicles	Commercial Vehicles	Rail
Fabens-Caseta International Bridge	Fabens/ Caseta	Yes	Yes	No	No

4.3.1 Fabens-Caseta International Bridge

On the U.S. side, the bridge is owned by IBWC and operated by CBP. On the Mexican side, the bridge is owned by the Mexican Federal Government and operated by Mexican Customs. The bridge is a two-lane facility—one lane in each direction—and is 510 feet long. The bridge opened in 1938. It connects to SH 20 and FM 76, which subsequently connects to IH 10 on the U.S. side. On the Mexican side, the bridge connects to Leona Vicario and Doctor Porfirio Parra, which connects to MEX 2. The bridge is known locally as Puente La Caseta and Tornillo-Guadalupe. The bridge will be demolished when the new Guadalupe-Tornillo Bridge becomes operational in 2013.[4]

Border Station

On the U.S. side, a temporary border station (LPOE Fabens) was constructed at the end of the Fabens-Caseta International Bridge. The new Tornillo-Guadalupe border station is currently under construction by GSA on land donated by the County of El Paso.[4] The temporary border station (LPOE Fabens) will be demolished once the new Tornillo-Guadalupe border station is completed.[4]

Hours of Operation

The bridge currently operates from 6:00 a.m. to 10:00 p.m. for POVs and light trucks.[13]

Tolls

No tolls are charged to cross at the Fabens-Caseta International Bridge.

Wait Times

Table 4.9 shows that the average daytime waiting time at the Fabens-Caseta International Bridge has been minimal for POVs, averaging 3.8 minutes.

Table 4.9: Average Daytime Wait Times for Fabens-Caseta International Bridge (in Minutes)

Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Fabens-Caseta International Bridge	POV	0.0	0.1	1.8	5.3	6.8	8.6	3.8

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

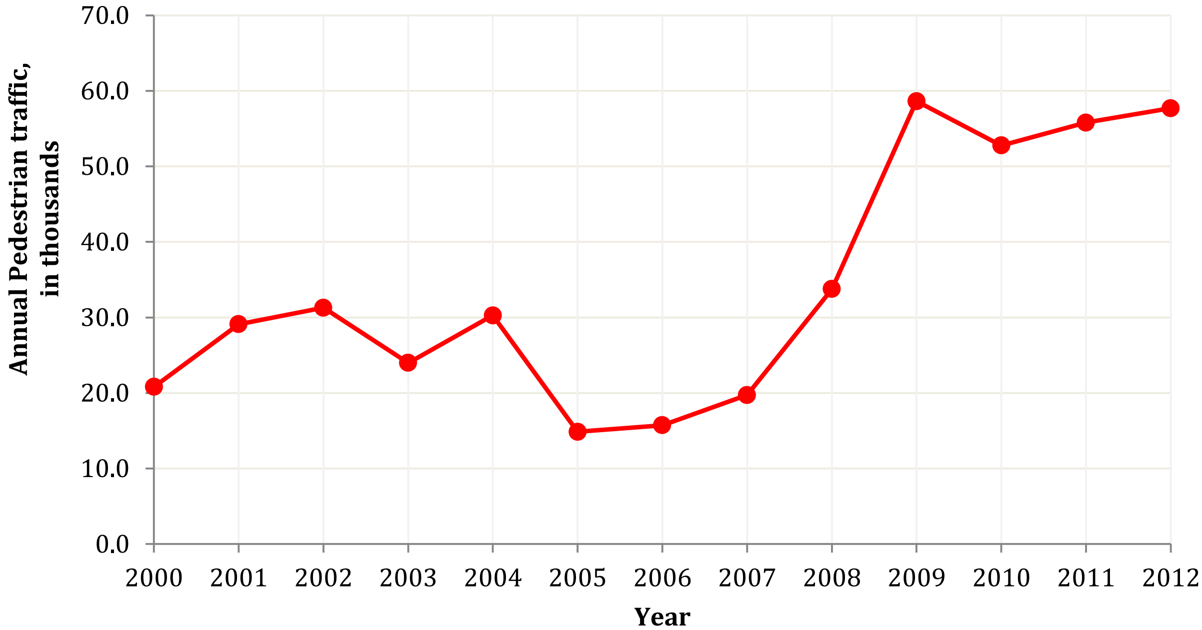
Source: Bureau of Transportation Statistics[8]

Bridge Crossings

Figures 4.13 and 4.14 illustrate the northbound crossings by mode between Mexico and the United States between 2000 and 2012 at the Fabens-Caseta International Bridge.

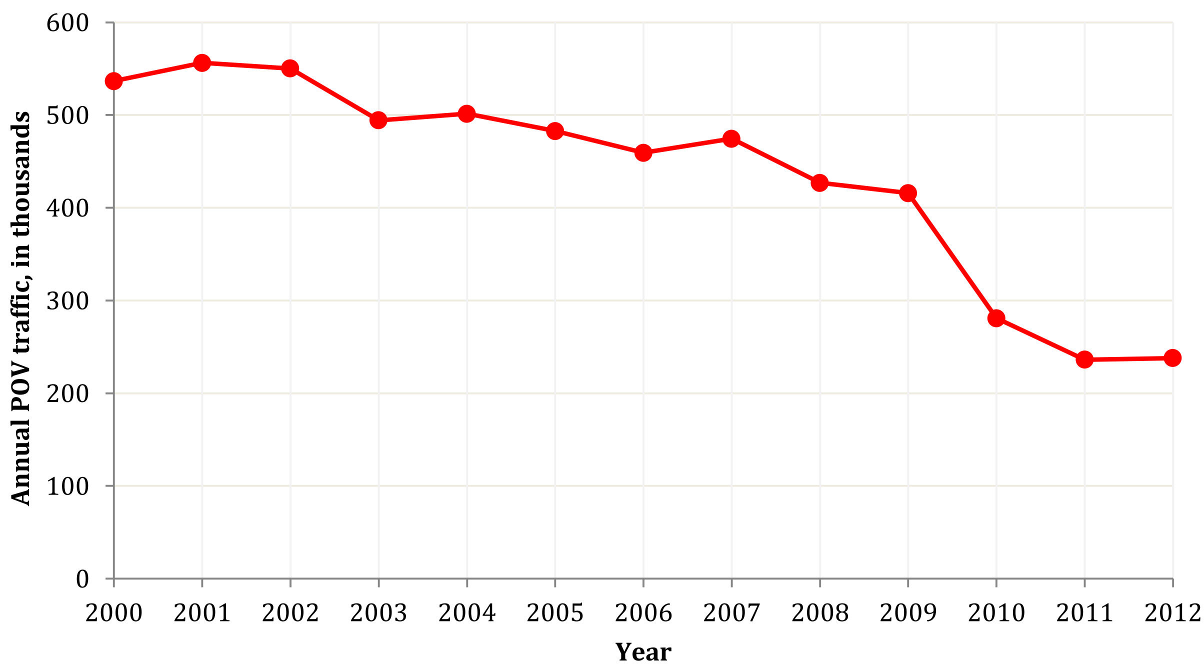
Figure 4.13 shows that the annual number of northbound pedestrian crossings at the Fabens-Caseta International Bridge fluctuated between 2000 and 2005, increasing between 2000 and 2002, decreasing in 2003, and increasing again in 2004. Between 2004 and 2005, the number of northbound pedestrian crossings decreased 50.9 percent. This was followed by a four-year period (2005 to 2009) when northbound pedestrian crossings increased an average of 41.0 percent per year. Since 2009, the number of northbound pedestrian crossings decreased to 52,769 in 2010 before increasing to 57,698 in 2012.

Figure 4.14 shows that the number of northbound POV crossings at the Fabens-Caseta International Bridge has decreased almost consistently between 2001 and 2011, with exceptions in 2004 and 2007. Between 2001 and 2011, the annual number of northbound POV crossings decreased from 556,338 crossings in 2001 to 236,255 in 2011—a decrease of 57.5 percent. The number of northbound POV crossings in 2012 remained similar to that of 2011 at 237,929.



Source: CBP[9]

Figure 4.13: Fabens-Caseta International Bridge Northbound Pedestrian Crossings



Source: CBP[9]

Figure 4.14: Fabens-Caseta International Bridge Northbound POV Crossings

Primary Roadways Serving Fabens-Caseta International Bridge

Lower Island Road (CR 7181) and Island Guadalupe Road (CR 474) are the primary access roads leading to the Fabens–Caseta International Bridge. Figure 4.15 shows that Lower Island Road connects the bridge to FM 76 (Middle Island Road) on the northwest and SH 20 (Alameda Avenue) on the east. Approximately 5 miles north of the bridge, FM 76 also merges with SH 20 near the Fabens city center. FM 76, along Middle Island Road, is a two-lane undivided roadway with a 2010 AADT of 1,200 vehicles, of which 48.2 percent were trucks. The number of accidents on FM 76 in 2010 was 1.35 accidents per mile, and the facility was operating at LOS A.

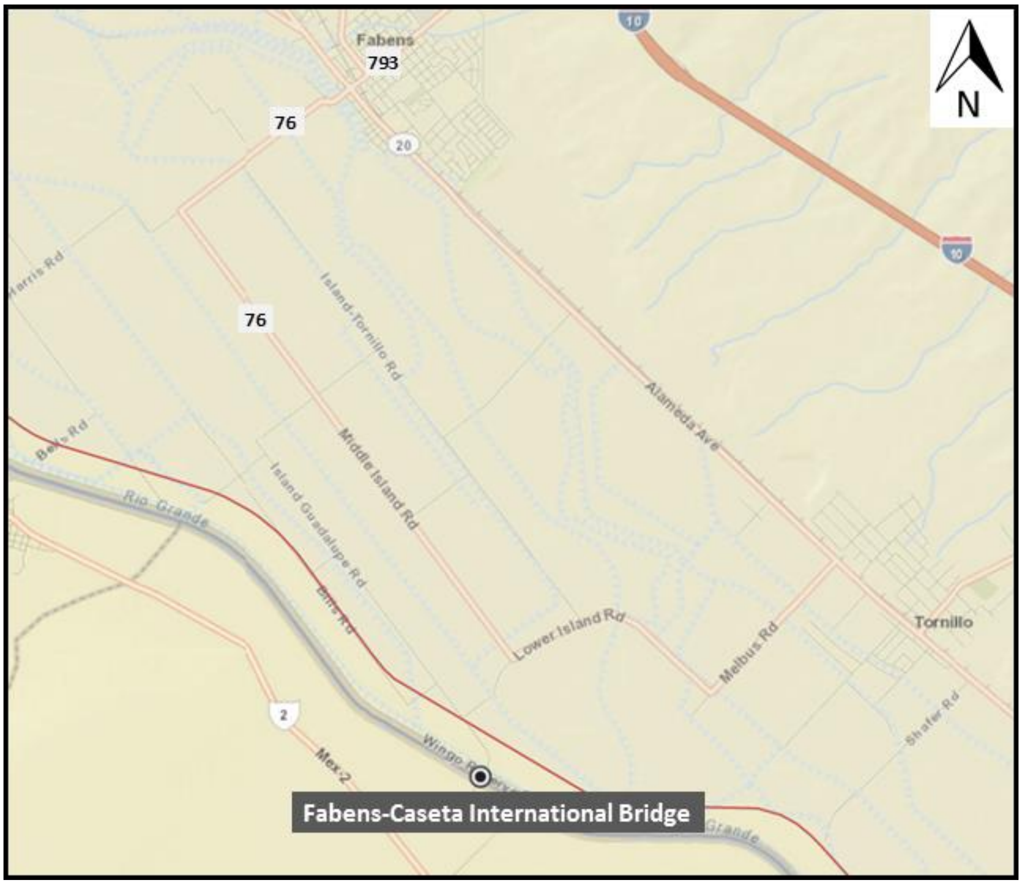


Figure 4.15: Fabens-Caseta International Bridge
Existing Infrastructure Map

FM 76 connects to FM 793 and SH 20. FM 793 is a two-lane undivided facility in the north-south direction that intersects FM 76 and SH 20, and terminates at IH 10. The AADT on FM 793 was 9,500 vehicles in 2010, of which 20.3 percent were trucks. The number of accidents on FM 793 in 2010 was 4.23 accidents per mile, and the facility was operating at LOS A.

SH 20 runs approximately 4 miles north of the bridge parallel to the U.S.-Mexico border on the U.S. side. The number of lanes on SH 20 varies between two and four. The AADT on SH 20 was 6,200 vehicles in 2010, of which trucks accounted for 22.5 percent. The number of accidents on SH 20 in 2010 was 0.79 accidents per mile, and the facility was operating at LOS A.

On the Mexican side, Cruz Rey, which becomes Leona Vicario (a two-lane facility), is the primary ingress and egress to the bridge. Leona Vicario intersects with Doctor Porfirio Parra (a two-lane facility) that connects Caseta to MEX 2 City of Juárez-El Porvenir, a two-lane Federal highway facility. In 2010, the AADT on MEX 2 was 5,344 vehicles, of which 2.9 percent were trucks.

Planned Changes in Infrastructure (Present to 2030)

On the U.S. side, three major road and interchange projects are planned in the vicinity of the Fabens-Caseta International Bridge. The first involves construction of the Manuel F. Aguilera Highway, a two-lane undivided facility, between SH 20 (Alameda Avenue) and IH 10. The project includes the construction of an overpass over SH 20 to avoid at-grade crossings between the two highways. The project is scheduled for letting in 2014 at an estimated cost of $17.23 million.

The second planned project serves the Fabens-Caseta International Bridge and the Ysleta-Zaragoza International Bridge. The planned project includes resurfacing SH 20 between FM 76 (Fabens) and Loop 375. The project will let in September 2013 and will be completed in 2014. This planned project will improve the riding conditions on this section of SH 20. The AADT on this section was 10,648 vehicles in 2010, which is expected to grow by 2.2 percent to reach 16,497 vehicles in 2030.

The third planned project also serves the Fabens-Caseta International Bridge and the Ysleta-Zaragoza International Bridge. The planned project involves construction of continuous turn lanes and the widening of the paved shoulders on FM 258 between northbound and southbound SH 20. The project is expected to be completed at an estimated cost of $2.15 million in 2017. It is anticipated that the traffic volume along this corridor will grow at an annual rate of 1.7 percent. These planned upgrades will improve traffic flow along the corridor and ensure that the facility continues to operate at LOS A in the foreseeable future.

4.4 Texas/Mexico—El Paso/Juárez

There are four bridge crossings and two rail crossings between El Paso County and the Municipality of Juárez. Two of the bridge crossings, Ysleta-Zaragoza International Bridge and the Bridge of the Americas, serve pedestrians, non-commercial vehicles, and commercial vehicles. The Paso del Norte International Bridge serves pedestrians and non-commercial vehicles, while the Good Neighbor International Bridge serves only non-commercial vehicles. The two rail crossings are the Santa Fe Railroad Bridge and Union Pacific Railroad Bridge (also known as the Black Bridge). The specific transportation modes served by each of the facilities are summarized in Table 4.10.

Table 4.10: Summary of El Paso County/Municipality of Juárez Bridges

Bridge	Location	Pedestrians	Non-commercial Vehicles	Commercial Vehicles	Rail
Ysleta-Zaragoza International Bridge	El Paso/Juárez	Yes	Yes	Yes	No
Bridge of the Americas	El Paso/Juárez	Yes	Yes	Yes	No
Good Neighbor International Bridge	El Paso/Juárez	No	Yes	No	No
Paso del Norte International Bridge	El Paso/Juárez	Yes	Yes	No	No
Santa Fe Railroad Bridge	El Paso/Juárez	No	No	No	Yes
Union Pacific Railroad (Black) Bridge	El Paso/Juárez	No	No	No	Yes

4.4.1 Ysleta-Zaragoza International Bridge

On the U.S. side, the Ysleta-Zaragoza International Bridge is owned and operated by the City of El Paso. On the Mexican side, Promofront S.A. de C.V. holds the bridge concession until 2017, but the bridge is operated by CAPUFE. The bridge has two structures: one has four lanes for commercial traffic, and the other has five lanes for non-commercial traffic. The non-commercial structure also accommodates two pedestrian walkways. The bridge is 804 feet. It opened in 1938 and was rebuilt in 1955 and 1990. On the U.S. side, the bridge connects to Loop 375, Cesar Chavez Border Highway, and Americas Avenue, which connects to IH 10. On the Mexican side, the bridge connects to MEX 2 and MEX 45D via Ramon Rayon and Waterfill, respectively. The crossing is known locally as Zaragoza Bridge, Puente Zaragoza, and Puente Ysleta Zaragoza.

Border Station

The U.S. border station (LPOE Ysleta) was completed in August 1992. New commercial facilities were inaugurated in October 2008. The new facilities included an increase in the number of commercial lanes from six to eight, an x-ray machine for truck scans in one of the lanes, and updated radiation monitors. The investment also allows for the addition of two commercial lanes in the future. [4]

Hours of Operation

The bridge currently operates 24 hours a day for pedestrians and POVs. The bridge has a SENTRI lane (dedicated commuter lane) that also operates 24 hours a day. For commercial/cargo vehicles, the bridge operates from 6:00 a.m. to midnight Monday through Friday and from 8:00 a.m. to 4:00 p.m. on Saturdays.[14]

Tolls

The toll rates for the Ysleta-Zaragoza International Bridge are provided in Tables 4.11 and 4.12. Express lane users traveling northbound on the Ysleta-Zaragoza International Bridge must purchase an annual pass for MXN $4,297 that allows unlimited crossings.

Table 4.11: Toll Rates for Ysleta-Zaragoza International Bridge (Southbound)

Mode	(US$)	(MXN)
POV	2.50	31.25
Commercial	3.50/axle	43.75/axle
Pedestrian	0.50	6.25

Source: City of El Paso[15]

Table 4.12: Toll Rates for Ysleta-Zaragoza International Bridge (Northbound)

Mode	(MXN)	(US$)
Pedestrian	7.00	0.56
POV/ Motorbike	25.00	2.00
Passenger Bus/Truck (2 and 3 Axles)	75.00	6.00
Trucks (4 and 5 Axles)	158.00	12.64
Trucks (6 Axles)	250.00	20.00
Additional Truck Axle	36.00	2.88

Source: Puente Internacional Zaragoza-Ysleta[16]

Wait Times

Table 4.13 gives the average daytime wait times for the Ysleta-Zaragoza International Bridge for POVs and commercial vehicles between 2004 and 2009. Table 4.13 shows the POV daytime wait times increased 14.6 minutes between 2008 and 2009, while the commercial vehicle daytime wait times decreased 2.2 minutes during the same period. On average, the daytime wait times for POVs and commercial vehicles between 2004 and 2009 were 19.1 and 14.4 minutes, respectively.

Table 4.13: Average Daytime Wait Times for Ysleta-Zaragoza International Bridge (in Minutes)

Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Ysleta-Zaragoza International Bridge	POV	12.6	9.6	15.9	24.4	18.8	33.4	19.1
	Commercial	17.0	16.5	11.8	20.4	11.4	9.2	14.4

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

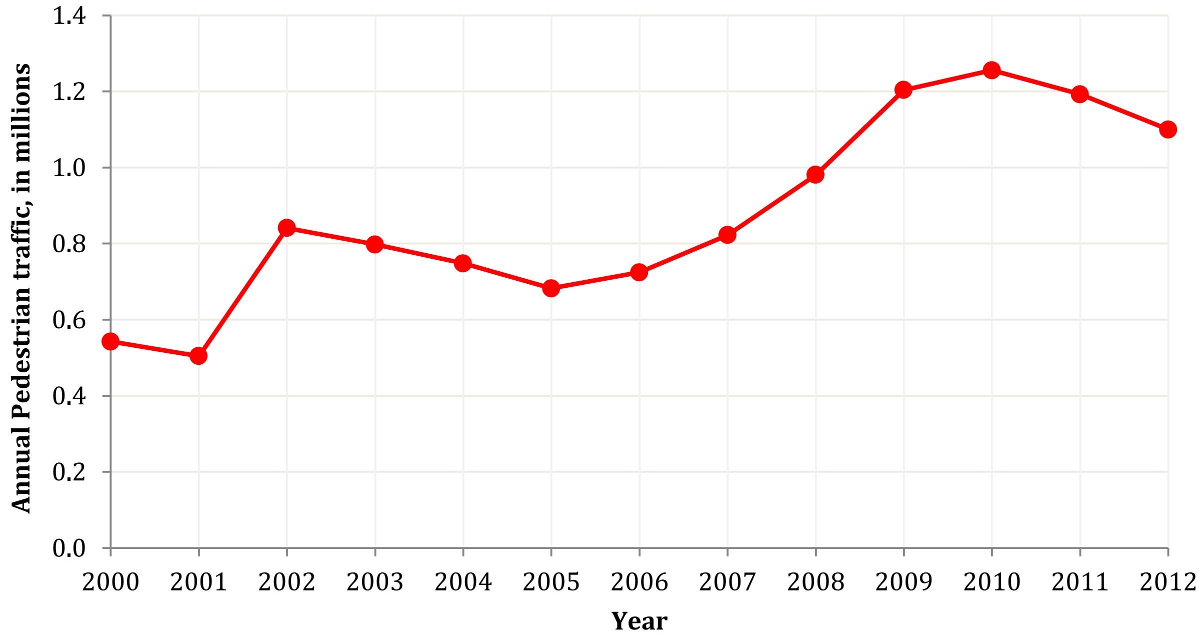
Source: Bureau of Transportation Statistics[8]

Bridge Crossings

Figures 4.16 through 4.19 illustrate the northbound crossings by mode between Mexico and the United States between 2000 and 2012 at the Ysleta-Zaragoza International Bridge. Figures 4.20 and 4.21 illustrate the southbound crossings by mode between the United States and Mexico from 2004 to 2012 at the Ysleta-Zaragoza International Bridge.

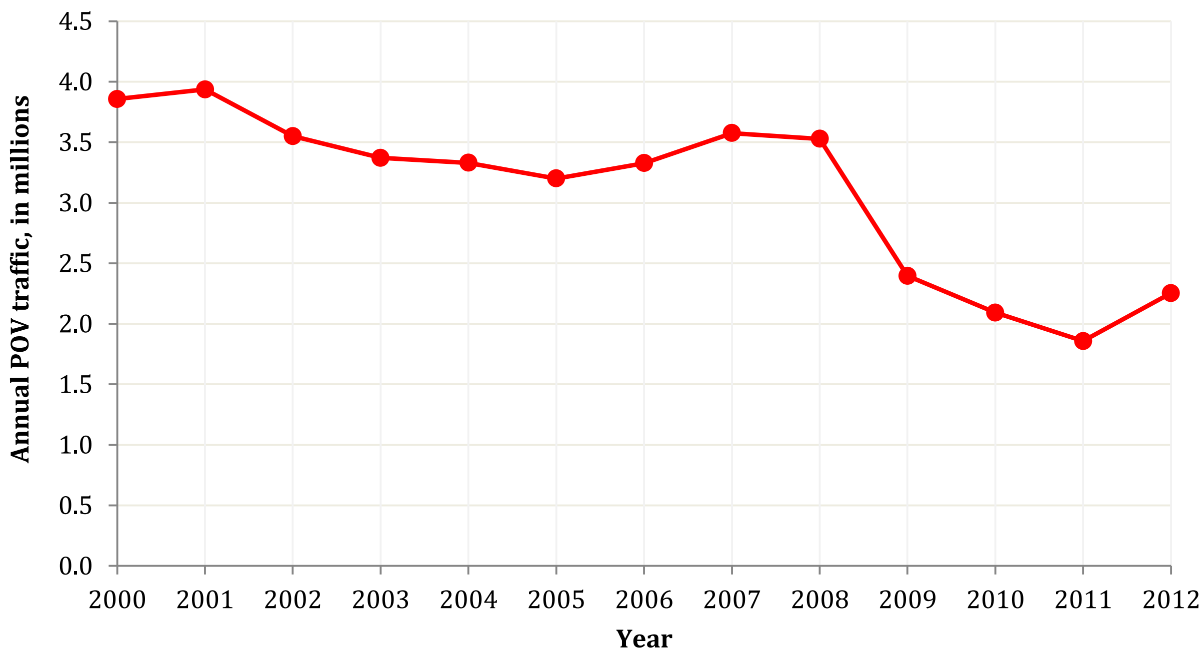
<u>Northbound Crossings:</u> Between 2000 and 2005, the number of northbound pedestrian crossings at the Ysleta-Zaragoza International Bridge fluctuated, decreasing between 2000 and 2001, increasing in 2002, and decreasing again between 2002 and 2005. Between 2005 and 2010, however, northbound pedestrian crossings increased from 682,259 to a peak value of 1,255,702 in 2010—an average of 13.0 percent per year. Between 2010 and 2012, the number of northbound pedestrian crossings decreased an average of 6.4 percent per year to reach 1,099,885 in 2012 (see Figure 4.16).

Figure 4.17 shows the number of annual northbound POV crossings decreased from 3,856,461 in 2000 to 2,253,298 in 2012—a decrease of 41.6 percent. The largest decrease in the number of crossings occurred between 2008 and 2009, when the number of northbound POV crossings decreased from 3,527,551 to 2,395,551—a decrease of 32.1 percent.



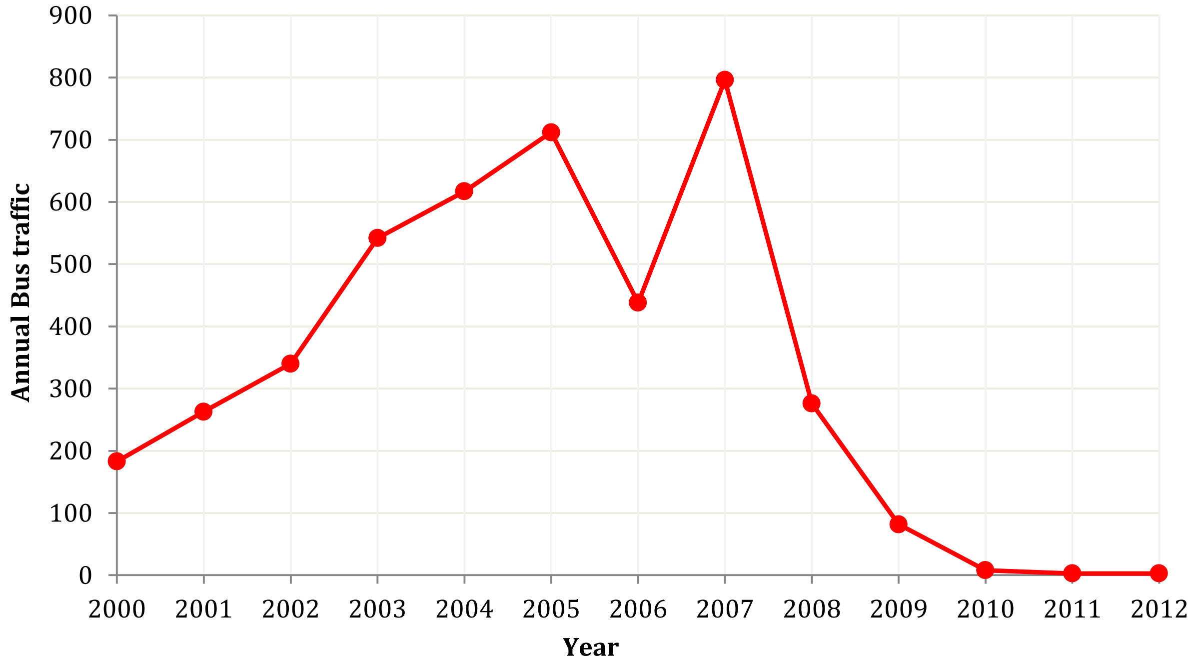
Source: CBP[9]

Figure 4.16: Ysleta-Zaragoza International Bridge Northbound Pedestrian Crossings



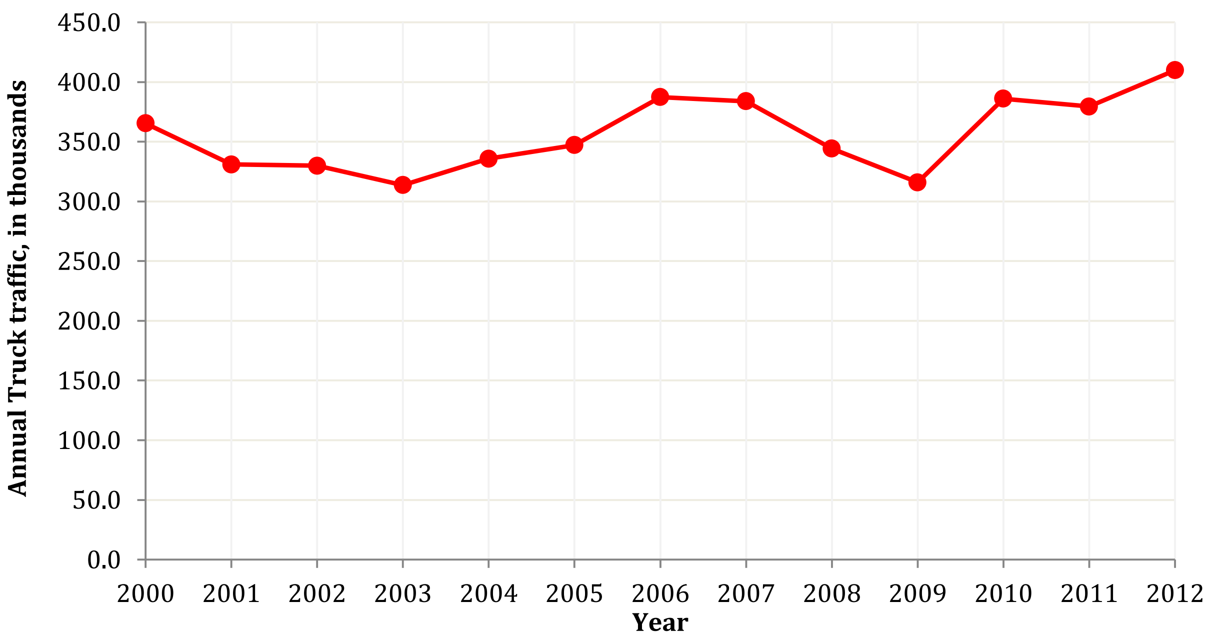
Source: CBP[9]

Figure 4.17: Ysleta-Zaragoza International Bridge Northbound POV Crossings



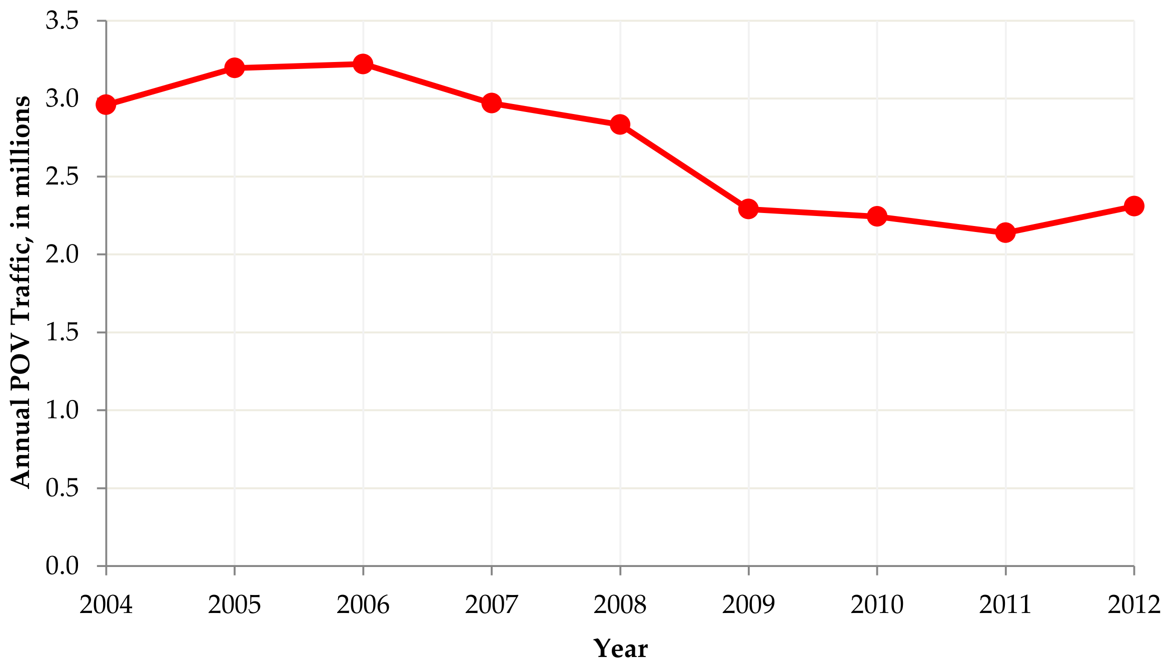
Source: CBP[9]

Figure 4.18: Ysleta-Zaragoza International Bridge Northbound Bus Crossings



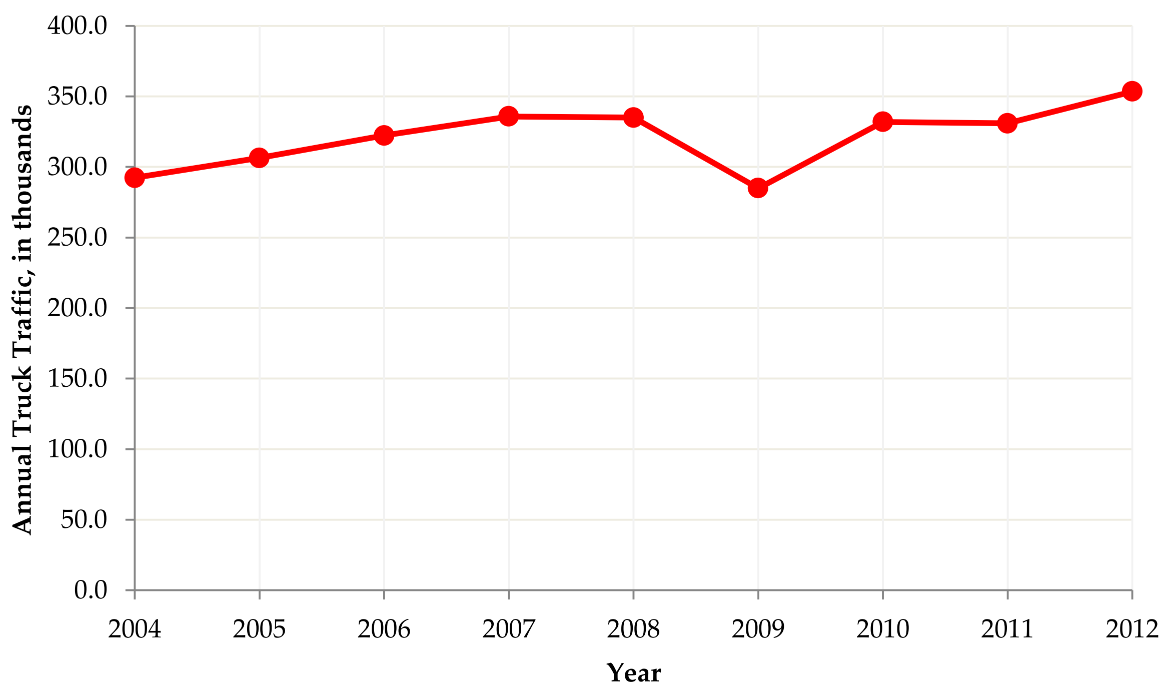
Source: CBP[9]

Figure 4.19: Ysleta-Zaragoza International Bridge Northbound Commercial Truck Crossings



Source: City of El Paso[15]

Figure 4.20: Ysleta-Zaragoza International Bridge Southbound POV Crossings



Source: City of El Paso[15]

Figure 4.21: Ysleta-Zaragoza International Bridge Southbound Commercial Truck Crossings

Figure 4.18 shows the number of annual northbound bus crossings largely increased between 2000 and 2007 with the exception of 2006, when the number of northbound bus crossings decreased 38.5 percent in 2006 relative to 2005. Since 2007, however, the number of annual northbound bus crossings has consistently decreased from the peak of 796 in 2007 to three crossings in 2012.

Figure 4.19 shows annual northbound commercial crossings have ranged between 310,000 and 400,000 between 2000 and 2011. In 2012, however, the number of northbound commercial crossings increased 8.0 percent relative to 2011 to reach a peak of 409,930 crossings in 2012.

Southbound Crossings: The annual number of southbound POV crossings at the Ysleta-Zaragoza International Bridge increased from 2,960,078 in 2004 to 3,221,913 in 2006—an increase of 8.8 percent (see Figure 4.20). Between 2006 and 2011, however, the number of southbound POV crossings decreased 33.6 percent to reach 2,138,649 in 2011. In 2012, the number of southbound POV crossings increased marginally to reach 2,308,964.

Figure 4.21 shows the number of annual southbound truck crossings increased from 292,318 in 2004 to 335,006 in 2008—an increase of 14.6 percent. In 2009, however, the number of southbound truck crossings decreased 14.9 percent relative to 2008. Between 2009 and 2012, the number of southbound truck crossings increased 24.1 percent to peak at 353,555 in 2012.

Primary Roadways Serving Ysleta-Zaragoza International Bridge

On the U.S. side, Zaragoza Road connects directly with the bridge and is intersected by Loop 375, a four-lane divided highway, approximately 0.3 miles north of the bridge (see Figure 4.22). In 2010, the AADT on Loop 375 was 41,000 vehicles, of which 3.9 percent were trucks. The number of accidents on Loop 375 in 2010 was 5 accidents per mile, and the facility was operating at LOS C. Northeast of Ysleta–Zaragoza International Bridge toward Gateway Boulevard (FM 258), the AADT on Loop 375 was 32,100 vehicles in 2010, of which 4.2 percent were trucks. The number of accidents on this facility was 37 per mile in 2010, and the facility was operating at LOS B.

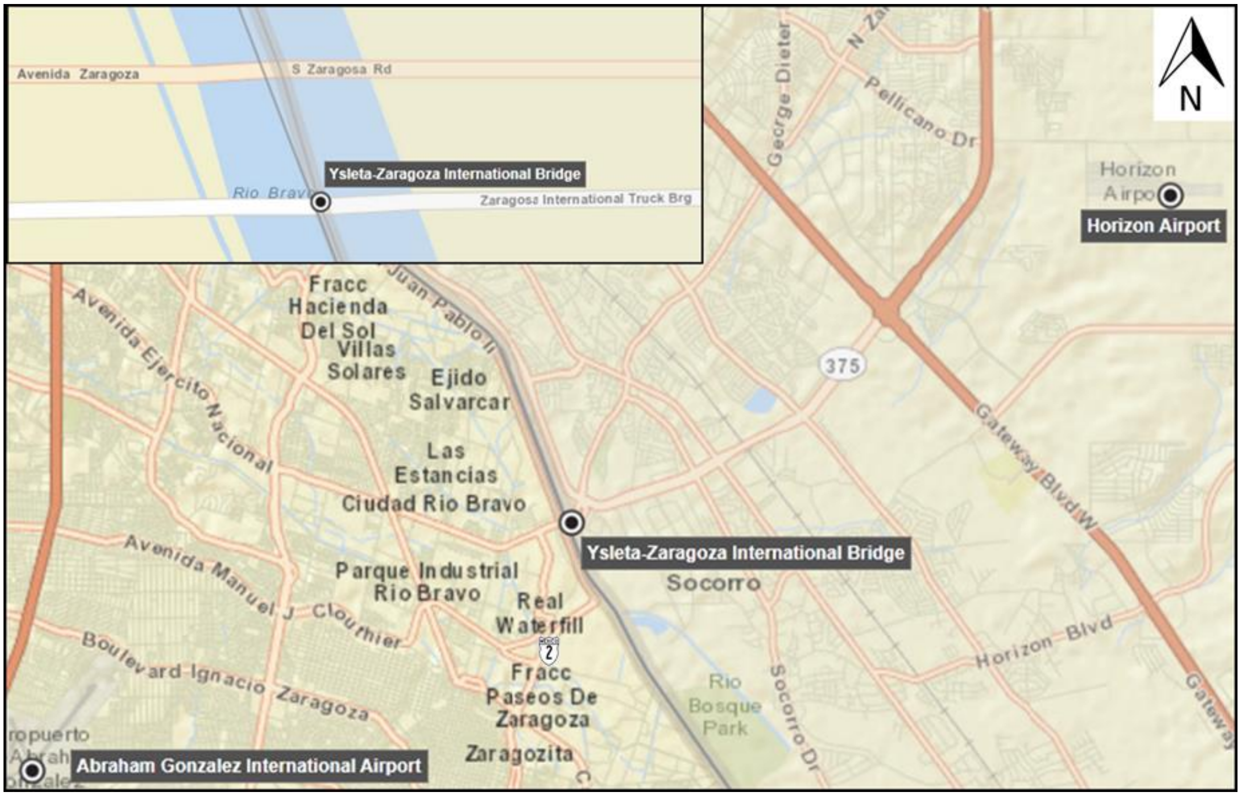


Figure 4.22: Ysleta-Zaragoza International Bridge Existing Infrastructure Map

On the Mexican side, Waterfill, a six-lane facility, is the primary ingress and egress to the bridge. Near the bridge, Waterfill is paralleled by Manuel Sandoval, a restricted route (Ruta Fiscal) that connects the Río Bravo Industrial Park to a Customs post and then to the Ysleta-Zaragoza International Bridge. The Industrial Park is also served by Río Bravo, a six-lane facility. Waterfill splits into Ejército Nacional and Ramón Rayón, both four-lane facilities. MEX 2 City of Juárez-El Porvenir, a Federal highway, merges into Bulevar Independencia, a six-lane outer loop of the City of Juárez. In 2010, the AADT on MEX 2 was 17,091 vehicles, of which 2.8 percent were trucks. All the streets mentioned intersect at different points with Manuel Gómez Morín and Manuel J. Clouthier, both six-lane facilities. Bulevar Juan Pablo II, a four-lane facility, runs parallel to Rio Bravo and underneath the bridge.

Planned Changes in Infrastructure (Present to 2030)

On the U.S. side, six road and interchange projects are planned near the Ysleta-Zaragoza International Bridge. The first planned project is the resurfacing of SH 20 between FM 76 (Fabens) and Loop 375. The project will let in September 2013 and will be completed in 2014. This planned project will improve the riding conditions on this section of SH 20. The AADT on this section was 10,648 vehicles in 2010, which is expected to grow by 2.2 percent to reach an AADT of 16,497 vehicles in 2030.

The second planned project is the construction of continuous turn lanes and widening of the paved shoulders on FM 258 between northbound and southbound SH 20. The project is expected to be completed at an estimated cost of $2.15 million in 2017. It is anticipated that the traffic volume along this corridor will grow at an annual rate of 1.7 percent. These planned upgrades will improve traffic flow along the corridor and ensure that the facility continues to operate at LOS A in the foreseeable future.

The third planned project provides for the reconstruction of on- and off-ramps for Loop 375, west of Pan American Drive, to segregate POE commercial and non-commercial traffic. Work on this project is expected to start in 2020 and be completed in 2021. The cost to complete this project is estimated at $7 million.

The fourth project planned in this area involves the installation of traffic management technology on FM 659 (Zaragoza Road) at an estimated cost of $1.8 million. The AADT on FM 659 was 53,000 vehicles in 2010, with trucks accounting for 7.2 percent of AADT. It is anticipated that the investment will ease traffic flow along this corridor, but no change in the current LOS is anticipated in the foreseeable future.

The fifth project planned in the area includes the reconstruction of SH 20 between Padres Drive and Loop 375. Work on the project is expected to start in 2015 and will be completed at an estimated cost of $9.2 million in 2017. This section of SH 20 had an AADT of 19,550 vehicles in 2010, with trucks accounting for 2.7 percent of the AADT. Although traffic along this corridor is expected to grow at an annual rate of 2.7 percent, it is anticipated that the completion of this planned project will ensure that the highway continues to operate at its current LOS A in the near future.

The sixth and final project planned in this area involves construction of a bus rapid transit (BRT) system on SH 20 between Santa Fe Street/Fourth Avenue, Kansas/Campbell Streets, and two other locations. This planned project will also serve Bridge of the Americas, Good Neighbor International Bridge, and Paso del Norte International Bridge. Work on the project is expected to start in 2013 and be completed at an estimated cost of $8.4 million in 2014.

4.4.2 Bridge of the Americas

On the U.S. side, the Bridge of the Americas is owned by IBWC and operated by CBP. On the Mexican side, the bridge is owned by CILA and operated by Mexican Customs. The bridge is 506 feet long and has four separate structures: two two-lane bridges for truck traffic and two four-lane bridges for other vehicular traffic. The bridge structure that accommodates truck traffic includes an empty cargo lane as well as FAST and Express lanes for import/export traffic. The bridge opened in 1967 and was rebuilt in 1998. The bridge connects to SH 110, US 62, and US 54, which connects to IH 10 on the U.S. side. On the Mexican side, the bridge connects to the beginning of MEX 45D. The bridge is known locally as Puente Rio Bravo, Puente Internacional Cordova-Las Americas, Cordova Bridge, Puente Libre, BOTA, and Free Bridge.

Border Station

The U.S. border station (LPOE BOTA) is owned by GSA. The border station was completed in 1967 and renovated in 1992. An expansion of the import lot was completed in 1998. In 2004, additional vehicular lanes were added.[4]

Hours of Operation

The bridge currently operates 24 hours a day for POVs. For commercial/cargo vehicles, the bridge operates from 6:00 a.m. to 6:00 p.m. on weekdays (Monday through Friday) and from 6:00 a.m. to 2:00 p.m. on Saturdays.[14]

Tolls

No tolls are charged to cross the Bridge of the Americas.

Wait Times

Table 4.14 illustrates the average daytime wait times at the Bridge of the Americas for POVs and commercial vehicles between 2004 and 2009. Table 4.14 shows that POV daytime wait times have more than doubled and that the commercial vehicle daytime wait times have increased by 69.0 percent between 2004 and 2009. On average, the daytime wait times for POVs and commercial vehicles between 2004 and 2009 were 25.5 and 11.8 minutes, respectively.

Table 4.14: Average Daytime Wait Times for Bridge of the Americas (in Minutes)

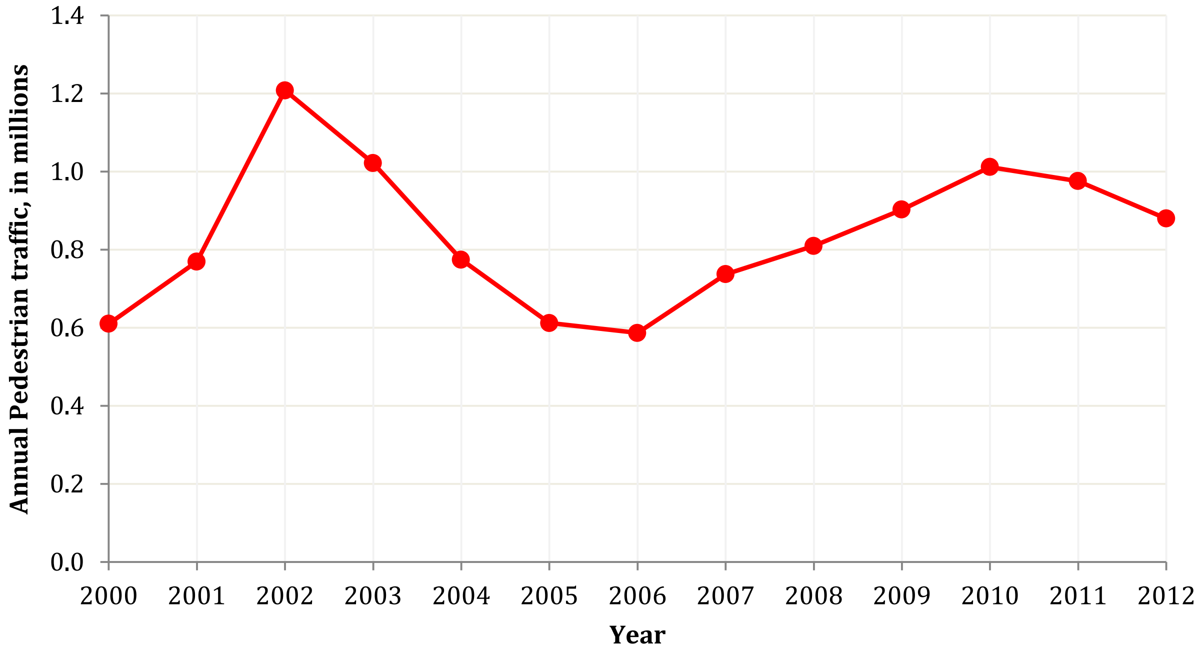
Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Bridge of the Americas	POV	17.6	11.8	23.2	36.3	27.4	36.5	25.5
	Commercial	8.7	13.5	15.4	9.3	9.1	14.7	11.8

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

Source: Bureau of Transportation Statistics[8]

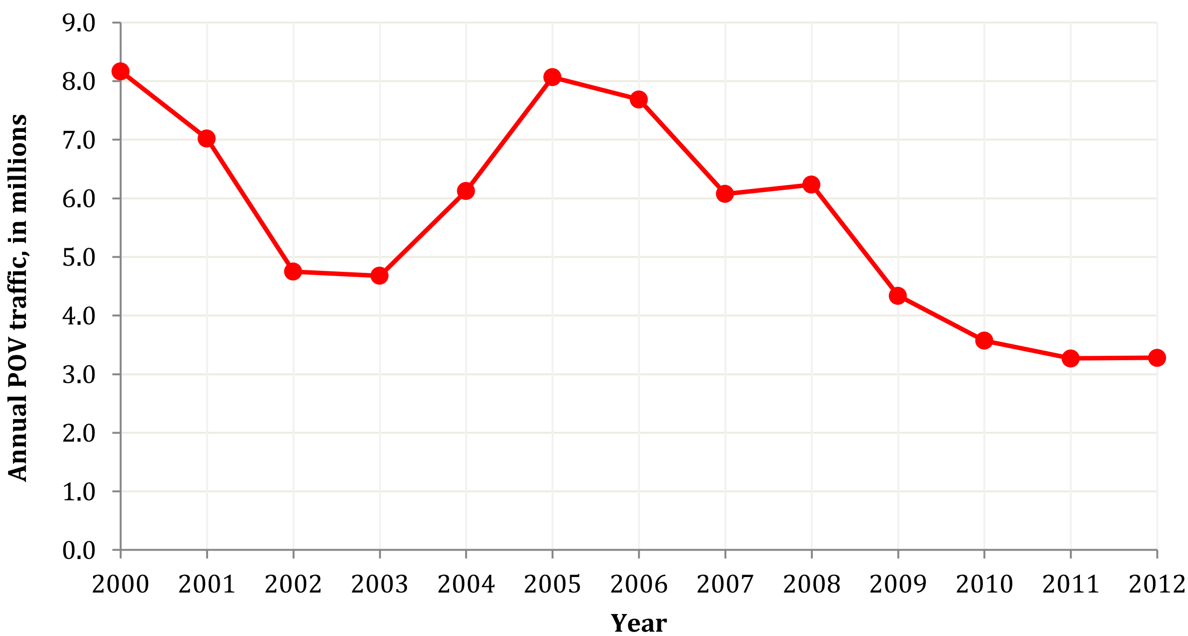
Bridge Crossings

Figures 4.23 through 4.26 illustrate the northbound crossings by mode between Mexico and the United States at the Bridge of the Americas between 2000 and 2012.



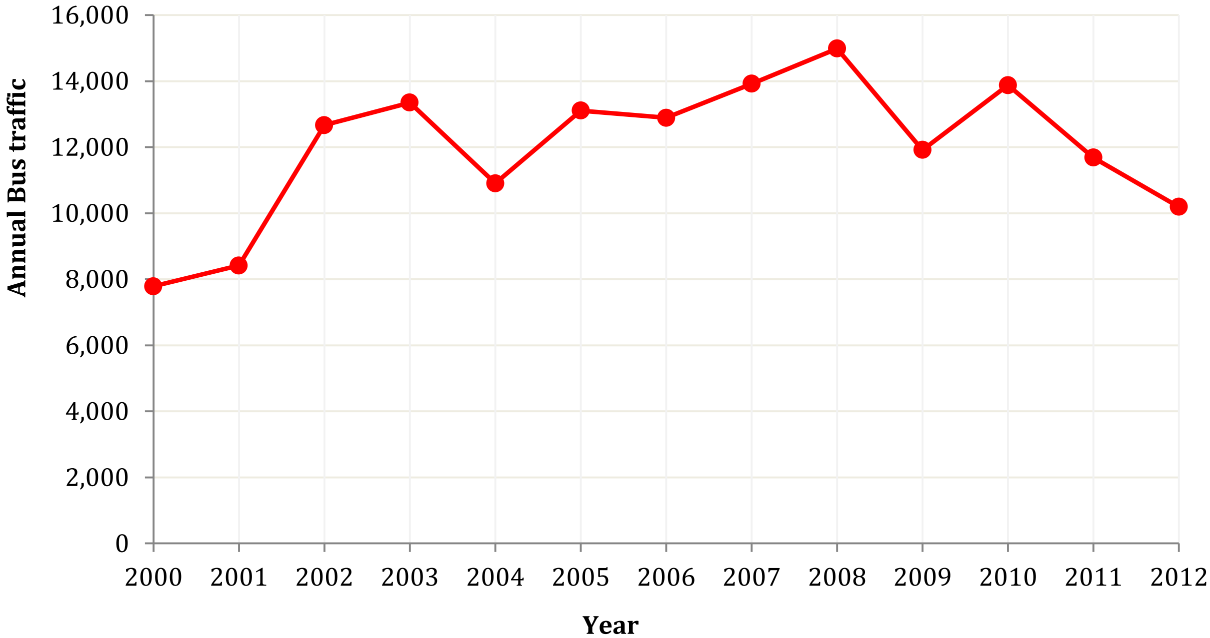
Source: CBP[9]

Figure 4.23: Bridge of the Americas Northbound Pedestrian Crossings



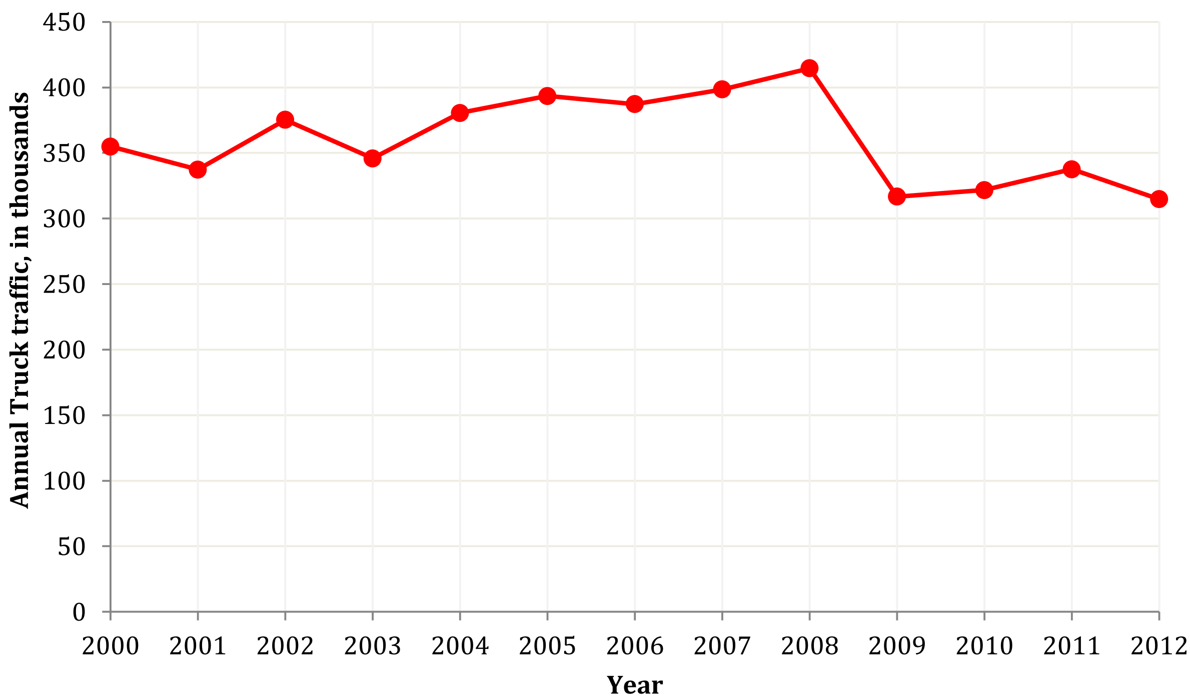
Source: CBP[9]

Figure 4.24: Bridge of the Americas Northbound POV Crossings



Source: CBP[9]

Figure 4.25: Bridge of the Americas Northbound Bus Crossings



Source: CBP[9]

Figure 4.26: Bridge of the Americas Northbound Commercial Truck Crossings

Figure 4.23 shows the number of annual northbound pedestrian crossings at the Bridge of the Americas increased 98.0 percent between 2000 and 2002. This was followed by a four-year period during which the number of northbound pedestrian crossings decreased from 1,207,738 in 2002 to 586,520 in 2006—a decrease of 51.4 percent. Between 2006 and 2010, the number of northbound pedestrian crossings increased an average of 14.6 percent per year to reach 1,011,462 in 2010. Between 2010 and 2012, however, the number of northbound pedestrian crossings decreased an average of 6.8 percent per year to reach 879,409 in 2012.

Figure 4.24 shows that the number of northbound POV crossings decreased between 2000 and 2003 and increased between 2003 and 2005 to reach a peak value of 8,065,901 crossings in 2005. Since 2005, however, the number of northbound POV crossings has decreased 59.5 percent to reach the lowest recorded level of 3,268,176 in 2011. In 2012, the number of northbound POV crossings increased marginally (0.4 percent) to 3,281,025 crossings.

Figure 4.25 shows that the number of annual northbound bus crossings at the Bridge of the Americas fluctuated substantially between 2000 and 2012. In general, the number of northbound bus crossings increased from 7,789 in 2000 to a peak of 14,984 in 2008—an annual average increase of 8.5 percent. However, between 2008 and 2012, the number of northbound crossings decreased an average of 9.2 percent per year to reach 10,192 in 2012.

Figure 4.26 shows that, despite fluctuations, the number of annual northbound commercial truck crossings increased 16.8 percent between 2000 and 2008. In 2009, however, the number of northbound commercial truck crossings decreased 23.6 percent relative to 2008 to reach the lowest recorded level of 316,731 crossings. Since 2009, the number of northbound crossings has increased marginally to reach 337,609 crossings in 2011, before decreasing again to reach 314,730 crossings in 2012.

Primary Roadways Serving the Bridge of the Americas

On the U.S. side, IH 110 is the primary ingress and egress to the bridge (see Figure 4.27). It connects to US 54 in the north, which is a four-lane divided facility that connects the bridge with the El Paso International Airport and major highways, including IH 10. The AADT on US 54 was 17,540 in 2010, of which 7.2 percent were trucks. In 2010, 50.0 accidents were reported per mile of this highway between IH 110 and Loop 375, which is significantly higher relative to the number of accidents reported on similar facilities in the Focused Study Area. The LOS on US 54 was level A in 2010.

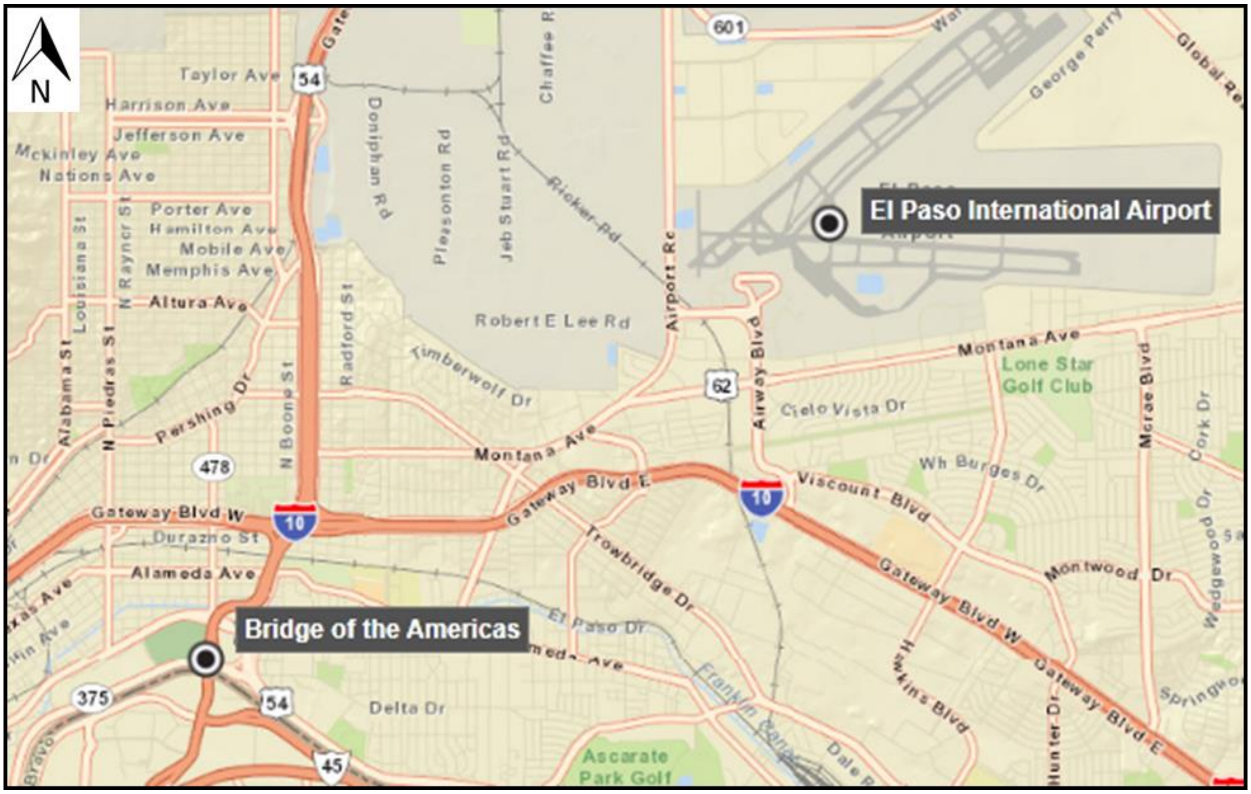


Figure 4.27: Bridge of the Americas Existing Infrastructure Map

Intersecting US 54 about 300 feet from the bridge is Loop 375. Loop 375 is a four-lane divided facility that runs parallel to the U.S.-Mexico border on the U.S. side. At Loop 375 and US 54, the AADT on Loop 375 was 43,000 vehicles in 2010, of which 3.9 percent were trucks. The number of accidents on Loop 375 in 2010 was approximately 4.97 accidents per mile, which is substantially lower compared to, for example, the accident rate for US 54. In 2010, the LOS on Loop 375 was level B.

On the Mexican side, MEX 45D Avenida de las Américas, a four-lane facility, is the primary ingress and egress to the bridge. In 2010, the AADT on MEX 45D was 6,244 vehicles, of which 26.9 percent were trucks. MEX 45D connects the City of Juárez to the State capital of Chihuahua and intersects with important roads in the area, including Hermanos Escobar, 16 de Septiembre, Adolfo López Mateos, and Rafael Pérez Serna. The Rafael Pérez Serna is a six-lane facility that connects the bridge, the Omega and Vista del Sol Industrial Parks, and the Bridge of the Americas. Near the international bridge, Rafael Pérez Serna and Río Bravo become restricted routes connecting the truck parking lots for empty and full trucks to the international bridge facility.

Planned Changes in Infrastructure (Present to 2030)

Three major road and interchange projects are planned in this area. The first is a new highway location, as part of the Loop 375 extension, to facilitate construction of an expressway. This planned project represents the section of Loop 375 between Park Street and Paisano Drive (US 62). The project will also serve the Good Neighbor International Bridge and Paso del Norte International Bridge. Work on the project will begin in late 2018 and is expected to be completed at an estimated cost of $184 million in 2022.

The second planned project in the area is construction of a BRT system involving several locations on US 180 (Montana Avenue). This planned project will also serve the Good Neighbor International Bridge and Paso del Norte International Bridge. The entire project is scheduled to begin in 2015 and be completed in 2016 at an estimated cost of $9.25 million. US 180 had an AADT of 36,770 vehicles in 2010, with trucks accounting for 7.1 percent of the AADT. Traffic along this corridor is expected to grow at an annual rate of 2 percent, resulting in a decrease in the LOS on this facility from level A to B in the future given no investments in infrastructure.

The final project planned in this area involves construction of a BRT system on SH 20 between Santa Fe Street/Fourth Avenue, Kansas/Campbell Streets, and two other locations. Work on the project is expected to start in 2013 and be completed at an estimated cost of $8.4 million in 2014.

4.4.3 Good Neighbor International Bridge

On the U.S. side, the Good Neighbor International Bridge is owned and operated by the City of El Paso. On the Mexican side, the bridge is owned and operated by the Mexican Federal Government. The bridge has three lanes for southbound vehicular traffic and one northbound SENTRI lane or dedicated commuter lane (DCL). No commercial traffic is allowed on the bridge. The bridge opened in 1967. On the U.S. side, the bridge connects to Stanton Street, which is parallel to US 62. On the Mexican side, the bridge connects to MEX 45D via Avenida Heroico Colegio Militar. The bridge is known locally as the Stanton Street Bridge, Friendship Bridge, Puente Rio Bravo, and Puente Lerdo-Stanton.

Border Station

The U.S. border station (LPOE Stanton) was completed in 1967 and is owned by GSA, which leases the facilities to the City of El Paso.[4]

Hours of Operation

The bridge currently operates for the northbound DCL and POVs from 6:00 a.m. to midnight on weekdays (Monday through Friday) and from 10:00 a.m. to midnight on weekend days (Saturday and Sunday). The bridge operates 24 hours a day for southbound POVs.[14]

Tolls

The toll rates for the Good Neighbor International Bridge are provided in Table 4.15.

Table 4.15: Toll Rates for Good Neighbor International Bridge (Southbound)

Mode	(US$)	(MXN)
Southbound POV	2.50	31.25
Southbound Pedestrian	0.50	6.25

Source: City of El Paso[15]

The CAPUFE Línea Express de Capufe (LINEXP) Stanton-Lerdo/Paso del Norte Program provides for purchase of an annual pass for MXN $4,297 that allows unlimited northbound crossings at the Good Neighbor International Bridge and the Paso del Norte International Bridge. In 2011, CAPUFE was instructed to legally separate and differentiate the programs for the Good Neighbor International Bridge and Paso del Norte International Bridge.

Wait Times

Table 4.16 shows that the average daytime wait times at the Good Neighbor International Bridge have been minimal, averaging 1.8 minutes for POVs.

Table 4.16: Average Daytime Wait Times for Good Neighbor International Bridge (in Minutes)

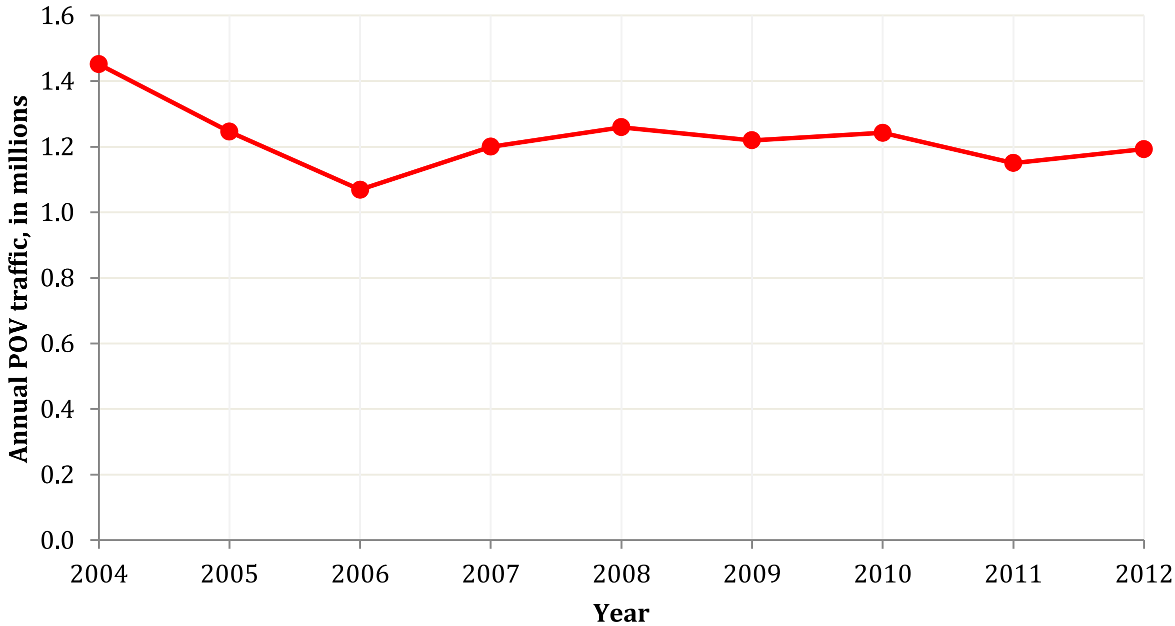
Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Good Neighbor Bridge	POV*	N/A	N/A	N/A	1.8	1.2	2.4	1.8

Note: * Non-commercial traffic only
Daytime is considered from 8:00 a.m. to 6:00 p.m.

Source: Bureau of Transportation Statistics[8]

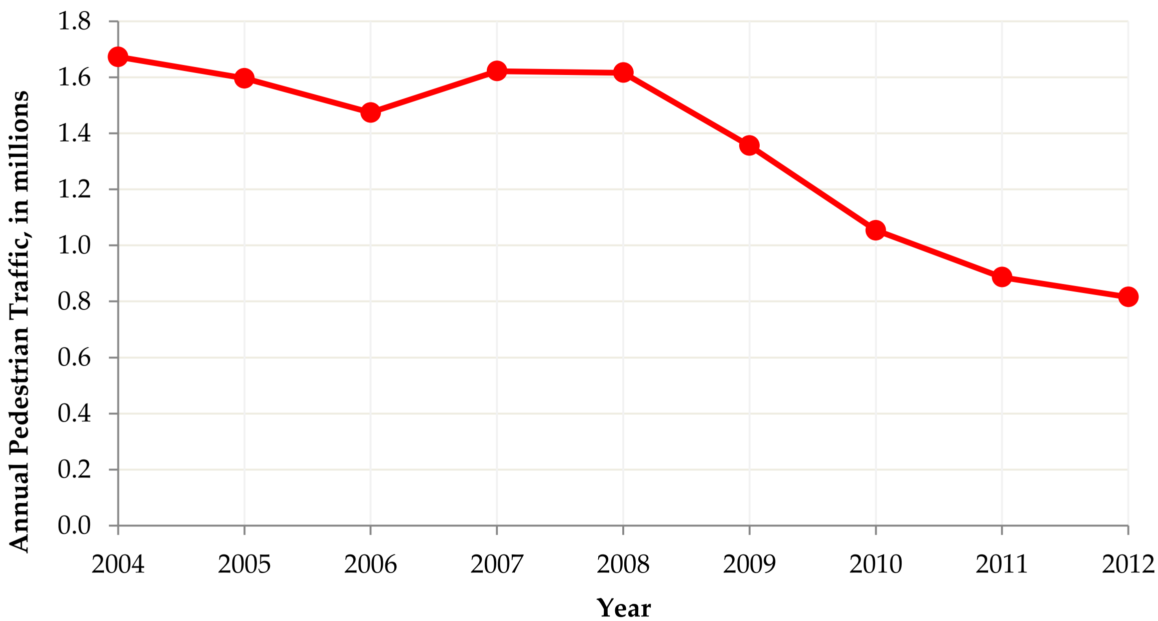
Bridge Crossings

Figure 4.28 illustrates the northbound DCL crossings between Mexico and the United States at the Good Neighbor International Bridge between 2004 and 2012. Figures 4.29 and 4.30 illustrate southbound pedestrian and POV crossings, respectively, between the United States and Mexico at the Good Neighbor International Bridge between 2004 and 2012.



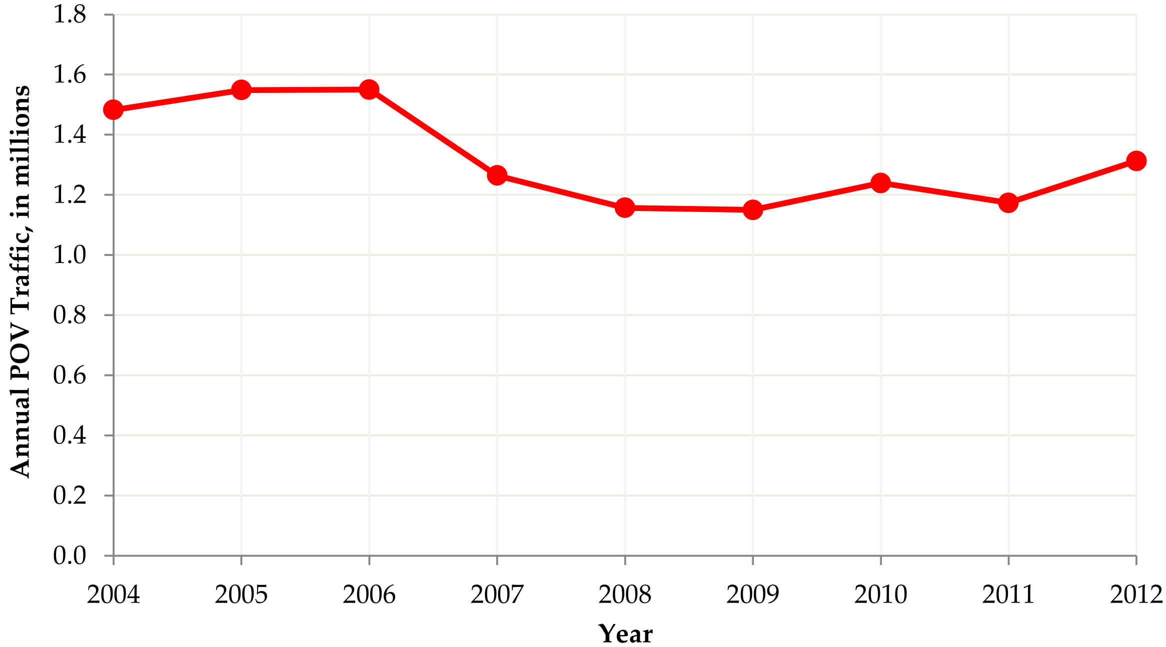
Source: City of El Paso[15]

Figure 4.28: Good Neighbor International Bridge Northbound DCL Crossings



Source: City of El Paso[15]

Figure 4.29: Good Neighbor International Bridge Southbound Pedestrian Crossings



Source: City of El Paso[15]

Figure 4.30: Good Neighbor International Bridge Southbound POV Crossings

Northbound Crossings: Figure 4.28 shows that between 2003 and 2006 the number of northbound DCL crossings decreased an average of 10.2 percent per year. Since 2006, the number of northbound DCL crossings has fluctuated between 1.15 and 1.26 million crossings.

Southbound Crossings: Figure 4.29 shows the annual number of southbound pedestrian crossings at the Good Neighbor International Bridge decreased from 1,672,791 crossings in 2004 to 815,532 crossings in 2012, a decrease of 51.2 percent.

Figure 4.30 shows the number of annual southbound POV crossings at the Good Neighbor International Bridge increased 4.6 percent between 2004 and 2006. In 2007, however, the number of southbound POV crossings decreased 18.4 percent relative to 2006. Between 2007 and 2011, the number of annual southbound commercial crossings ranged between 1.15 million and 1.30 million. In 2012, however, the number of southbound commercial crossings increased 11.9 percent relative to 2011 to reach 1,313,114 crossings.

Primary Roadways Serving the Good Neighbor International Bridge

On the U.S. side, US 85 (Stanton Street) connects directly with the bridge (see Figure 4.31). Approximately 400 feet from the bridge, US 85 intersects Loop 375. AADT on the six-lane roadway was recorded at 18,000 vehicles in 2010, with LOS A and 5.15 accidents per mile.

AADT recorded for Loop 375 near the bridge in 2010 was 17,800 vehicles. Trucks accounted for approximately 3.9 percent of the AADT on the four-lane divided highway. In 2010, the number of accidents recorded on Loop 375 was 4.97 per mile. The LOS on Loop 375 near US 85 in 2010 was level A.

On the Mexican side, Lerdo, a three-lane facility with one northbound and two southbound lanes, is the primary ingress and egress to the bridge. Lerdo intersects with Ing. David Herrera (Avenida Malecón), a six-lane facility that connects the Good Neighbor International Bridge with the Bridge of the Americas and Francisco Villa—the latter parallel to the Paso del Norte International Bridge entrance in the City of Juárez. Bulevard Fronterizo (also called Heroico Colegio Militar) runs underneath the bridge and connects with Norzagaray and Camino Real, the City of Juárez's western outer loops leading to the Anapra/Jerónimo areas. Other main roadways serving the area are Ignacio Mejía (also called Hermanos Escobar), 16 de Septiembre, Insurgentes, and Eje Vial Juan Gabriel.

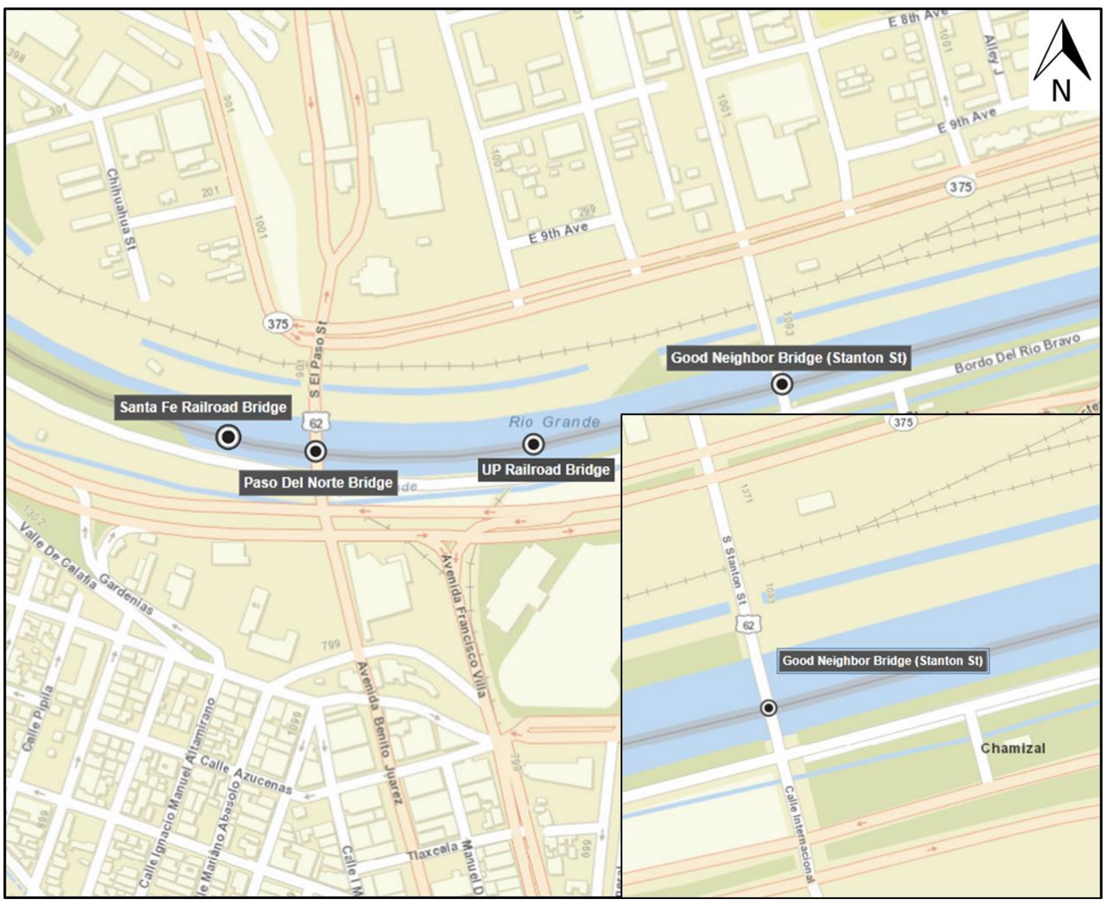


Figure 4.31: Good Neighbor International Bridge Existing Infrastructure Map

Planned Changes in Infrastructure (Present to 2030)

Four major road and interchange projects are planned in this area. The first project involves the construction of a BRT system on SH 20 between Santa Fe Street/Fourth Avenue, Kansas/Campbell Streets, and two other locations. Work on the project is expected to start in 2013 and be completed at an estimated cost of $8.4 million in 2014.

The second is a new highway location, as part of the Loop 375 extension, to facilitate construction of an expressway. This planned project represents the section of Loop 375 between Park Street and Paisano Drive (US 62). Work on the project will begin in late 2018 and is expected to be completed at an estimated cost of $184 million in 2022.

The third planned project in the area is the construction of a BRT system involving several locations on US 180 (Montana Avenue). The entire project is scheduled to begin in 2015 and be completed in 2016 at an estimated cost of $9.25 million.

The fourth and final project in the area involves the design and construction of road and pedestrian elements on Oregon Street that are required to integrate street cars between Glory Road and the Paso del Norte International Bridge. The total cost of the project is estimated at $133 million. Work on the project is expected to start in 2020.

4.4.4 Paso del Norte International Bridge

On the U.S. side, the Paso del Norte International Bridge is owned and operated by the City of El Paso. On the Mexican side, the bridge is owned by the Mexican Federal Government and operated by CAPUFE. The bridge is 982 feet long and has four lanes for non-commercial traffic. The bridge has two pedestrian walkways for northbound and southbound pedestrian traffic. The bridge opened in 1967. It connects to South El Paso Street, which runs parallel to US 85 on the U.S. side. On the Mexican side, the bridge connects to Juárez Street and Avenida Francisco Villa, which connects to Ing. David Herrera and goes on to MEX 45D.

The crossing is known locally as the Paso del Norte International Bridge, Santa Fe Street Bridge, Puente Benito Juárez, Puente Paso del Norte, and Puente Juárez-Santa Fe.

Border Station

The U.S. border station is owned by GSA. It was renovated in 1991. Subsequently, GSA received congressional funding to expand and renovate the facility. This expansion and renovation project was completed in April 2009.[4]

Hours of Operation

The bridge currently operates 24 hours a day for POVs and pedestrians only.[14]

Tolls

Toll rates for the Paso del Norte International Bridge are provided in Table 4.17.

Table 4.17: Toll Rates for Paso del Norte International Bridge (Southbound)

Mode	(US$)	(MXN)
POV	2.25	28.13
Pedestrian	0.50	6.25

Source: City of El Paso[15]

The CAPUFE LINEXP Stanton-Lerdo/Paso del Norte Program provides for the purchase of an annual pass for MXN $4,297 that allows unlimited northbound crossings at the Good Neighbor International Bridge and the Paso del Norte International Bridge. In 2011, CAPUFE was instructed to legally separate and differentiate the programs for the Good Neighbor International Bridge and Paso del Norte International Bridge.

Wait Times

Table 4.18 illustrates the average daytime wait times for POVs at the Paso del Norte International Bridge. Table 4.18 shows that the average daytime wait times varied from a low of 7.6 minutes in 2005 to a relative high of 32.3 minutes in 2009. The average daytime wait time for the period 2004 to 2009 for POVs was 20.8 minutes.

Table 4.18: Average Daytime Wait Times for Paso del Norte International Bridge (Minutes)

Bridge	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Paso del Norte International Bridge	POV	11.9	7.6	15.6	31.2	26.1	32.3	20.8

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

Source: Bureau of Transportation Statistics[8]

Bridge Crossings

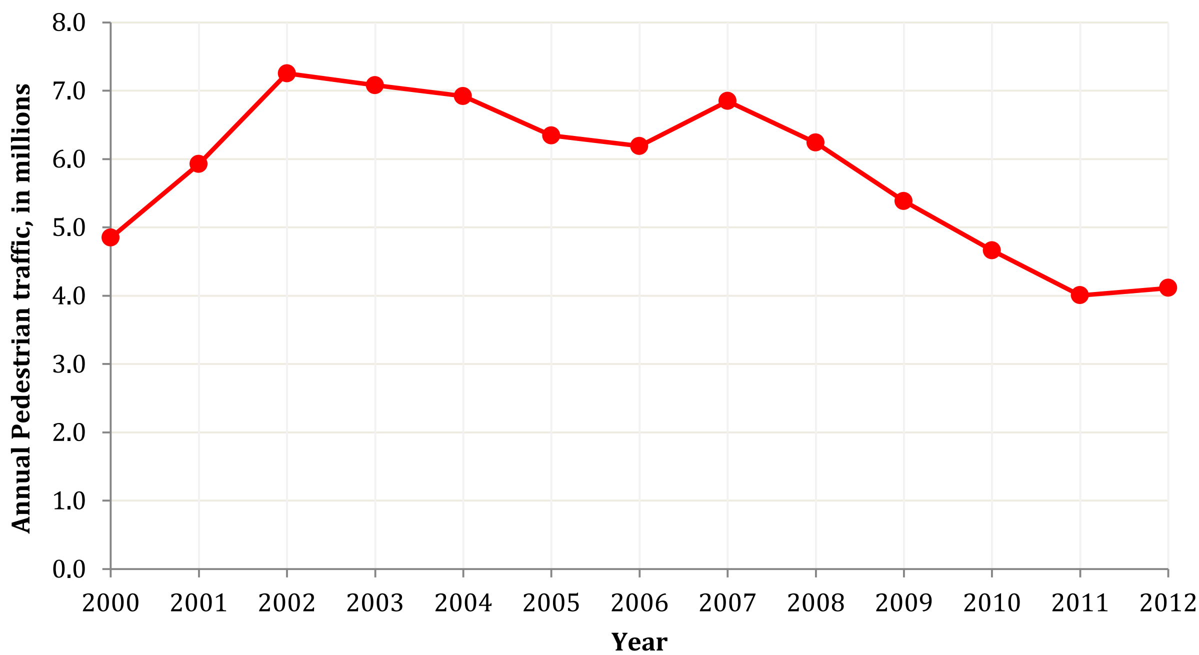
Figures 4.32 through 4.34 illustrate the northbound crossings by mode (POV, pedestrian, and bus) between 2000 and 2012 at the Paso del Norte International Bridge. Figure 4.35 illustrates the southbound pedestrian crossings from 2004 to 2012 at the Paso del Norte International Bridge.

<u>Northbound Crossings:</u> Figure 4.32 illustrates the trend in the number of northbound pedestrian crossings at the Paso del Norte International Bridge. Between 2000 and 2002,

the number of northbound pedestrian crossings increased an average of 22.3 percent per year to reach a peak of 7,251,991 in 2002. Since 2002, however, the number of northbound pedestrian crossings has decreased almost every year, with two exceptions: in 2007, the number of northbound pedestrian crossings increased relative to 2006, and in 2012, the number of northbound pedestrian crossings increased relative to 2011. Between 2002 and 2012, the number of northbound pedestrian crossings decreased 43.3 percent to reach 4,111,579 in 2012.

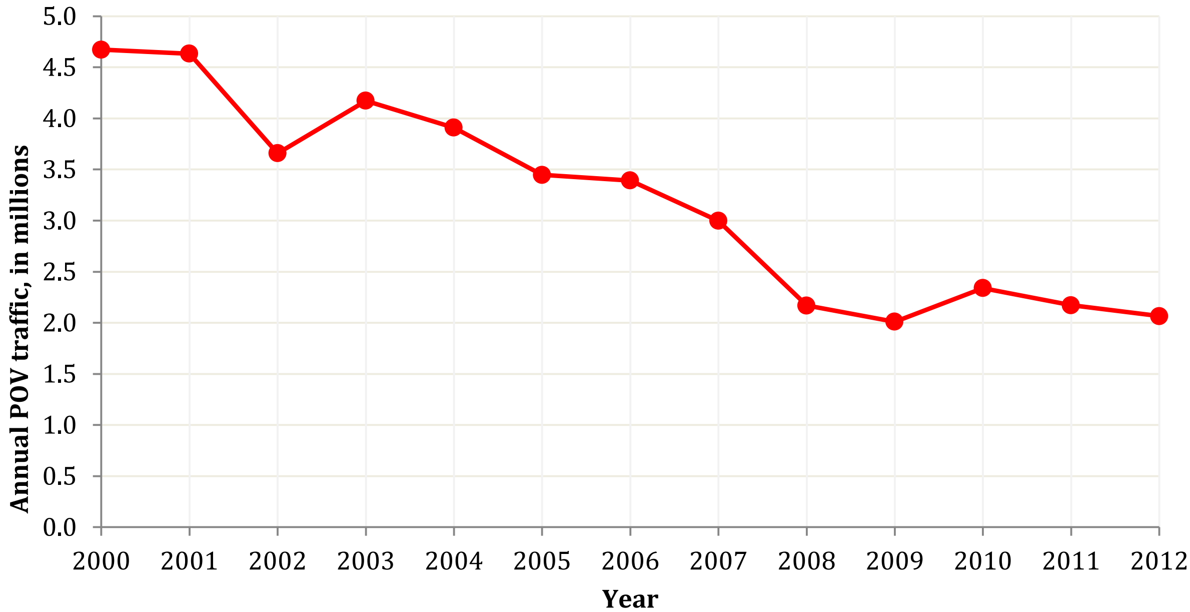
Figure 4.33 shows that the number of northbound POV crossings has generally decreased an average of 8.9 percent per year between 2000 and 2009 to reach the lowest recorded number of northbound crossings of 2,010,814 crossings in 2009. Since 2009, the number of northbound POV crossings increased 16.4 percent in 2010 relative to 2009 before decreasing an average of 6.1 percent per year between 2010 and 2012.

Figure 4.34 shows that the number of northbound bus crossings decreased an average of 46.9 percent per year from its peak value of 19,301 in 2002 to reach the lowest recorded number of northbound bus crossings of 1,534 in 2006. Between 2006 and 2012, the number of northbound bus crossings increased an average of 42.1 percent per year to reach 12,613 in 2012.



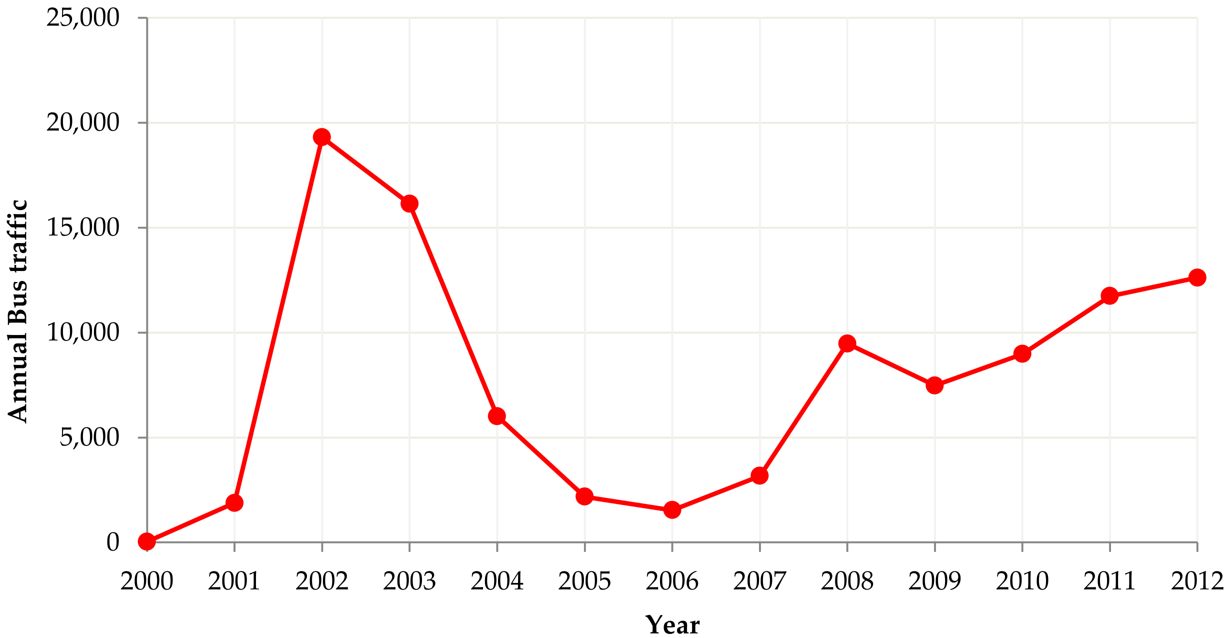
Source: CBP[9]

Figure 4.32: Paso del Norte International Bridge Northbound Pedestrian Crossings



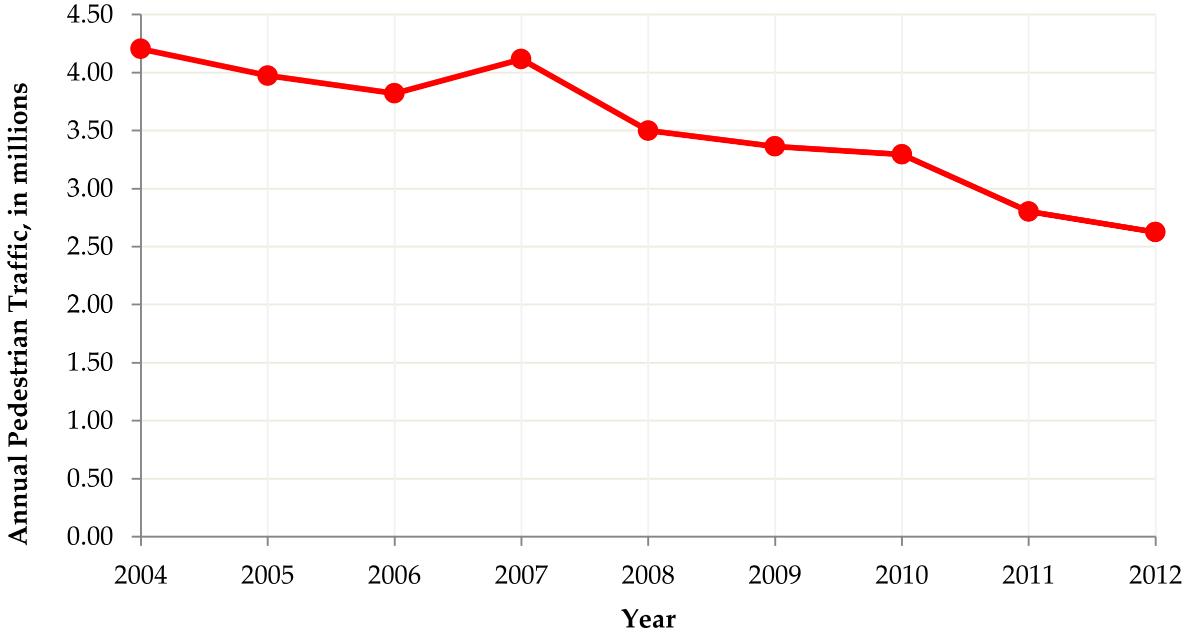
Source: CBP[9]

Figure 4.33: Paso del Norte International Bridge Northbound POV Crossings



Source: CBP[9]

Figure 4.34: Paso del Norte International Bridge Northbound Bus Crossings



Source: City of El Paso[15]

Figure 4.35: Paso del Norte International Bridge Southbound Pedestrian Crossings

Southbound Crossings: Figure 4.35 shows that the number of southbound pedestrian crossings decreased 37.6 percent from 4,203,676 in 2004 to 2,624,960 in 2012. The exception was 2007 when the number of southbound pedestrian crossings at the Paso del Norte International Bridge increased 7.7 percent relative to 2006 to peak at 4,115,586 crossings.

Primary Roadways Serving Paso del Norte International Bridge

On the U.S. side, the Paso del Norte International Bridge directly connects to El Paso Street, which intersects Loop 375 approximately 300 feet from the bridge (see Figure 4.36). At this intersection, Loop 375 recorded an AADT of 12,400 vehicles in 2010. The LOS for this section of Loop 375 was level A.

On the Mexican side, Juárez, a three-lane facility with all northbound lanes, is the primary ingress and egress to the bridge. Juárez runs parallel to Francisco Villa, which intersects with Ing. David Herrera (Avenida Malecón), a six-lane facility that connects all three international bridges: Good Neighbor, Bridge of the Americas, and Paso del Norte. Bulevard Fronterizo (also called Heroico Colegio Militar) runs underneath the bridge and connects with Norzagaray and Camino Real, the City of Juárez's western outer loops leading to the Anapra/Jerónimo area. Other main roads serving the area include Ignacio Mejía (also called Hermanos Escobar), 16 de Septiembre, Insurgentes, and Eje Vial Juan Gabriel.

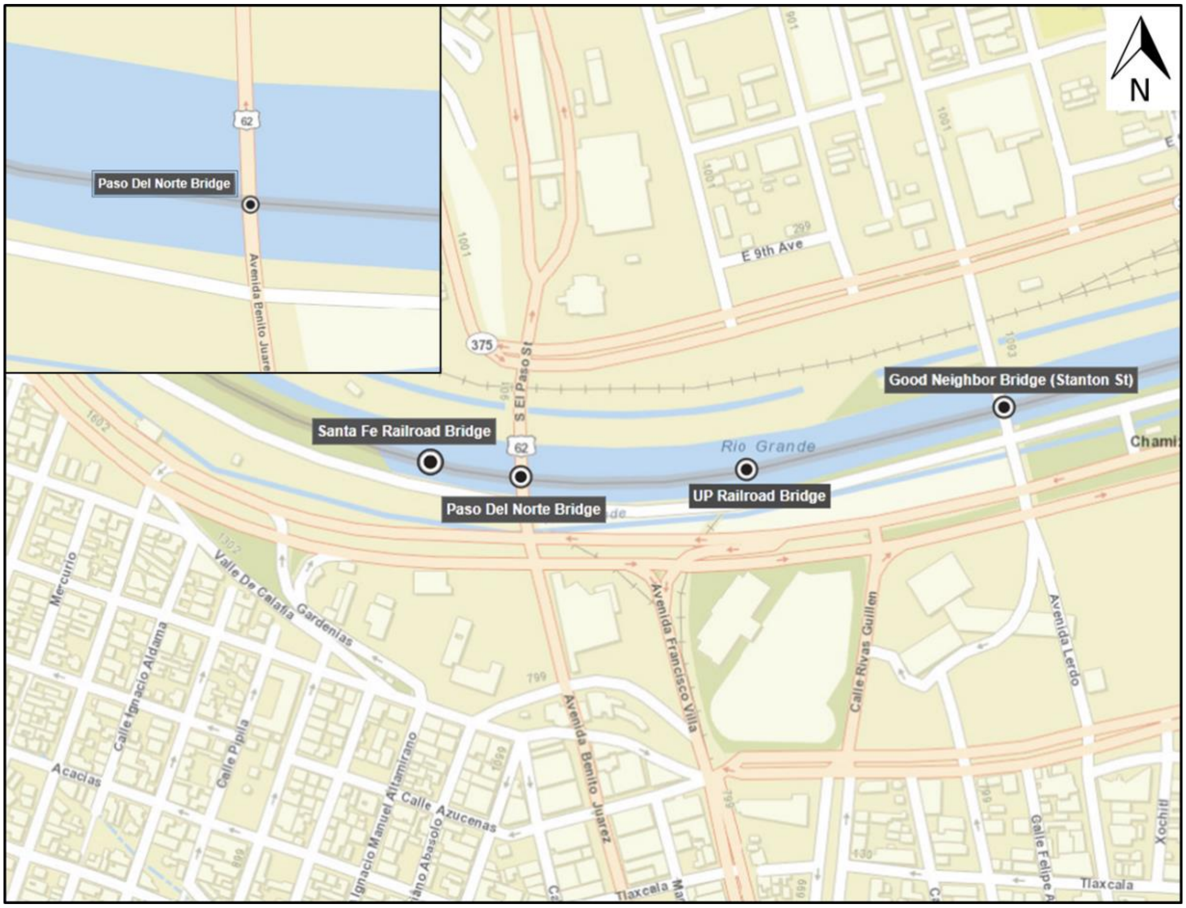


Figure 4.36: Paso del Norte International Bridge Existing Infrastructure Map

Planned Changes in Infrastructure (Present to 2030)

Four major road and interchange projects are planned near the Paso del Norte International Bridge. The first project involves construction of a BRT system on SH 20 between Santa Fe Street/Fourth Avenue, Kansas/Campbell Streets, and two other locations. Work on the project is expected to start in 2013 and be completed at an estimated cost of $8.4 million in 2014.

The second project is a new highway location, as part of the Loop 375 extension. This planned project represents the section of Loop 375 between Park Street and Paisano Drive (US 62). Work on the project will begin in late 2018 and is expected to be completed at an estimated cost of $184 million in 2022.

The third planned project in the area is the construction of a BRT system involving several locations on US 180 (Montana Avenue). The entire project is scheduled to begin in 2015 and to be completed in 2016 at an estimated cost of $9.25 million.

The fourth and final project in the area involves the design and construction of road and pedestrian elements that are required on Oregon Street to integrate street cars between Glory Road and the Paso del Norte International Bridge. The total cost of the project is estimated at $133 million. Work on the project is expected to start in 2020.

4.4.5 Santa Fe Railroad Bridge

BNSF Railway Company and UPRR currently interchange with the Mexican railroad company Ferromex in El Paso, Texas, and the City of Juárez, Chihuahua.[17] Both BNSF and UPRR have a rail yard and an intermodal terminal facility in El Paso.

The Santa Fe Railroad Bridge, also known as the BNSF Bridge or Black Bridge, is a steel bridge owned and operated by BNSF. It is located west of the interchange with Ferromex along the El Paso Subdivision line (see Figure 4.37) and continues to BNSF's El Paso Intermodal Terminal at the Santa Fe yard on the U.S. side of the border. The BNSF El Paso Subdivision line is approximately 241 miles long and consists of a single mainline track with few sidings.[17]

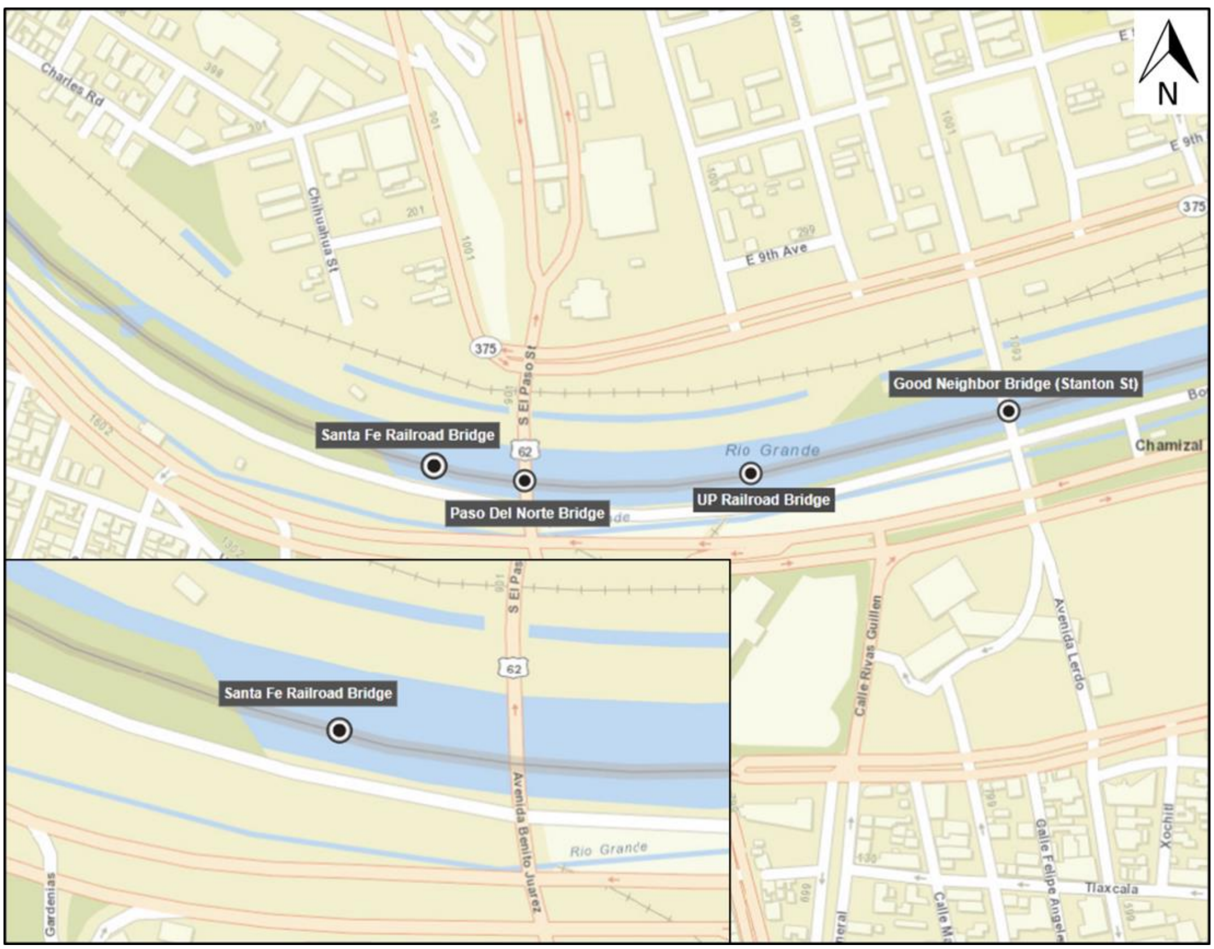


Figure 4.37: Santa Fe Railroad Bridge Existing Infrastructure Map

The BNSF El Paso Subdivision connects to BNSF's East-West Transcon Route at Belen, New Mexico.[17] Safety and congestion concerns in the City of Juárez have resulted in trains being permitted to operate only between 10:00 p.m. and 7:00 a.m. on the Mexican side of the El Paso crossing. This curfew has limited the capacity of the crossing to approximately 10 trains per day.[17]

BNSF completed the Chihuahuita connection in June 2010. The project involved rehabilitation and construction of 550 feet of track from BSNF Track 130 to the Santa Fe Railroad Bridge. The Chihuahuita connection provides an alternative route for southbound trains by allowing these trains to operate over Track 130, while northbound trains from Mexico continue to use the main track to the BNSF yard. The alternative Track 130 route enables southbound trains to park while "…interchanging BNSF locomotives with Ferromex locomotives, reconnecting air brake hoses on the locomotives to the train, and performing air brake tests prior to being moved into Mexico."[17]

Planned Changes in Infrastructure (Present to 2030)

Planned changes in the rail infrastructure at the Santa Fe Railroad Bridge include construction of road/rail grade separations in the City of Juárez and relocation of the BNSF El Paso Yard.[17] The objective of the grade separations is to alleviate congestion and accidents that still occur at the at-grade crossings during morning rush hour.[17] According to the El Paso Region Freight Rail Study, 18,000 vehicles cross the rail line daily at the five major at-grade crossings between Ferromex's rail yard in the City of Juárez and the international border crossing—a distance of less than 1 mile. The proposed improvement project includes grade separations at the five crossings with Municipio Libre, Vicente Guerrero, 16 de Septiembre, David Herrera, and Bulevard Fronterizo.[17] It is anticipated that the grade separations will expand the operating window from 9 to 12 hours and increase the capacity of the international crossing, which will reduce train congestion and delay and result in an estimated benefit of more than $49 million.[17] Furthermore, the benefits from reduced shipping costs, inventory costs, and locomotive emissions associated with reduced train dwell time are estimated at more than $61 million. The grade separations would also enhance vehicular traffic flow resulting in reduced delay, idling, emissions, congestion, accidents, and overall vehicle operating costs—benefits estimated at approximately $19 million.[17] The total benefits of the grade separations are estimated at nearly $130 million, while the estimated cost amounts to $13.4 million.[17]

4.4.6 Union Pacific Railroad Bridge

UPRR's rail line in El Paso is part of its Sunset Route that connects the West Coast to San Antonio (see Figure 4.38). The Union Pacific Railroad Bridge is a steel bridge owned and operated by UPRR. The bridge is east of the interchange with Ferromex, and from the bridge the rail line continues along the Valentine Subdivision to UPRR's Alfalfa Yard on the U.S. side.[17] The largest volume of rail tonnage is moved on the Valentine Subdivision between El Paso and Sierra Blanca, followed by the Toyah Subdivision from

Sierra Blanca to Dallas/Fort Worth, and the Carrizozo Subdivision running north from El Paso.[17]

According to the El Paso Freight Rail Study, the Valentine Subdivision begins east of Tower 47 at the Dallas Street Yard in El Paso at the terminus of the Lordsburg Subdivision and ends west of Alpine, where the line continues east toward Del Rio as the Sanderson Subdivision. The Valentine Subdivision is approximately 216 miles long and crosses El Paso, Hudspeth, Culberson, Jeff Davis, Presidio, and Brewster Counties. The rail line passes through the cities of El Paso, Sierra Blanca, Valentine, and Marfa. Amtrak's Sunset Limited route operates on the Valentine Subdivision, while BNSF has trackage rights on the segment from El Paso to Sierra Blanca. The Valentine Subdivision has a double track mainline from Tower 47 in El Paso to approximately 12 miles east, where it transitions to a single mainline track with limited sidings for the remainder of the subdivision.[17]

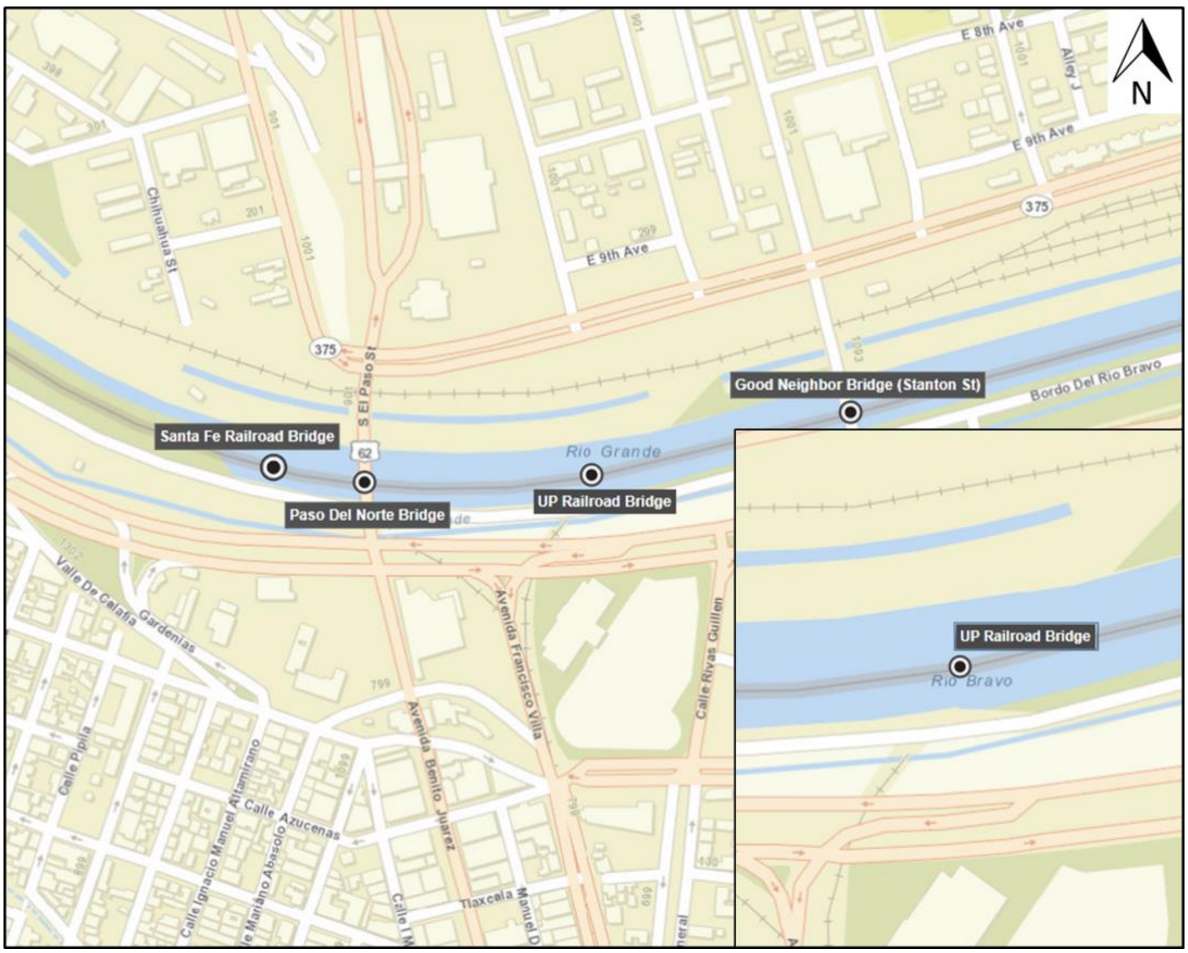
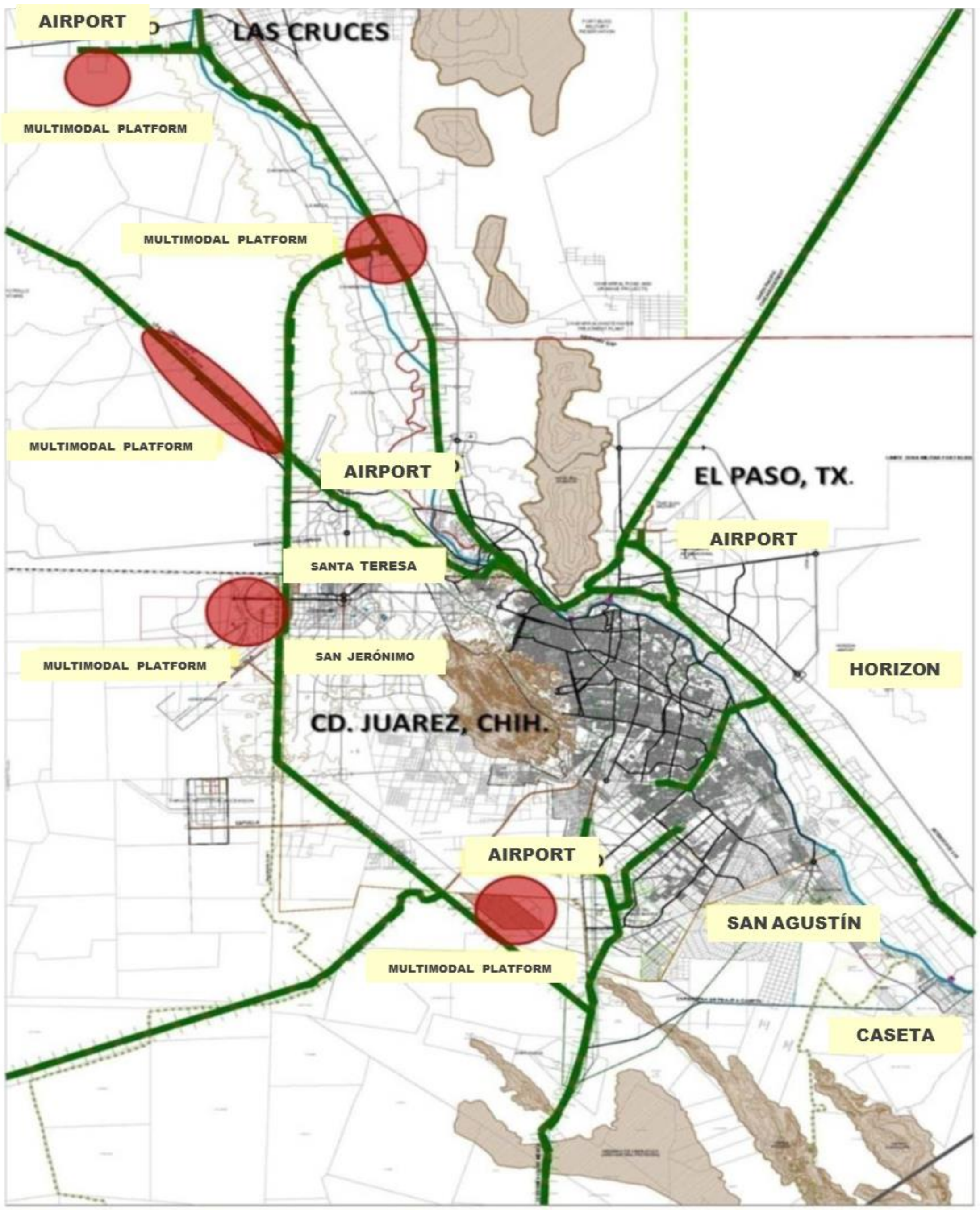


Figure 4.38: Union Pacific Railroad Bridge Existing Infrastructure Map

Planned Changes in Infrastructure (Present to 2030)

UPRR is currently constructing a new rail yard west of the Sunset Route intersection with the UPRR Tucumcari Line in the Santa Teresa area. Initially, the yard will serve as a refueling station, but in the future it will be upgraded to handle yard operations (e.g., crew handling, locomotives, and administration) currently handled at the Dallas Street Yard in El Paso. It is anticipated that the rail tracks west of the Dallas Street Yard will be removed to allow for new development to meet the needs of the city. Challenges include construction of grade separations near Bataan Trench to serve north-south streets connecting to the former rail yard.[17]

On the Mexican side, the Municipality of Juárez's long-term vision for rail infrastructure could impact UPRR traffic crossing at the Union Pacific Railroad Bridge. Figure 4.39 shows that the Municipality of Juárez's long-term vision includes construction of a rail bypass crossing through the Santa Teresa/Jerónimo POE. According to this vision, one alternative could be to divert UPRR contracted traffic to the rail bypass, while BNSF's contracted traffic could continue to traverse downtown's Black Bridge. A potential constraint given this alternative is, however, the capacity of the rail yards in downtown El Paso.



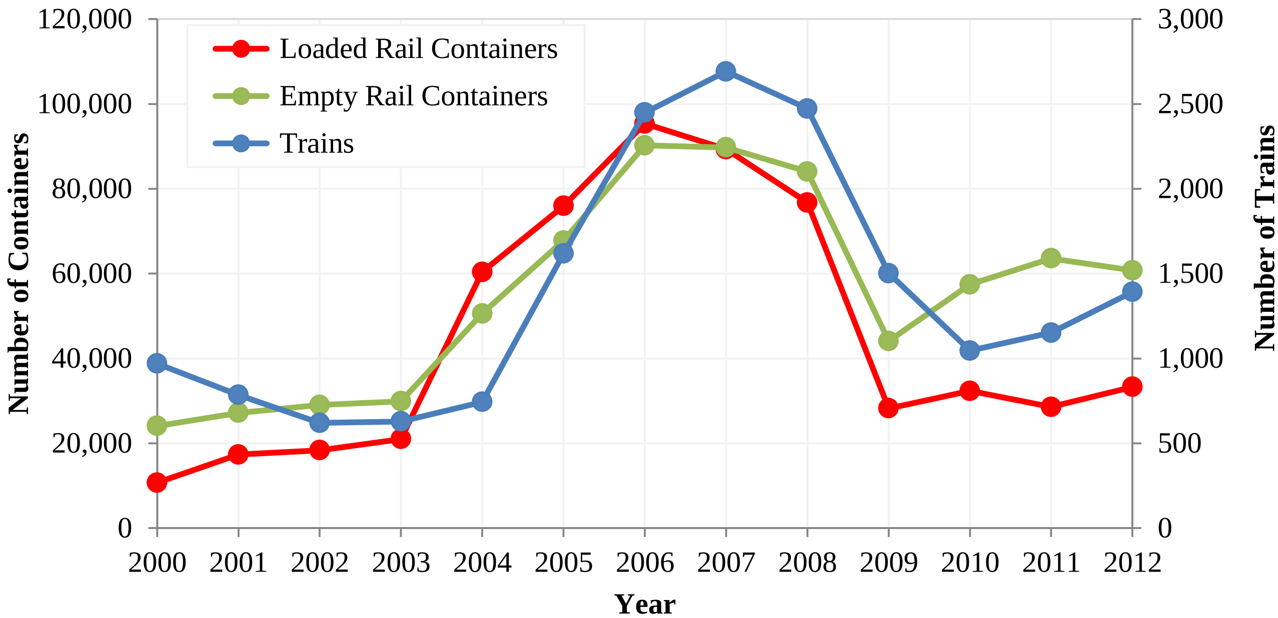
Source: Municipality of Juárez[18]

Figure 4.39: Long-Term Vision for Rail Infrastructure in City of Juárez

Bridge Crossings

Figure 4.40 illustrates the northbound bridge crossings on both the Santa Fe Railroad Bridge and the Union Pacific Railroad Bridge. Figure 4.40 shows that the number of train crossings increased substantially (327.8 percent) between 2003 and 2007.

The decrease in the number of northbound train crossings (61.1 percent) between 2007 and 2010 is likely a reflection of the U.S. economy at the time. By 2012, the number of train crossings increased again by 33.1 percent relative to 2010. The number of container crossings followed a similar trend. Southbound rail crossing information was not available for analysis.



Source: Bureau of Transportation Statistics[19]

Figure 4.40: Santa Fe and Union Pacific Railroad Bridges Northbound Trains and Container Crossings

4.5 New Mexico/Mexico—Doña Ana/Juárez

There is one crossing between Doña Ana County, New Mexico, and the Municipality of Juárez—the Santa Teresa/Jerónimo land crossing. The crossing serves pedestrians, non-commercial, and commercial vehicles (see Table 4.19).

Table 4.19: Summary of Doña Ana County/Municipality of Juárez Crossings

POE	Location	Pedestrians	Non-commercial Vehicles	Commercial Vehicles	Rail
Santa Teresa/Jerónimo POE	Near El Paso/ Juárez	Yes	Yes	Yes	No

4.5.1 Santa Teresa/Jerónimo POE

The POE opened in 1992 and was rebuilt in 1997. The Santa Teresa/Jerónimo POE has two lanes and includes the largest facility for the import and export of livestock on the U.S.-Mexico border.[20] This facility includes a special opening through the border fence and is located approximately 1 mile east of the vehicular POE. On the U.S. side, Pete V. Domenici Memorial Highway connects the Santa Teresa/Jerónimo POE with NM 9 and IH 10. On the Mexican side, a loop connects the Santa Teresa/Jerónimo POE with MEX 2 and MEX 45D. The crossing is known as Cruce Jerónimo/Santa Teresa in Mexico.

Border Station

On the U.S. side, the new facility that replaced the original 1992 POE was completed in 1997.[21] In March 2013, the addition of two POV booths (resulting in four total) increased the capacity of the crossing.

Hours of Operation

The POE currently operates daily from 6:00 a.m. to midnight seven days a week for non-commercial vehicles. For commercial/cargo vehicles, the crossing operates from 8:00 a.m. to 8:00 p.m. Monday through Friday and from 10:00 a.m. to 2:00 p.m. on Saturdays.[22]

Tolls

No tolls are charged to cross at the Santa Teresa/Jerónimo POE.

Wait Times

Table 4.20 shows that the average daytime wait times at the Santa Teresa/Jerónimo POE have been negligible, averaging 5.4 minutes for POVs and 1.1 minutes for commercial vehicles.

Table 4.20: Average Daytime Wait Times for Santa Teresa/Jerónimo POE (in Minutes)

POE	Mode	Year						Average (Minutes)
		2004	2005	2006	2007	2008	2009	
Santa Teresa/Jerónimo POE	POV	0.8	0.1	1.6	8.6	6.7	14.6	5.4
	Commercial	0.1	0.1	0.7	2.1	0.6	3.2	1.1

Note: Daytime is considered from 8:00 a.m. to 6:00 p.m.

Source: Bureau of Transportation Statistics[8]

Santa Teresa/Jerónimo Livestock POE Facility

The Santa Teresa/Jerónimo Livestock POE Facility (owned by Unión Ganadera Regional de Chihuahua [UGRC]) at the Santa Teresa/Jerónimo POE is the largest in size and in number of crossings on the U.S.-Mexico border. UGRC operates on both sides of the Santa Teresa/Jerónimo crossing (see Figures 4.41 through 4.43). Cattle, horses, and other livestock are processed at this facility.[20]

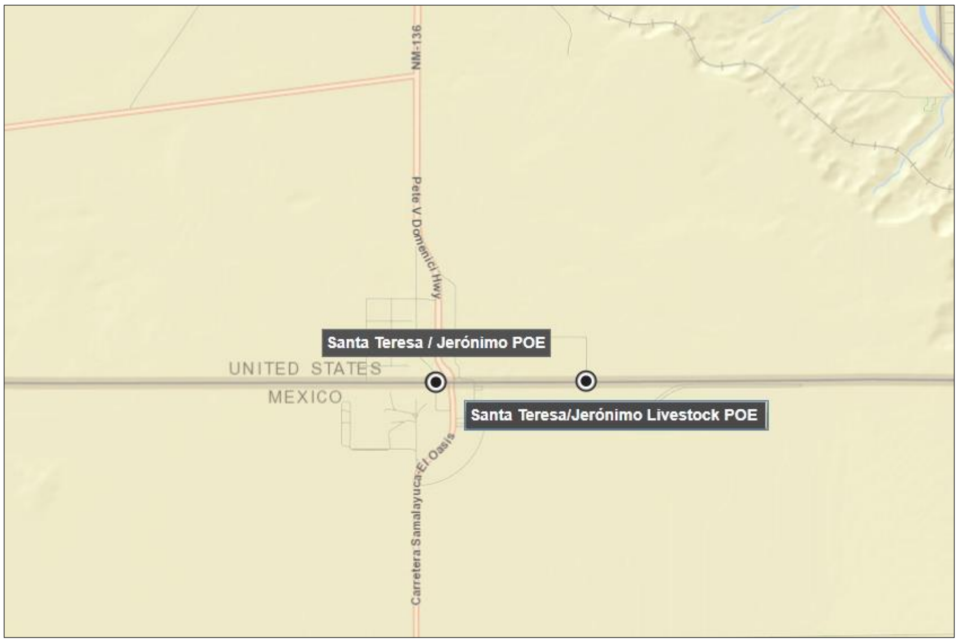


Figure 4.41: Santa Teresa/Jerónimo Livestock POE

Figure 4.42: Santa Teresa/Jerónimo Livestock POE U.S. Entrance

Figure 4.43: Santa Teresa/Jerónimo Livestock POE Crossing Process

Located approximately 1 mile east of the Santa Teresa/Jerónimo POE, the facility can hold up to 13,000 head and has the capacity to process the crossing of up to 4,500 head in less than 12 hours. The facility includes inspection, feeding, and quarantine facilities. UGRC plans to expand the facility in 2014 to accommodate an additional 2,000 head for a total of 15,000-head capacity.[20]

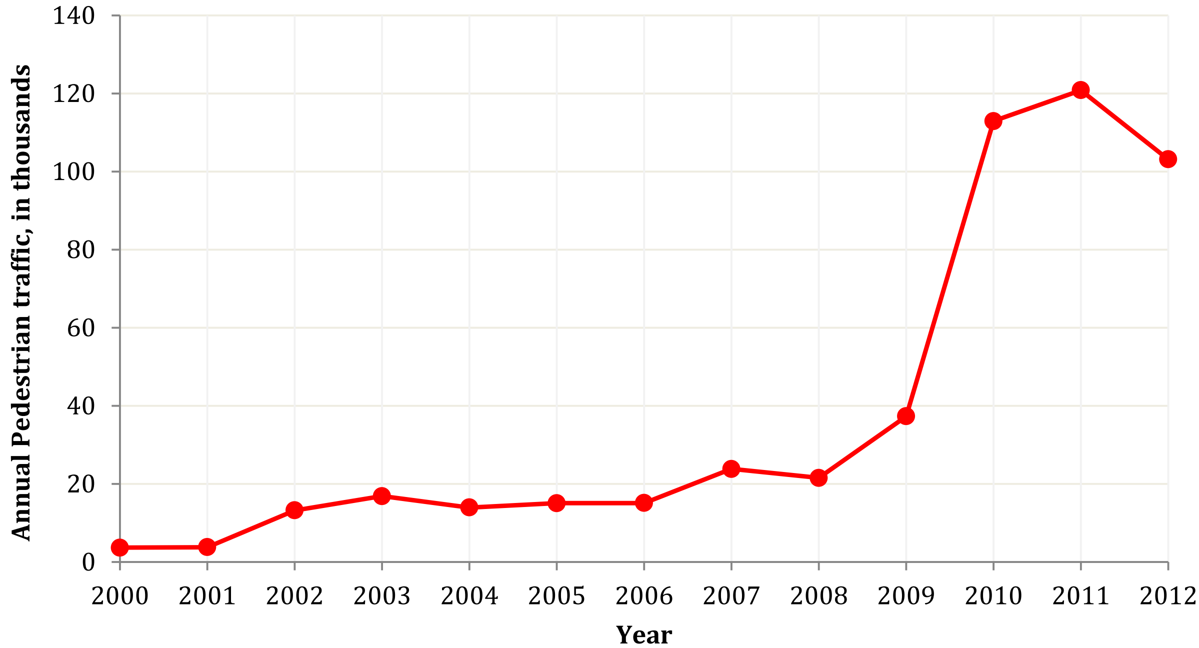
Most cattle crossing at the facility are feedstock destined for pasture and feedlots in Texas, New Mexico, Arizona, California, and the Midwestern United States. Even though most animals originate in Chihuahua, there is an increasing trend to import animals from throughout Mexico.[20]

At this facility, livestock are penned and processed at the border and then walked into the United States, saving time and transportation costs while minimizing weight loss. At other border livestock facilities, livestock must be trucked between processing facilities on each side of the border, increasing costs and stress to the animals.

Land Crossings

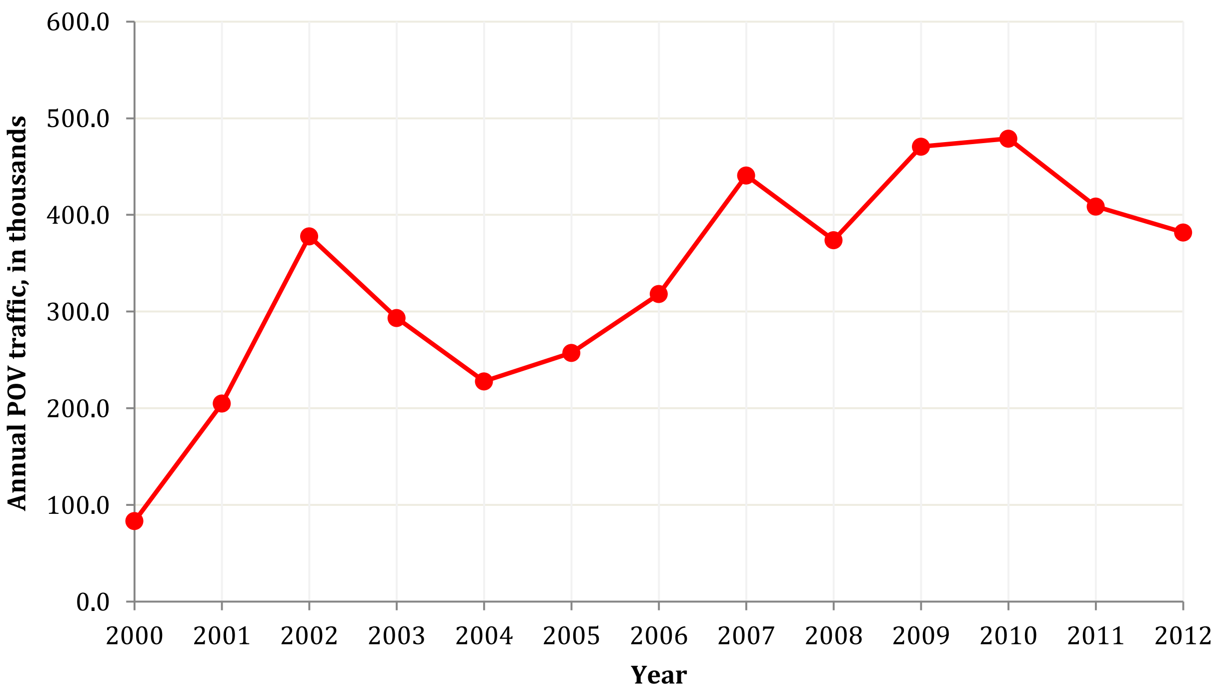
Figures 4.44 through 4.47 illustrate the number of northbound crossings by mode between Mexico and the United States between 2000 and 2012 at the Santa Teresa/Jerónimo POE. Southbound crossing data are not available for the POE.

Figure 4.44 shows that for the period 2000 to 2008, the annual number of northbound pedestrian crossings increased an average of 24.9 percent per year. However, between 2008 and 2009, and 2009 and 2010, a dramatic increase in the number of northbound pedestrian crossings is seen at 73.2 percent and 202.6 percent, respectively. In 2011, the number of northbound pedestrian crossings increased 7.0 percent relative to 2010 to peak at 120,813. However, in 2012, the number of northbound pedestrian crossings decreased 14.6 percent to 103,119.



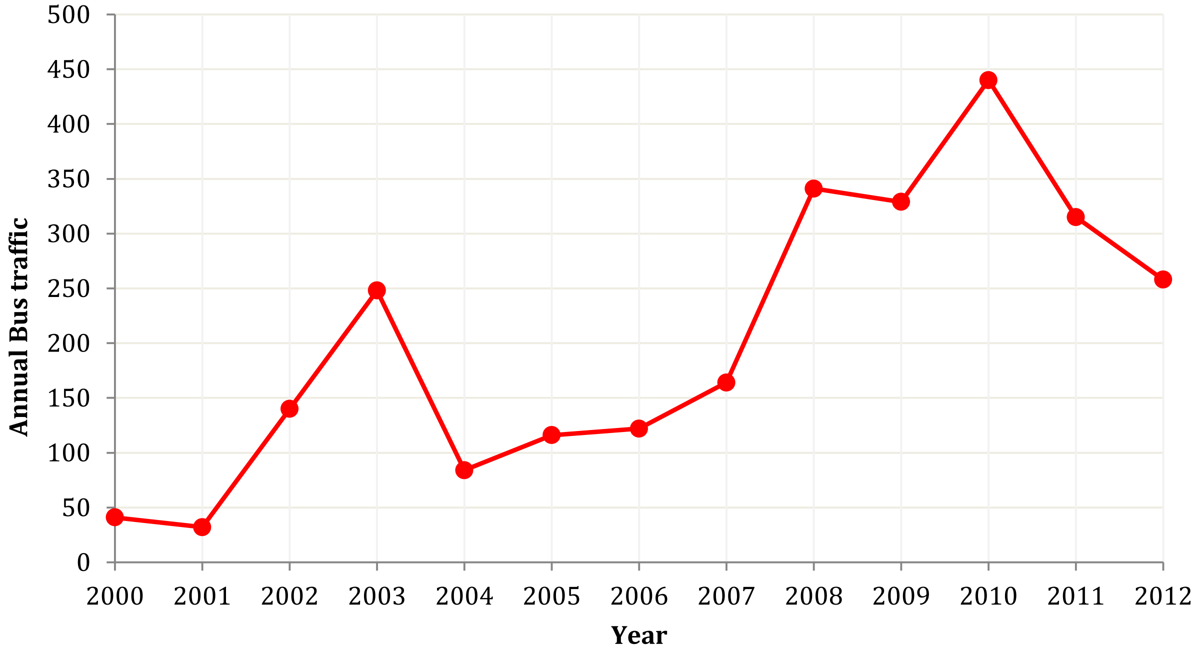
Source: CBP[9]

Figure 4.44: Santa Teresa/Jerónimo POE Northbound Pedestrian Crossings



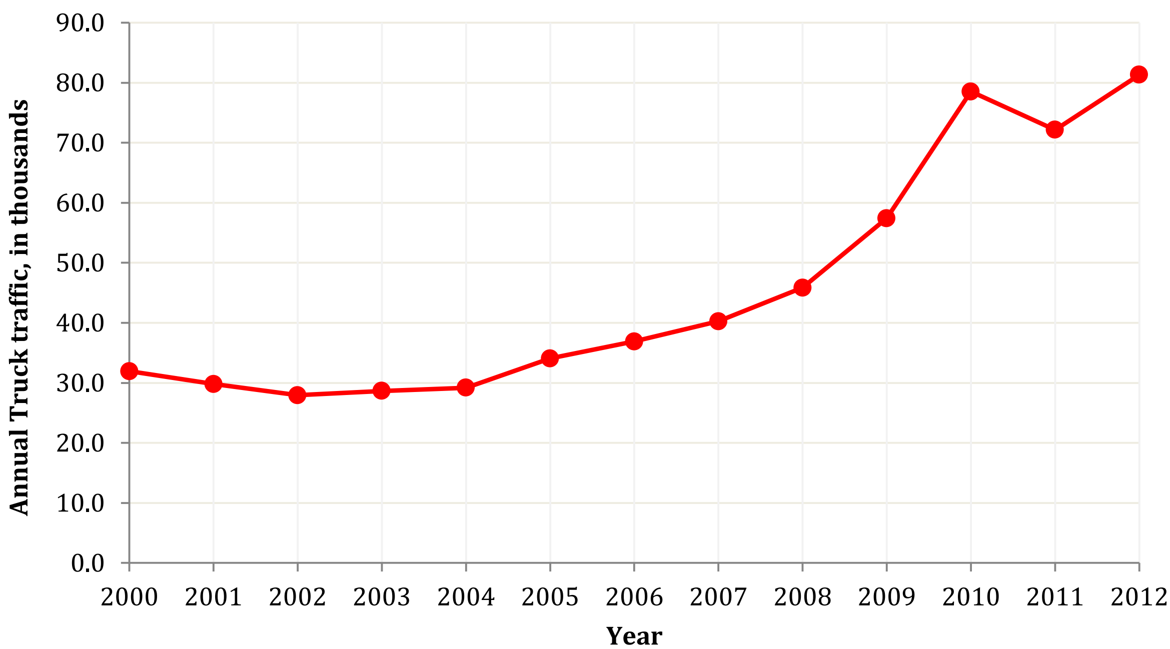
Source: CBP[9]

Figure 4.45: Santa Teresa/Jerónimo POE Northbound POV Crossings



Source: CBP[9]

Figure 4.46: Santa Teresa/Jerónimo POE Northbound Bus Crossings



Source: CBP[9]

Figure 4.47: Santa Teresa/Jerónimo POE Northbound Commercial Truck Crossings

Although the number of northbound POV crossings increased between 2000 and 2012 at the Santa Teresa/Jerónimo POE, the number of crossings in the intermediate years varied substantially (see Figure 4.45). Between 2000 and 2002, the number of northbound crossings increased an average of 113.0 percent per year before decreasing between 2002 and 2004 by an average of 22.4 percent per year. This was followed by a period (2004 to 2007) during which the number of POV crossings increased to reach 440,857 in 2007. In 2008, northbound POV crossings decreased to reach 373,905, but between 2008 and 2010 the number of crossings increased an average of 13.2 percent per year to reach a peak of 478,970 in 2010. Between 2010 and 2012, the number of northbound POV crossings decreased an average of 10.7 percent per year to reach 381,903 in 2012.

Similar to the northbound POV crossings at the Santa Teresa/Jerónimo POE, the number of northbound bus crossings increased between 2000 and 2012, but the annual crossings in the intermediate years varied substantially. Figure 4.46 shows that the number of northbound bus crossings increased an average of 178.4 percent per year between 2001 and 2003 before decreasing 66.1 percent in 2004. Between 2004 and 2010, the number of northbound bus crossings increased an average of 31.8 percent per year to reach a peak of 440 in 2010. Between 2010 and 2012, the number of northbound bus crossings decreased an average of 23.4 percent per year to reach 258 crossings in 2012.

Figure 4.47 shows that the number of northbound commercial crossings ranged between 27,000 and 32,000 between 2000 and 2004. Between 2004 and 2010, the number of northbound commercial crossings increased an average of 18.0 percent per year to reach 78,879 crossings in 2010. In 2011, the number of northbound commercial crossings decreased 9.5 percent to 71,362 crossings. However, in 2012, it increased 13.1 percent to peak at 80,744 crossings.

Primary Roadways Serving Santa Teresa/Jerónimo POE

On the U.S. side, NM 136 provides direct access to the Santa Teresa/Jerónimo POE (see Figure 4.48). NM 136 is a four-lane divided facility. In 2010, the AADT on NM 136 was 5,245 vehicles, of which 28.0 percent were trucks. Approximately 2 miles from the Santa Teresa/Jerónimo POE, NM 136 is intersected by NM 9 (Columbus Road), which is a two-lane undivided highway that runs parallel to the U.S.-Mexico border in New Mexico. In 2010, the AADT on NM 9 was 625 vehicles, of which 42.0 percent were trucks.

On the Mexican side, MEX 48, a two-lane facility, is the primary ingress and egress to the crossing. The Anapra-San Jerónimo highway, a two-lane facility that was unpaved until 2010, connects Anapra, the livestock POE, and the Santa Teresa/Jerónimo POE. Ascensión-City of Juárez and MEX 45D intersect MEX 48, creating an extensive outer loop that links to the Ysleta-Zaragoza International Bridge.

Figure 4.48: Santa Teresa/Jerónimo POE Existing Infrastructure Map

Planned Changes in Infrastructure (Present to 2030)

Two major road and interchange projects are planned near the Santa Teresa/Jerónimo POE. The first involves preventive maintenance and repair work on NM 136, including design and construction of a multi-use path, drainage improvements, and erosion control. Work on this project began in 2012, and it is estimated that the project will cost $6 million. The planned investment would improve ride quality and enhance the overall safety of the facility. It is anticipated that the LOS on NM 136 would remain at its current level A for the foreseeable future.

The second project involves improvements to County Road A017 (Strauss Road) and Industrial Drive, relocation of St. John's access point on NM 136, and new construction of the section of Strauss Road from NM 136 for approximately 6.5 miles to the UPRR Intermodal Yard. The project's cost is estimated at $11.5 million, and work began in 2012. Current AADT on this facility is estimated at 12,777 vehicles, of which 28 percent are trucks. It is anticipated that the LOS on Strauss Road would remain at its current level A for the foreseeable future.

4.6 Concluding Remarks

This chapter of the Border Master Plan describes the current and projected POEs in the Focused Study Area and the current and planned transportation infrastructure that serves these POEs. The next chapter provides the priorities assigned to the planned POE and transportation infrastructure projects in the Focused Study Area.

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1 Bureau of Transportation Statistics, North American Transborder Freight Data, http://transborder.bts.gov/programs/international/transborder/ (accessed May 2013).

2 POEs as defined by CBP. The stakeholder information and data that were submitted, however, used "POE" and "bridge/crossing" interchangeably. These terms are thus used interchangeably in the remainder of the document.

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14 CBP, Port of Entry—El Paso, http://cbp.gov/xp/cgov/toolbox/contacts/ports/tx/2402.xml (accessed January 2013).

15 City of El Paso provided most current toll rates and 2004 to 2012 southbound bridge crossing data. Correspondence with international bridges director, April 2013.

16 Puente Internacional Zaragoza-Ysleta, private correspondence with international bridges director, April 2013.

17 TxDOT, El Paso Region Freight Rail Study, prepared by HNTB, 2011, http://ftp.dot.state.tx.us/pub/txdot-info/rail/freight/el_paso.pdf (accessed June 2013).

18 Municipality of Juárez, private correspondence, October 2012.

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20 NMBA, Livestock Imports and Exports, http://www.nmborder.com/livestock.html (accessed March 2013).

21 NMBA, Santa Teresa POE, http://www.nmborder.com/santa_teresa.html (accessed March 2013).

22 CBP, Port of Entry—Santa Teresa, http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/nm/2408.xml (accessed June 2013).

Chapter 5. POE and Transportation Infrastructure Priorities

A fundamental component of the El Paso/Santa Teresa–Chihuahua Border Master Plan was reaching consensus on a ranking framework to rank/prioritize the planned POE, road and interchange, transit, and rail projects in the Focused Study Area. This chapter provides a brief overview of the elements of the ranking framework that was used to prioritize the identified projects in the Focused Study Area. Appendix E gives detailed information about the categories, category weights, criteria, criterion weights, and scoring metrics used. This chapter also lists the POE, road and interchange, transit, and rail projects in order of priority by U.S. county and Mexican municipality, respectively, and all project costs are in U.S. dollars.[1]

Project sponsors or working group members provided all planned project information and data included in this chapter. TxDOT's El Paso District office provided all planned TxDOT project information. The information and data were not independently verified, but the study team did review the information and data for reasonableness. Any concerns about the information and data were addressed with the project sponsors.

5.1 Ranking Framework

The study team explained the elements of the ranking framework to BNAC during the second BNAC meeting (September 5, 2012). Concurrence was reached regarding elements of the ranking framework (the categories, category weights, criteria, criterion weights, and scoring metrics) that would be used for project prioritization during the third BNAC meeting (September 26 and 27, 2012). A detailed summary of the format and outcome of the meeting is provided in the minutes of the meeting (see Appendix B). A few criteria and criteria weights, as well as the scoring metric, were modified during the fourth BNAC voting member meeting (October 11, 2012), but in general, BNAC voting members endorsed the ranking framework developed by BNAC (see Appendix B).

Table 5.1 provides the prioritization criteria and weights assigned to the POE projects. In total, 17 criteria were endorsed for prioritizing the POE projects. In terms of each criterion, projects were scored on a scale of 0 to 1. However, the total project score for a given POE project was multiplied by 100 to express the total score out of a total of 100 points. The scoring metrics are provided in Appendix E.

Table 5.1: POE Project Prioritization Criteria

Category	Criterion	Weight
Capacity/Congestion (Weight = 21.5%)	Increase in Number of Operational Booths	18.7%
	Increase Number of Secure Lanes	14.5%
	Decrease Wait Times	27.9%
	Alleviate Congestion	16.7%
	Increase POE Efficiency through a Congestion Management Strategy	22.2%
Demand (Weight = 19.6%)	Increase in Average Annual Daily Non-commercial Crossings	37.0%
	Increase in Average Annual Daily Commercial Crossings	37.0%
	Transit Demand	26.0%
Economic Value (Weight = 10.0%)	Socio-economic Impacts	30.6%
	Cost/Capacity Criterion	34.0%
	Cost/Demand Criterion	35.4%
Project Readiness (Weight = 9.0%)	Funding Availability	40.0%
	Phase of Project Development	60.0%
Safety (Weight = 4.3%)	Diversion of Commercial Traffic/Separation of Traffic by Type	100.0%
Regional Impacts (Weight = 12.3%)	Community Impacts	51.2%
	Geographical Impacts	48.8%
Binational Coordination (Weight = 23.3%)	Binational Coordination	100.0%

Table 5.2 provides the prioritization criteria and weights assigned to the road and interchange and transit projects. In total, 18 criteria were endorsed for prioritizing the road and interchange and transit projects. In terms of each criterion, projects were scored on a scale of 0 to 1. However, the total project score for a given road or interchange or transit project was multiplied by 100 to express the total score out of a total of 100 points. The scoring metric is provided in Appendix E.

Table 5.2: Road and Interchange and Transit Project Prioritization Criteria

Category	Criterion	Weight
Capacity/Congestion (Weight = 18.6%)	Final Level of Service	24.2%
	Increase in Level of Service	42.2%
	Congestion Management	33.6%
Demand (Weight = 18.0%)	Increase in Average Annual Daily Traffic	33.2%
	Existing Percentage of Trucks	34.0%
	Multiple Mode Demand	32.8%
Economic Value (Weight = 8.5%)	Socio-economic Impacts	30.6%
	Cost/Capacity Criterion	34.0%
	Cost/Demand Criterion	35.4%
Project Readiness (Weight = 13.5%)	Funding Availability	40.0%
	Phase of Project Development	60.0%
Safety (Weight = 6.3%)	Accident Rate per Mile*	51.0%
	Measures to Improve Safety	49.0%
Regional Impacts (Weight = 17.1%)	Community Impacts	51.2%
	Geographical Impacts	48.8%
POE Connectivity (Weight = 18.0%)	Number of POEs Served	27.3%
	Improve Accessibility/Traffic Flow to and from POE	45.0%
	Degrees of Separation to POE	27.7%

Note: *Accident rate is defined as the number of accidents per mile (see Appendix E). The accident rate was not defined according to the *Highway Capacity Manual*.

Table 5.3 provides the prioritization criteria and weights assigned to the rail projects. In total, 18 criteria were endorsed for prioritizing the rail projects. In terms of each criterion, projects were scored on a scale of 0 to 1. However, the total project score for a given road or interchange project was multiplied by 100 to express the total score out of a total of 100 points. The scoring metric is provided in Appendix E.

When data were not available for a specific criterion, a score of zero was assigned. Thus, this process had an inherent bias toward projects for which data were submitted. In other words, projects for which limited information was received received lower scores and therefore were ranked lower than projects for which detailed information for each criterion was received. The information submitted and detailed scores for each project are provided in Appendix F. Projects for which no or limited data were available were identified and included in the tables, but no priority/ranking was assigned to these projects.

Table 5.3: Rail Project Prioritization Criteria

Category	Criterion	Weight
Capacity/Congestion (Weight = 18.6%)	Increase in Track Capacity	35.2%
	Alleviates Congestion Locally	36.0%
	Increase in Rail Mode Share	28.8%
Demand (Weight = 18.0%)	Increase in Average Annual Daily Rail Cars	33.1%
	Cross-Border Tonnage by Rail	35.2%
	Multiple Mode Demand	31.7%
Economic Value (Weight = 8.5%)	Socio-economic Impacts	30.6%
	Cost/Capacity Criterion	34.0%
	Cost/Demand Criterion	35.4%
Project Readiness (Weight = 13.5%)	Funding Availability	40.0%
	Phase of Project Development	60.0%
Safety (Weight = 6.3%)	Accident Rate per Mile*	51.0%
	Measures to Improve Safety	49.0%
Regional Impacts (Weight = 17.1%)	Community Impacts	51.2%
	Geographical Impacts	48.8%
POE Connectivity (Weight = 18.0%)	Number of POEs Served	27.3%
	Improve Accessibility/Traffic Flow to and from POE	45.0%
	Degrees of Separation to POE	27.7%

Note: *Accident rate is defined as the number of accidents per mile (see Appendix E).

5.2 Project Prioritization/Ranking

On the U.S. side, 35 POE projects, 43 road and interchange projects, 5 transit projects, and 2 rail projects were identified. On the Mexican side, 23 POE projects, 51 road and interchange projects, 1 transit project, and 3 rail projects were identified. Projects from the United States were ranked separately from those from Mexico because of the limited data that were provided for Mexican projects. The prioritization/ranking of both countries' projects together would have resulted in most of the Mexican projects receiving a lower priority/rank. Each country's projects were thus prioritized/ranked separately. Projects were then ranked by type—POE, road and interchange, transit, and rail projects. The complete ranking of all projects by type in each country is provided in Appendix F.

On the U.S. side, the project priorities are presented by county (El Paso, Presidio, and Doña Ana), and on the Mexican side, the project priorities are presented by Mexican municipality (Municipalities of Juárez, Guadalupe, Práxedis G. Guerrero, and Ojinaga). The locations of the planned projects for which adequate location information was obtained are illustrated in maps by planning horizon (short, medium, and long term). Projects for which no time period was provided were categorized as “unknown.”

5.3 El Paso County

5.3.1 POE Projects in El Paso County

Planned POE Projects at Existing POEs

In El Paso County, 27 projects are planned for currently existing POEs. The ranking that emerged for the planned projects at the existing POEs is provided in Table 5.4.

Table 5.4 shows that the highest ranked existing POE project in El Paso County and the U.S. Focused Study Area is construction of the Freight Shuttle System (FSS), which presents an automated, zero-emission, low-cost, and high-performing option for shippers who are increasingly constrained by congestion in critical freight corridors. The FSS will increase the security of the border while facilitating international trade, improving air quality, and promoting regional economic development. Work on this privately funded project is expected to start in 2016 and be completed in 2017. Substantial progress has been made concerning the planning of this particular project, and it has been reported that more than 75 percent of the necessary funds have been secured.

The second-highest ranked POE project in El Paso County and the U.S. Focused Study Area is planned at the Ysleta-Zaragoza International Bridge. This planned project will add up to six primary inspection lanes to increase capacity at the Ysleta-Zaragoza International Bridge. Construction at the site is expected to start in 2014 and to be completed in 2015. The planned project will include advanced technologies and traffic management strategies to improve traffic flow. It is anticipated that this project will provide significant socio-economic benefits without disproportionately impacting environmental justice communities. Although the project is still in the conceptual phase, the necessary funding has already been secured.

Table 5.4: Planned POE Projects at Existing POEs in El Paso County

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Medium	X501	City of El Paso	Freight Shuttle System (FSS)	Build the FSS, an automated, zero-emission, low-cost, and higher performing option for shippers that are increasingly constrained by the growing congestion in many critical freight corridors.	Ysleta-Zaragoza International Bridge	$150,000,000	1
Medium	USB-POE-09	City of El Paso	Expansion of Primary Commercial Inspection Lanes at the Ysleta-Zaragoza POE	Build up to 6 additional primary inspection lanes at the Zaragoza International Bridge to increase POE capacity.	Ysleta-Zaragoza International Bridge	$5,000,000	2
Short	USB-POE-20	City of El Paso	Ysleta-Zaragoza POE Passenger Vehicle Bridge Lane Reconfiguration and Ready Lane	Reconfigure the lanes by reducing width of sidewalks on each side of the bridge from 10 feet to 5 feet to increase the number of lanes from 5 lanes (1 SENTRI, 2 northbound, and 2 southbound) to 6 lanes (1 SENTRI, 1 dedicated Ready, 2 northbound, and 2 southbound lanes). The project will include signage.	Ysleta-Zaragoza International Bridge	$300,000	3
Short	USB-POE-02	City of El Paso	Bluetooth Border Wait Time System	Deploy a system to measure, relay, and archive wait and crossing times of both U.S.- and Mexico-bound pedestrians and POVs at the Good Neighbor International Bridge in downtown El Paso.	Good Neighbor International Bridge	$120,000	4

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Short	USB-POE-03	City of El Paso	Bridge of the Americas Ready Lane	Dedicate 1 bridge lane—from the Mexican Aduana inspection area to CBP primary inspection area—as a Ready lane.	Bridge of the Americas	$100,000	5
Short	USB-POE-14	City of El Paso	Paso del Norte Ready Lane	Dedicate 1 bridge lane—from the Mexican toll plaza to CBP primary inspection area—as a Ready lane.	Paso del Norte International Bridge	$100,000	6
Short	USB-POE-16	City of El Paso	Secure Origins	Implement Secure Origins to monitor commercial vehicles and cargo on U.S.-Mexico border, providing real-time information across the entire supply chain and software-enhanced analysis of real-time data.	El Paso	$10,000,000	7
Short	EPMPO A524X-CAP	City of El Paso	Zaragoza POE Bridge Repairs and Commercial Lane Reconfiguration	Perform repairs to the commercial and non-commercial bridge spans and reconfigure the commercial bridge lanes to increase the number of northbound lanes from 2 to 3, as well as install light-emitting diode (LED) signage.	Ysleta-Zaragoza International Bridge	$500,000	8
Short	USB-POE-01	City of El Paso	Bluetooth Border Wait Time System	Deploy a system to measure, relay, and archive wait and crossing times of both U.S.- and Mexico-bound pedestrians and POVs at the Paso del Norte International Bridge in downtown El Paso.	Paso del Norte International Bridge	$120,000	9
Medium	T071X	City of El Paso	Bridge of the Americas Park-n-Ride and Transit Station	Promote the use of mass transit. The project will include a transit (bus) station, a taxi stand, and passenger vehicle parking.	Bridge of the Americas	$1,500,000	10

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Medium	USB-POE-19	City of El Paso	Zaragoza POE Commercial Toll Facility and Cargo Hold Area	Construct a state-of-the-art commercial toll collection facility that uses dynamic tolling and a cargo hold area.	Ysleta-Zaragoza International Bridge	$5,000,000	11
Short	0924-06-435/ T070X	City of El Paso	Zaragoza International Bridge Park-n-Ride	Promote use of mass transit. The project will include a transit (bus) station, a taxi stand, and passenger vehicle parking at the border safety inspection facility not being used.	Ysleta-Zaragoza International Bridge	$953,289	12
Short	USB-POE-12	City of El Paso	New CBP Commercial POE Entrance and Exit at the Zaragoza POE	Design and implement a new commercial entrance and exit to the CBP compound at the Zaragoza International Bridge. The new entrance and exit will be connected to the new access road through Pan American Drive and Winn Road.	Ysleta-Zaragoza International Bridge	$2,000,000	13
Long	EPMPO T013B-2	Sun Metro Transit	International Mass Transit (BRT/LRT) between City of Juárez and El Paso	Provide international mass transit (BRT/LRT) between City of Juárez and El Paso using Federal Transit Administration (FTA) funds.	El Paso–City of Juárez through the Paso del Norte and Good Neighbor International Bridges	$79,473,126	15
Short	USB-POE-11	City of El Paso	Mass Transit Cross-Border System at the Paso del Norte POE	Use mass transit (buses equipped with a security system) to shuttle pedestrians from City of Juárez to El Paso.	Paso del Norte International Bridge	$20,000,000	17

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Short	USB-POE-24	EPMPO	Ysleta-Zaragoza Northbound High Security Lane	Implement the High Security Lane, a method to manage the traffic congestion and mitigate air quality within the POE air shed. It also provides a more efficient option for commuters traveling northbound from Mexico to the United States. The system provides an extra lane for pre-scanned applicants who commute from Juarez to El Paso. The system and the extra lane will provide an additional lane to help decrease POE queuing and wait time, improve air quality, and promote regional economic development.	Ysleta-Zaragoza International Bridge	$500,00	19
Short	USB-POE-25	EPMPO	Bridge of the Americas Southbound High Security Lane	Implement the High Security Lane, a method to manage the traffic congestion and mitigate air quality within the POE air shed. It also provides a more efficient option for commuters traveling southbound into Mexico. The system provides an extra lane for pre-scanned applicants who commute from El Paso to Juarez. The system and the extra lane will provide an additional lane to help decrease POE queuing and wait time, improve air quality, and promote regional economic development.	Bridge of the Americas	$500,000	19

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Short	USB-POE-04	City of El Paso	Bridge Repairs at Good Neighbor/ Stanton Street International Bridge	Perform necessary repairs to joints of bridge.	Good Neighbor International Bridge	$50,000	N/A
Unknown	USB-POE-05	FMCSA	Commercial and Bus Inspection Facility	Implement Phase I—Feasibility and Phase II—Design/Build.	Bridge of the Americas	$1,926,000	N/A
Unknown	USB-POE-08	FMCSA	Commercial and Bus Inspection Facility	Implement Phase I—Feasibility and Phase II—Design/Build.	Ysleta-Zaragoza International Bridge	$1,380,000	N/A
Medium	EPMPO C028X	City of El Paso	Light Rail Study for Mass Transit Cross-Border System	Study toll fixed-rail system that transports pre-cleared international commuters in a secure capsule between downtown El Paso and downtown City of Juárez.	El Paso	$300,000	N/A
Short	USB-POE-13	City of El Paso	Paso del Norte Bridge Repairs	Perform necessary repairs to joints of bridge.	Paso del Norte International Bridge	$50,000	N/A
Short	USB-POE-17	City of El Paso	Southbound Empty Truck Lane in the Aduanas Compound	Implement an empty truck lane in the Aduana compound. Currently empty trucks are not allowed to cross southbound at the Zaragoza International Bridge.	Ysleta-Zaragoza International Bridge	N/A	N/A
Short	USB-POE-18	City of El Paso	Increase the Number of Southbound Access Gates to Aduanas	Increase the number of southbound access gates to Aduana from 2 to 4.	Ysleta-Zaragoza International Bridge	N/A	N/A

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Short	EPMPO C027X	City of El Paso	Zaragoza Commercial Toll Office Building	Construct a state-of-the-art toll collection facility. The facility will use dynamic tolling to increase traffic efficiency.	Ysleta-Zaragoza International Bridge	$5,031,445	N/A
Short	USB-POE-21	BNSF	Vado East Levee Rehabilitation Project	Work on MP 128.5 to 129. Construct East Levee embankment improvements and Del Rio drain improvements. Work will encroach on BNSF right of way (ROW). Agreements are in place.	N/A	N/A	N/A
Short	USB-POE-22	BNSF	Canutillo Phase 2 Improvements	Work on MP 1139.1 to 1144.3. Flood wall and gates will be constructed parallel to BNSF ROW and will encroach on BNSF ROW. Plans have not been approved by BNSF. Multiple options are being reviewed.	N/A	N/A	N/A

Notes: "*Ready Lane* is a dedicated primary vehicle lane for travelers entering the U.S. at land border ports of entry. Travelers who obtain and travel with a radio frequency identification or RFID-enabled travel document may receive the benefits of using a *Ready Lane* to expedite the inspection process while crossing the border." [2]

LRT = light rail transit; FMCSA = Federal Motor Carrier Safety Administration

* Project name as provided by sponsoring agency

** Ranking out of 35 U.S. POE projects

The third-highest ranked POE project in El Paso County involves the passenger vehicle lanes at the Ysleta-Zaragoza International Bridge. The planned project involves reconfiguring the passenger vehicle bridge lanes by reducing the sidewalk width on each side of the bridge from 10 feet to 5 feet, and increasing the number of lanes from five (one SENTRI, two northbound, and two southbound lanes) to six (one SENTRI, one dedicated Ready, two northbound, and two southbound lanes). Other improvements included as part of this project are traffic management strategies and signage. Construction is expected to start and be completed in 2013. The completed project is anticipated to have substantial socio-economic benefits without disproportionately impacting environmental justice communities. This project was reported to be in the planning/programming phase of project development.

Two other El Paso County POE projects—which ranked fourth and ninth in the U.S. Focused Study Area—involve the installation of Bluetooth border wait time systems at the Good Neighbor International and Paso del Norte International Bridges. These two projects involve deployment of a system that uses Bluetooth technology to re-identify unique signals from vehicles and mobile devices with Bluetooth capabilities to measure, relay, and archive wait and crossing times of both U.S.-bound and Mexico-bound pedestrians and POVs. The two projects are expected to be completed by the end of 2013 at an estimated cost of $120,000 each. It is anticipated that these projects will have significant socio-economic benefits.

The fifth-highest ranked POE project in El Paso County and the U.S. Focused Study Area is located at the Bridge of the Americas. The planned project involves dedicating one bridge lane—from the Mexican Aduana inspection area to the CBP primary inspection area—as a Ready lane. The project is expected to be completed by 2013 at an estimated cost of $100,000. It is expected that the provision of Ready lanes and other traffic management strategies will help improve traffic flow with associated socio-economic benefits. This project was reported to be in the planning/programming phase of project development.

New POE Projects

Two new POEs are planned in the U.S. Focused Study Area. Table 5.5 shows that a new POE that will accommodate only POVs and pedestrians is planned between the Bridge of the Americas and Ysleta-Zaragoza International Bridge. Ten operational booths, advanced technologies including FAST and SENTRI, and traffic management strategies including signage are planned. Although the project is at an early planning phase, some preliminary feasibility studies have been completed. The project is planned for completion in 2035 at an estimated cost of $120 million. Substantial socio-economic benefits are anticipated from the completion of the project.

Table 5.5: New POE Projects in El Paso County

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Long	EPMPO C022X	City of El Paso	New POE Bridge—El Paso	Create new commuter POE (POVs and pedestrians) between the Bridge of the Americas and Ysleta-Zaragoza International Bridge as recommended by the Camino Real Border Improvement Plan.	Between Bridge of the Americas and Ysleta-Zaragoza International Bridge	$120,000,000	14
Long	USB-POE-23	EPMPO and IMIP	Freight Shuttle System (FSS)	Build the FSS, an automated, zero-emission, low-cost, and higher performing option for shippers that are increasingly constrained by the growing congestion in many critical freight corridors.	Billy the Kid POE to be located between Socorro and San Elizario	$100,000,000	18

Note: * Project name as provided by sponsoring agency
** Ranking out of 35 U.S. POE projects

A second FSS is planned at a proposed Billy the Kid POE. The proposed POE will be located between Socorro and San Elizario. This planned project ranked 18th in the U.S. Focused Study Area. Construction of the FSS is expected to start in 2023 and is planned for completion in 2025 at an estimated cost of $100 million.

5.3.2 Planned Road and Interchange Projects in El Paso County

On the U.S. side, 43 road and interchange projects that serve the POEs are planned in the U.S. Focused Study Area. Most of these road and interchange projects (35 out of 43) are planned in El Paso County. Table 5.6 provides the ranking for the planned road and interchange projects identified in El Paso County. Table 5.6 shows that nine of the top 10 projects in the U.S. Focused Study Area are planned in El Paso County.

The highest ranked road and interchange project in El Paso County and the U.S. Focused Study Area is construction of a new commercial access road to the Ysleta-Zaragoza International Bridge. It includes a 0.9-mile section, which will improve traffic flow to and from major POEs in the region. Work on this project is expected to begin in 2014 and be completed by 2015. An important feature of the planned project is installation of intelligent transportation system (ITS) technologies to improve traffic flow along the corridor. The 2010 AADTT of 1,946 heavy vehicles on this section is projected to increase to 3,543 by 2030. Funding has been secured for this project, and it is anticipated that the project will bring significant socio-economic benefits to the region.

The second-highest ranked road and interchange project in El Paso County and the U.S. Focused Study Area includes adding capacity to US 62 between Global Reach/Yarbrough Drive and RR 659 (Zaragoza Road). The planned project involves a 17-mile section of road, of which parts will serve as a mass transit corridor. The 2010 AADT of 25,179 vehicles on this section of road is projected to increase to 42,342 by 2030, with trucks representing 11.4 percent of the AADT. The completed project will help address current and future transportation needs in the region and alleviate congestion and safety concerns. The completion of this project will improve traffic flow to and from two major crossings in the U.S. Focused Study Area.

Table 5.6: Planned Road and Interchange Projects in El Paso County

Term	Project ID (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	0924-06-418 (25)	TxDOT/ City of El Paso	New	Pan American Drive at Loop 375 to Ysleta-Zaragoza POE	Build new commercial access road to the Ysleta-Zaragoza International Bridge.	$5,488,358	1
Unknown	0374-02-097 (18)	TxDOT	US 62	US 62—Global Reach/ Yarbrough Drive to RR 659 (Zaragoza Road)	Add capacity.	$138,000,000	2
Short	2121-04-093 (32)	TxDOT	IH 10	IH 10—IH 10 at Loop 375	Make interchange improvements, including construction of direct-connector Loop 375 northbound to IH 10 eastbound.	$21,000,000	3
Medium	0924-06-111 (20)	TxDOT	Old Hueco Tanks Road	Old Hueco Tanks Road—FM 76 (North Loop Road) to Intersection of Eastlake at Gateway Boulevard East	Construct new 4-lane raised median divided urban collector to extend Eastlake Boulevard to FM 76.	$10,000,000	4
Short	2121-03-151 (31)	TxDOT	IH 10	IH 10—Viscount Boulevard to FM 659 (Zaragoza Road)	Construct new roadway lanes.	$18,191,741	5
Short	2552-03-049/ EPMPO F040X-MOD (35)	TxDOT	Loop 375	Loop 375—IH 10 to Zaragoza Road (FM 659)	Construct managed lanes.	$36,300,000	6
Short	0002-01-055 (16)	TxDOT	SH 20 (Alameda)	SH 20 (Alameda)—Padres Drive to Loop 375	Reconstruct roadway.	$9,156,000	7

Term	Project ID (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Medium	EPMPO M068X (13, 14, 41, 42)	City of El Paso	N/A	Various—POEs within El Paso to POEs within El Paso	Implement ITS system (Border Traveler and Cargo Information System).	$3,900,000	8
Medium	2552-04-027 (36)	TxDOT	Loop 375	Loop 375—Park Street to Paisano Drive (US 62)	Construct a new location, freeway: Loop 375 extension.	$184,050,000	9
Unknown	2552-02-028 (33)	TxDOT	Loop 375	Loop 375—Spur 601 to Montana Avenue (US 62/180)	Add 1 lane in each direction and frontage roads.	$22,000,000	11
Unknown	0924-06-090 (19)	TxDOT	New	Border Highway Extension from East Zaragoza Road to Fabens POE	Construct the Border Highway Extension East.	$135,700,000	12
Unknown	2552-02-029 (34)	TxDOT	Loop 375	Loop 375—Spur 601 to Dyer Street (BU 54A)	Add 1 lane in each direction.	$35,000,000	13
Medium	0002-14-039 (17)	TxDOT	FM 258 (Socorro Road)	FM 258 (Socorro Road)—SH 20 (Alameda) North to SH 20 (Alameda) South	Install continuous turn lane and widen paved shoulders.	$2,149,518	14
Unknown	0924-06-136 (21)	TxDOT	New	Construct a New Location Non-freeway: Northeast El Paso Bypass (Toll)	Construct a new location, non-freeway: Northeast El Paso Bypass (toll) 1.8 miles east of Railroad Drive overpass to Texas/New Mexico State line on FM 3255.	$153,200,000	16
Short	2121-03-131 (30)	TxDOT	IH 10	IH 10—Hammet Street to US 54 (Patriot Freeway)	Make interchange improvements.	$4,655,875	18

Term	Project ID (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Unknown	2121-01-084 (29)	TxDOT	IH 10	IH 10—New Mexico State Line to 0.865 Miles North of SH 20	Install main lane micro mill and 2-inch overlay.	$5,900,000	19
Short	0002-02-051 (15)	TxDOT	SH 20	SH 20—Loop 375 to Fabens (FM 76)	Resurface roadway.	$4,545,000	20
Medium	EPMPO F048X (40)	City of El Paso	Loop 375	Loop 375—North Loop (FM 76) to Zaragoza POE	Loop 375 (Americas) exit ramps—Reconstruct on- and off-ramps for Loop 375 West of Pan American Drive to segregate POE commercial and non-commercial traffic.	$7,000,000	22
Short	0924-06-436 (27)	TxDOT	Eastlake Boulevard	Eastlake Boulevard—From IH 10 to Approximately 0.25 Miles West of Darrington Road	Widen 4-lane divided to 6-lane divided.	$12,626,502	24
Unknown	1281-02-005 (28)	TxDOT	FM 1110	FM 1110 (Clint Cutoff Road)—IH 10 to SH 20	Widen roadway to 4 lanes.	$17,000,000	27
Long	EPMPO A520X-MOD (38)	City of El Paso	Billy the Kid	New—Terminus (Approximately 1 Mile Southeast of Zaragoza Road) to Loop 375 Road	Build 4-lane undivided arterial to connect Zaragoza Road to Loop 375.	$5,595,000	28
Short	EPMPO P442X (3)	TxDOT	US 62/180	US 62/180—US 62/180 at Hawkins	Construct highway grade separation.	$6,333,900	30
Short	0924-06-269/ EPMPO A123X (23)	City of El Paso	City Street (CS)	CS—Spur 276 (on Isela Rubalcava Boulevard) to El Paso Community College	Construct new road, 4-lane divided.	$3,140,711	31

Term	Project ID (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	0924-06-154 (22)	TxDOT/ City of El Paso	CS	CS—Stiles Drive to Alameda Avenue	Replace bridge; reconstruct 2 overpasses (2-lane undivided) at UPRR	$5,600,000	32
Short	0924-06-190/ EPMPO R307D∞	TxDOT/ City of El Paso	Central Business District	CS—Central Business District to Phase IV	Repair roadway; reconstruct downtown streets at CBD.	$11,516,000	32
Short	EPMPO M017X∞	City of El Paso	Entire city	Citywide	Reconstruct 15 intersections (project phased down to 8 intersections—7 already completed; 1 left).	$1,245,853	32
Short	0924-06-311/ EPMPO A552C-MOD (24)	TxDOT/ El Paso County	Manuel F. Aguilera Highway (FM 3380)	Manuel F. Aguilera Highway (FM 3380)—0.35 Miles South of SH 20 (Alameda Avenue) to IH 10 at O.T. Smith Road	Build 2-lane undivided, including overpass at SH 20/UPRR.	$17,233,091	35
Short	0924-06-429 (26)	TxDOT/ City of El Paso	CS	CS—On Santa Fe Street Bridge from Franklin Street to Main Street	Repair bridge.	$696,000	36
Short	EPMPO M405X/ 1046-01-024 (1)	City of El Paso	Zaragoza Road (FM 659)	Zaragoza Road (FM 659)	Install traffic management technology; install fiber interconnect for Zaragoza Road.	$1,805,338	37
Short	EPMPO S306X (2)	TxDOT	IH 10	IH 10—At Chelsea Street	Improve traffic signal.	$376,925	37
Short	EPMPO M025B/ 0924-06-379∞	City of El Paso	VA	Various Locations (Off System)	Install traffic management technology.	$2,232,331	39

Term	Project ID (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Medium	EPMPO M077X/ 0924-06-437 (5, 6, 7, 8, 9, 10, 11, 12)	City of El Paso	VA	Citywide	Reconstruct 8 intersections, including left-turn lanes and adding right-turn lanes: Mesa/Resler, Viscount/Hawkins, Mesa/Sunland Park, Saul Kleinfeld/Montwood, Saul Kleinfeld/Pebble Hills, Viscount/Montwood, Airport/Founders, and Airport/Cassidy.	$1,000,000	39
Short	EPMPO C026X (39)	City of El Paso	VA	Street Car Alternative Analysis	Perform analysis to provide justification for implementation of a proposed street-car route that will bring a critical transit project connecting the Paso del Norte International Bridge to the "Golden Horseshoe" Shopping District, Downtown Government District, Entertainment District, Medical District, and EPCC and UTEP campuses.	$1,500,000	39

Term	Project ID (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Long	EPMPO T305 (4)	Sun Metro Transit	VA	Oregon Street Car Project	Design and construct roadway and pedestrian elements required to integrate street car project, including purchasing of street cars.	$132,713,860	39
Medium	BMP-RD-002 (37)	BNSF	State Spur 1966	State Spur 1966	Construct new highway overpass crossing on State Spur 1966 at MP 1154.72—in preliminary planning with TxDOT; funding to be 100% funded by TxDOT and possibly others (no BNSF cost). No schedule has been suggested for this project.	N/A	39

Note: CBD = central business district; VA = various; EPCC = El Paso Community College; CS = city street
* Project name as provided by sponsoring agency
** Ranking out of 43 U.S. road and interchange projects
∞ Citywide projects were not included in location map

The third-highest ranked road and interchange project in El Paso County and the U.S. Focused Study Area involves interchange improvements on IH 10, including construction of a direct connector between LP 375 northbound and IH 10 eastbound. According to TxDOT records, construction of the project will start in 2015 and be completed in 2017. The AADT of 22,660 on this section of IH 10 is projected to increase to 32,180 by 2030, with trucks representing 18.5 percent of the AADT. Despite this investment, the LOS on this section is expected to deteriorate from the current level of A to level B. However, the planned improvements will facilitate additional traffic modes and thereby improve mobility in the region. The planned improvements are expected to improve traffic flow to and from four major crossings in the area, alleviate congestion, alleviate safety concerns (and therefore reduce the risk of traffic incidents), and have a positive socio-economic impact on the region. Funding has been secured for this project.

The fourth-highest ranked project in El Paso County and the U.S. Focused Study Area involves construction of a new four-lane raised median divided urban collector that extends Eastlake Boulevard to North Loop (FM 76). Construction of the project is scheduled to begin in 2016 and be completed in 2018. Funding for the project has been secured. The planned project will serve two major crossings in the region, will form part of a mass-transit corridor, and will improve overall mobility in the region, resulting in substantial socio-economic benefits. All necessary environmental permits to complete the project have been secured.

Several other planned projects involving IH 10 (interchange improvements, main lane rehabilitation, and improved traffic lighting) have been identified in the U.S. Focused Study Area. Project 2121-03-151, which ranked fifth in El Paso County and the U.S. Focused Study Area, involves construction of new roadway lanes on IH 10 between Viscount Boulevard and Zaragoza Road. Road construction is expected to start in 2013 and be completed by 2015. Despite the lane additions, the overall LOS on this road is expected to decrease from its current level of C to level E. This is due to the high demand (traffic volume) that this road is currently serving and the expected annual traffic growth rate of 2.2 percent. This planned project will, however, result in substantial socio-economic benefits from improved mobility at four major crossings in the U.S. Focused Study Area as well as improved safety.

The sixth-highest ranked road and interchange project involves construction of managed lanes on Loop 375 between Zaragoza Road and IH 10. Funding has been identified for the project, and construction is anticipated to start in 2014 and be completed in 2016. The AADT of 32,976 vehicles on this section of Loop 375 is projected to increase to 49,924 by 2030, with trucks representing 12 percent of the AADT. It is therefore anticipated that this investment will not improve the LOS on the facility. However, the completed project will improve traffic flow to and from four major crossings in the region, address some safety concerns, and provide associated socio-economic benefits.

In addition to this project, a number of other projects have been identified involving Loop 375. These projects include a Loop 375 extension, lane additions between Spur 601 and Montana Avenue and between Spur 601 and Dyer Street, and reconstruction of on- and off-ramps between North Loop (FM 76) and the Ysleta-Zaragoza International Bridge. These projects ranked ninth, 11th, 12th, and 26th in the U.S. Focused Study Area (see Table 5.6). Project 2552-04-027, which ranked eighth in El Paso County (ninth in the U.S. Focused Study Area), includes the construction of the Loop 375 extension between Park Street and Paisano Drive, a 2.3-mile section that is expected to improve traffic flow to and from the major POEs in the region. Substantial progress has been made concerning the planning of this project, and funding has been identified.

Figure 5.1 provides the locations of the planned road and interchange projects in El Paso County.

ID	Project Number
1	EPMPO M405X / 1046-01-024
2	EPMPO S306X
3	EPMPO P442X
4	EPMPO T305
5	EPMPO M077X / 0924-06-437 (Mesa/Resler)
6	0924-06-437 (Saul Kleinfeld/Montwood
7	0924-06-437 (Viscount/Hawkins)
8	0924-06-437 (Mesa/Sunland
9	0924-06-437 (Saul Kleinfeld/Pebble
10	0924-06-437 (Viscount/Montwoo
11	0924-06-437 (Airport/Founders)
12	0924-06-437 (Airport/Cassidy)
13	EPMPO M068X
14	EPMPO M068X
15	0002-02-051
16	0002-01-055
17	0002-14-039
18	0374-02-097
19	0924-06-090
20	0924-06-111
21	0924-06-136
22	0924-06-154
23	EPMPO A123X
24	EPMPO A552C-MOD
25	0924-06-418
26	0924-06-429
27	0924-06-436
28	1281-02-005
29	2121-01-084
30	2121-03-131
31	2121-03-151
32	2121-04-093
33	2552-02-028
34	2552-02-029
35	EPMPO F040X-MOD
36	2552-04-027
37	BMP-RD-002
38	EPMPO A520X-MOD
39	EPMPO C026X
40	EPMPO F048X
41	EPMPO M068X
42	EPMPO M068X

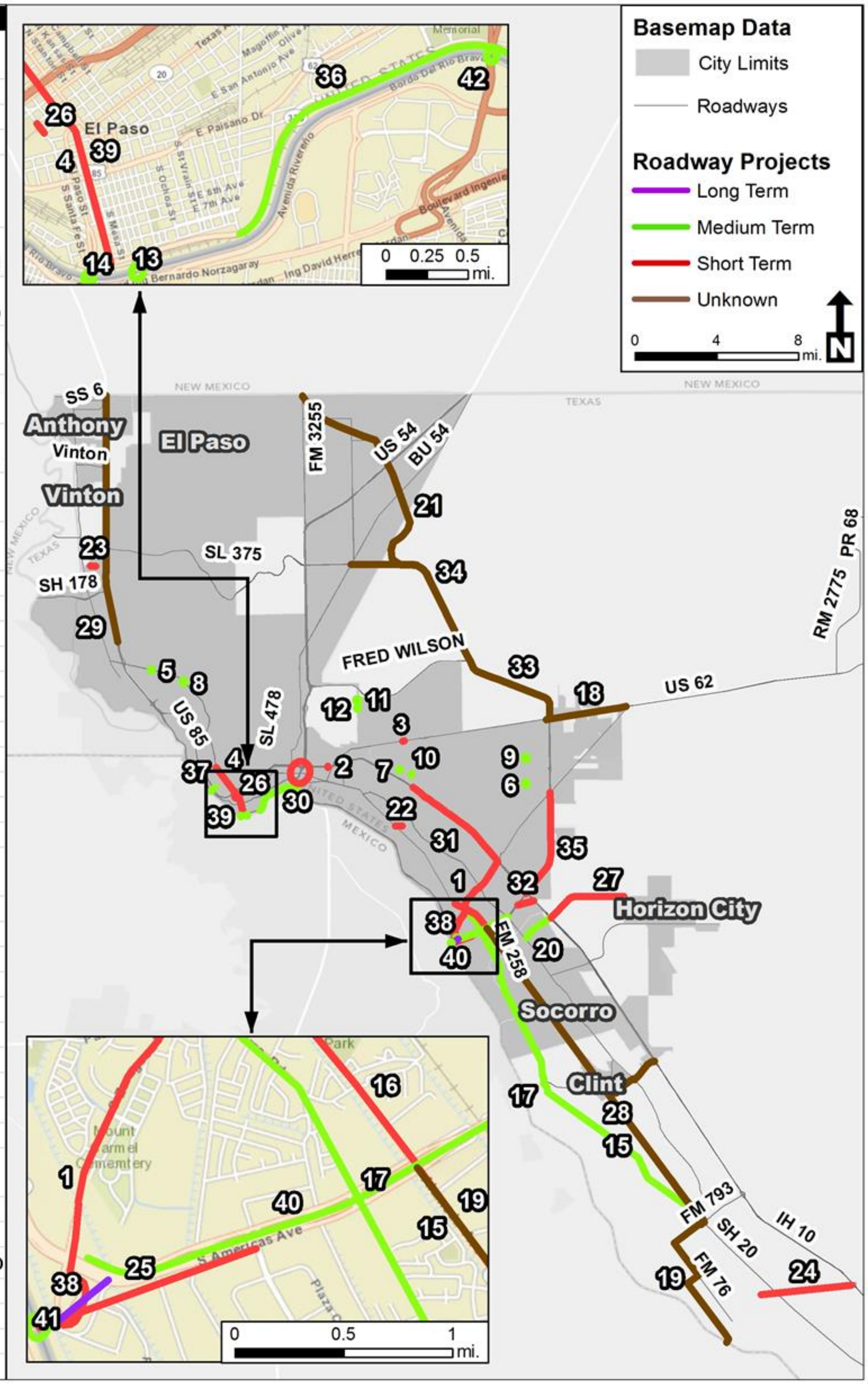

Figure 5.1: Planned Road and Interchange Projects in El Paso County

5.3.3 Planned Transit Projects in El Paso County

Four planned BRT projects and one preliminary engineering study for a BRT system on US 62/180 were identified in the U.S. Focused Study Area. Specifically, all the BRT projects are planned in El Paso County, and Sun Metro Transit is the sponsoring agency for all these projects.

Table 5.7 shows that the highest ranked BRT project in El Paso County and the U.S. Focused Study Area is planned on US 180, also known as the Montana Corridor Route. This planned project includes the design and construction of diamond-striped lanes and signal prioritization. Substantial progress has been reported in planning the project. Construction of the system is expected to start in 2015 and be completed in 2016. The project is expected to include the installation of ITS technologies to improve regional mobility. It is anticipated that the project will result in increased economic activity in the area.

The second-highest ranked BRT project in El Paso County and the U.S. Focused Study Area is the SH 20 (Alameda Avenue) system on Santa Fe Street at Fourth Avenue to Zaragoza Road. Construction of this system is expected to start in 2013 and be completed in 2014. The project corridor serves four major crossings in the area, and the project's completion is expected to improve mobility to and from each of these four crossings. It is anticipated that the project will result in a significant increase in economic activity without disproportionately impacting environmental justice communities.

The third-highest ranked transit project planned in El Paso County and the U.S. Focused Study Area involves design and construction of a BRT system on SH 20 (Mesa Street) between Fourth Avenue and Remcon Circle. It is anticipated that this project will result in increased economic activity in the area.

The fourth-highest ranked transit project involves design and construction of a BRT system that includes diamond-striped lanes, ITS technologies, and signal prioritization along the Dyer Corridor Route on Santa Fe Street between Fourth Avenue and Wren Street. Project construction is expected to start in 2013 and be completed in 2015. The project corridor serves four major crossings in the area, and completion of the project is expected to improve mobility to and from each of these four crossings.

Table 5.7: Planned Transit Projects in El Paso County

Term	Project Number (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	EPMPO T017D/ 0374-02-089 (47)	Sun Metro Transit	US 180 (Montana Avenue)/ Montana Corridor Routes	BRT on US 180 (Montana Avenue)/ Montana Corridor Routes	Construct BRT System on US 180 (Montana Avenue)/ Montana Corridor Routes: On Montana Avenue at Piedras to Airway (northbound)/Viscount (southbound) to Hawkins to Montana to Tierra Este to R.C. Poe.	$9,248,808	1
Short	EPMPO T015C-2 (43)	Sun Metro Transit	SH 20	BRT System Construction	Construct BRT System on SH 20 (Alameda Avenue): On Santa Fe Street at Fourth Avenue to Kansas/Campbell Street, to San Antonio/Magoffin Road, to Texas/Myrtle Street to Alameda Avenue to Zaragoza Road.	$8,400,000	2
Short	EPMPO T015C/ 0001-02-054 (44)	Sun Metro Transit	SH 20	BRT on SH 20 (Mesa Street)	Design and construct BRT: On Santa Fe Street at Fourth Avenue to Franklin Avenue to Oregon Street to Glory Road to Mesa Street to Remcon Circle.	$6,130,000	3
Short	EPMPO TO17C/ 0167-02-050 (45)	Sun Metro Transit	Dyer Corridor Routes	BRT on Dyer Corridor Routes	Design and construct BRT/ITS/ signal prioritization/diamond-striped lanes: On Santa Fe Street at Fourth Avenue to Dyer Street (BU 54A) to Diana Drive to Wren Street.	$9,168,000	4
Short	EPMPO T017D-1 (46)	Sun Metro Transit	US 62/180	US 62/180—Hueco Club Park to Airway Boulevard	Preliminary engineering for BRT system.	$2,000,000	N/A

Note: * Project name as provided by sponsoring agency
** Ranking out of five U.S. transit projects

The final planned transit project is a preliminary engineering study for a BRT system on US 62 between Hueco Club Park and Airway Boulevard, which is planned for 2015 at an estimated cost of $2 million. This highway currently serves two major crossings in the area, and it is anticipated that the BRT system will improve traffic flow along the corridor and reduce future congestion. Planned transit projects in El Paso County are shown in Figure 5.2.

5.3.4 Planned Rail Projects in El Paso County

Two planned rail projects were submitted for inclusion in the Border Master Plan. One of these rail projects is in El Paso County and involves various upgrades to 31 bridges on the BNSF El Paso Subdivision over the next 10 to 15 years. It was reported that these upgrades will have substantial impacts on rail freight moved in both the United States and Mexico. This rail project was ranked second in the U.S. Focused Study Area (see Table 5.8).

Table 5.8: Planned Rail Projects in El Paso County

Term	Project Number	Agency	Project Description	Estimated Cost ($2012)	Rank*
N/A	USB-RAIL-02	BNSF	Make various upgrades to 31 bridges on the BNSF El Paso Subdivision within the next 10–15 years.	N/A	2

Note: * Ranking out of two U.S. rail projects

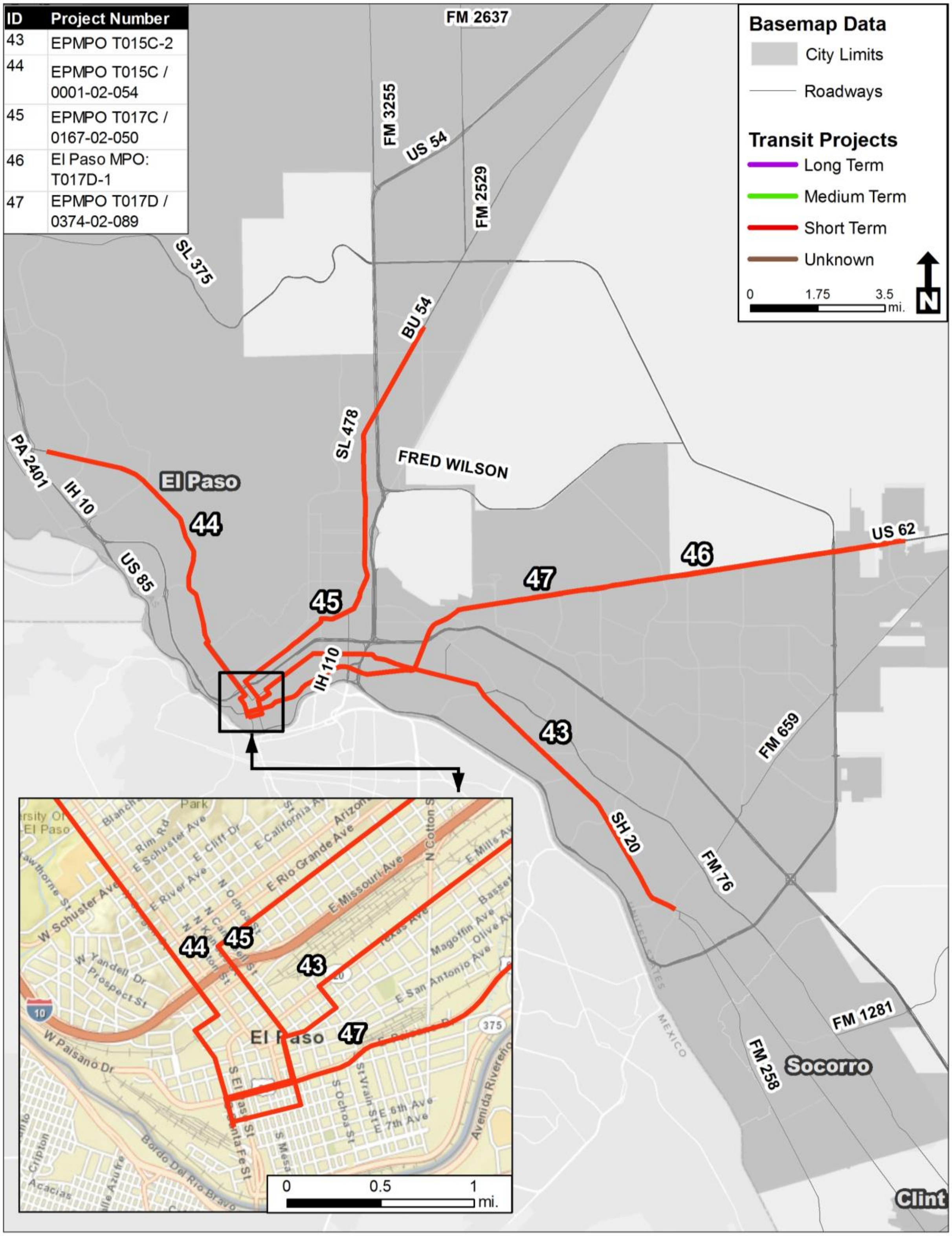

Figure 5.2: Planned Transit Projects in El Paso County

5.4 Presidio County

5.4.1 Planned POE Projects in Presidio County

Three of the 35 planned U.S. POE projects in the U.S. Focused Study Area are in Presidio County (see Table 5.9). Table 5.9 shows that the highest ranked POE project in Presidio County (ranked 16th in the U.S. Focused Study Area) is the preparation of a Presidential Permit for the addition of a twin structure and the construction of the twin structure at the Presidio-Ojinaga International Bridge. Work on the twin structure is expected to start in 2015 and be completed by 2017 at an estimated cost of $13.7 million. Upon completion of the planned project, two new operational booths will be added at the crossing. The investment will allow for an increase in the number of average daily crossings from the current level of 1,709 to 2,921 crossings. It is expected that this investment will bring significant socio-economic benefits to the area.

The two other POE projects planned in Presidio County are the construction of a commercial and bus inspection facility at an estimated cost of $1.16 million and the International Rail Bridge on South Orient at Presidio. TxDOT and Texas Pacifico Transportation Ltd. (TxPF) are in the preliminary planning stages for reconstruction of the International Rail Bridge. TxDOT has a surveyor under contract who will be performing the required field work as soon as the international coordination issues have been resolved. Current plan estimates suggest that the project will be open for bidding by 2015.

Table 5.9: Planned POE Projects in Presidio County

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Medium	0924-07-010	TxDOT/ Presidio County	Presidio-Ojinaga International Bridge Crossing	Prepare Presidential Permit for the addition of a twin structure and the construction of the twin structure.	Presidio, Texas	$15,401,000	16
Unknown	USB-POE-06	FMCSA	Commercial and Bus Inspection Facility	Perform Phase I—Feasibility and Phase II—Design/Build.	Presidio, Texas	$1,161,000	N/A
Unknown	USB-POE-10	Presidio County	International Rail Bridge on South Orient at Presidio	Reconstruct the international rail bridge on South Orient at Presidio, Texas.	Presidio County	N/A	N/A

Note: * Project name as provided by sponsoring agency
** Ranking out of 35 U.S. POE projects

5.4.2 Planned Road and Interchange Project in Presidio County

The project for planned improvements to US 67 between O'Reilly Street and the Presidio-Ojinaga International Bridge is the only road and interchange project in Presidio County that has been identified for inclusion in the Border Master Plan (see Table 5.10). Work on this project is expected to start in 2015 and be completed at an estimated cost of $1.67 million. An important component of the project is installation of ITS technologies to improve traffic flow along the corridor, resulting in an improvement in the LOS from level B to level A. The AADT of 1,745 on this section of US 67 is projected to increase to 3,600 vehicles by 2030. This investment is thus expected to facilitate increased economic activity in the area. The project is illustrated in Figure 5.3.

Table 5.10: Planned Road and Interchange Project in Presidio County

Term	Project Number (Map ID)	Agency	Highway	Project Name	Project Description	Estimated Cost ($2012)	Rank*
Short	0924-07-010 (48)	TxDOT/ Presidio County	US 67	US 67—O'Reilly Street to POE	Improve US 67 at the POE.	$1,670,000	10

Note: * Ranking out of 43 U.S. road and interchange projects

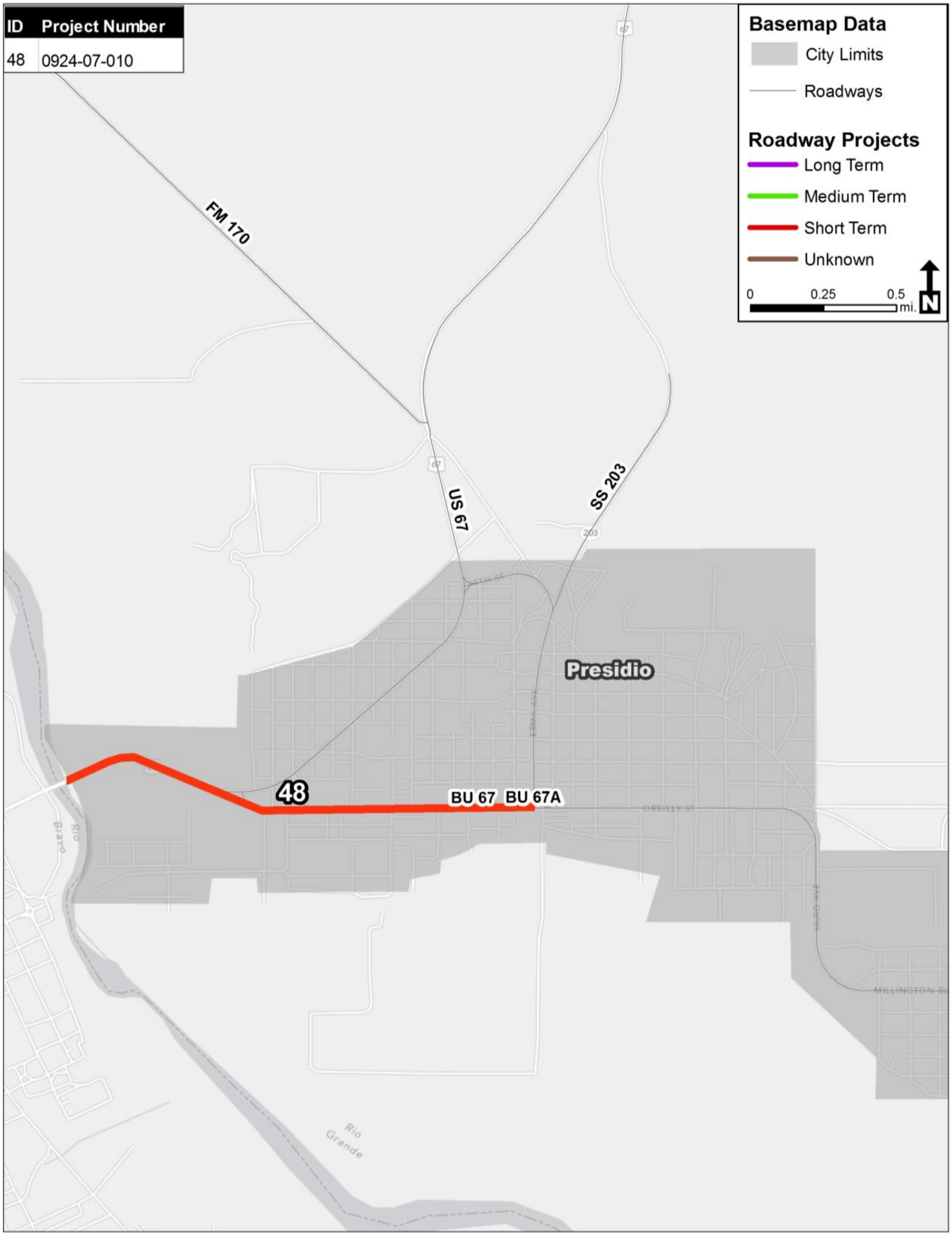

Figure 5.3: Planned Road and Interchange Project in Presidio County

5.5 Doña Ana County

5.5.1 Planned POE Projects in Doña Ana County

Three of the 35 planned U.S. POE projects in the U.S. Focused Study Area are in Doña Ana County (see Table 5.11):

- The construction of a commercial and bus inspection facility.
- Future plans to construct a new POE. The City of Sunland Park reported these plans, but limited information is available for this proposed POE.
- The construction of the Santa Teresa Commercial and Weight Inspection Station.

Table 5.11: Planned POE Projects in Doña Ana County

Term	Project Number	Agency	Project Name*	Project Description	Project Location	Estimated Cost ($2012)	Rank**
Unknown	USB-POE-07	FMCSA	Commercial and Bus Inspection Facility	Perform Phase I—Feasibility and Phase II—Design/Build.	Santa Teresa, New Mexico	$1,669,000	N/A
Unknown	EPMPO M619X	City of Sunland Park	New POE Bridge—Anapra Sunland Park	Construct a new POE at Sunland Park, New Mexico, and Anapra, Chihuahua.	Sunland Park City, New Mexico, and Anapra, Chihuahua	N/A	N/A
Short	NMDOT CN 7682	NMDOT	Santa Teresa Commercial Weight Inspection Station	Create infrastructure for Santa Teresa commercial inspection facilities.	Santa Teresa, New Mexico	$10,109,383	N/A

Note: * Project name as provided by sponsoring agency
** Ranking out of 35 POE projects

5.5.1 Planned Road and Interchange Projects in Doña Ana County

Of the 43 planned U.S. road and interchange projects in the U.S. Focused Study Area, 7 are in Doña Ana County. Table 5.12 shows that the highest ranked road and interchange project in Doña Ana County (ranked 15th in the U.S. Focused Study Area) involves maintenance and repair work and design/construction of a multi-use path on NM 136, as well as drainage and erosion control work. The project was let in 2012 at an estimated cost of $5.9 million. The NM 136 corridor provides direct access to one of the POEs in the region, and this investment will improve traffic flow on the corridor. It is anticipated that the project will bring substantial socio-economic benefits to the area.

The second-highest ranked road and interchange project in Doña Ana County (ranked 17th in the U.S. Focused Study Area) is the construction of Strauss Road. The 5.7-mile road connects NM 136 to the Union Pacific Intermodal Yard. The project also includes a 0.4-mile connection between Industrial Drive and the newly constructed Strauss Road. The project was let on March 16, 2012, and will be completed at an estimated cost of $10.7 million. Substantial progress has been reported as of May 2013. This planned project provides direct access to one of the POEs in the region and is expected to improve traffic flow to the POE with associated socio-economic benefits.

The third-highest ranked project in Doña Ana County includes maintenance and repair work on IH 10 from Las Cruces to the Texas–New Mexico State line. Substantial progress has been made with regard to planning, and it is expected that the project will let in fiscal year 2015 at an estimated cost of $9.0 million. NMDOT has reported that the project will include the installation of ITS technologies to alleviate congestion concerns along the corridor. Planned road and interchange projects in Doña Ana County are shown in Figure 5.4.

Table 5.12: Planned Road and Interchange Projects in Doña Ana County

Term	Project Number (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	NMDOT E100030 (49)	NMDOT	NM 136	NM 136—MP 7.5 to MP 8.4	Perform pavement preservation and design and construction of multi-use path on NM 136, including drainage and erosion control.	$5,928,503	15
Short	NMDOT CP 701 (50)	NMDOT	Strauss Road	Strauss Road—NM 136 to approximately 6.5 Miles from Union Pacific Intermodal Yard	Improve A-017 (Strauss Road) and Industrial Drive, and relocate St. John's access point on NM 136. Reconstruction and rehabilitation will include infrastructure and professional services.	$11,523,000	17
Medium	NMDOT 1100620 (51)	NMDOT	IH 10	IH 10 Pavement Preservation	Perform IH 10 pavement preservation, from Las Cruces to Texas State line.	$9,000,000	21
Short	NMDOT E100050 (53)	NMDOT	Sunland Park Drive	Sunland Park Drive	Perform pavement preservation of Sunland Park Drive, from Texas State line to McNutt Road (NM 273).	$1,275,000	23
Short	NMDOT LC00100 (55)	NMDOT	Missouri Avenue, Las Cruces, New Mexico	Missouri Avenue Bridge, Las Cruces, New Mexico	Perform bridge rehabilitation/widening of Missouri Avenue Bridge.	$9,000,000	25
Short	NMDOT D1611 (52)	NMDOT	NM 404/ NM 213	NM 404/ NM 213—Anthony Gap to Warrior Highway	Construct new roundabout at the intersection of NM 404 and NM 213. New pavement with signing, lighting, and traffic control will be placed to assist with congestion and traffic control in the area.	$2,099,441	26

Term	Project Number (Map ID)	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	NMDOT E100060 (54)	NMDOT	Anthony, New Mexico	NM 460—Anthony Drainage Project	Build storm drain alignment, curb, gutter, and ADA-compliant sidewalk along Anthony Drive.	$2,500,000	29

Note: ADA = Americans with Disabilities Act

* Project name as provided by sponsoring agency

** Ranking out of 43 U.S. road and interchange projects

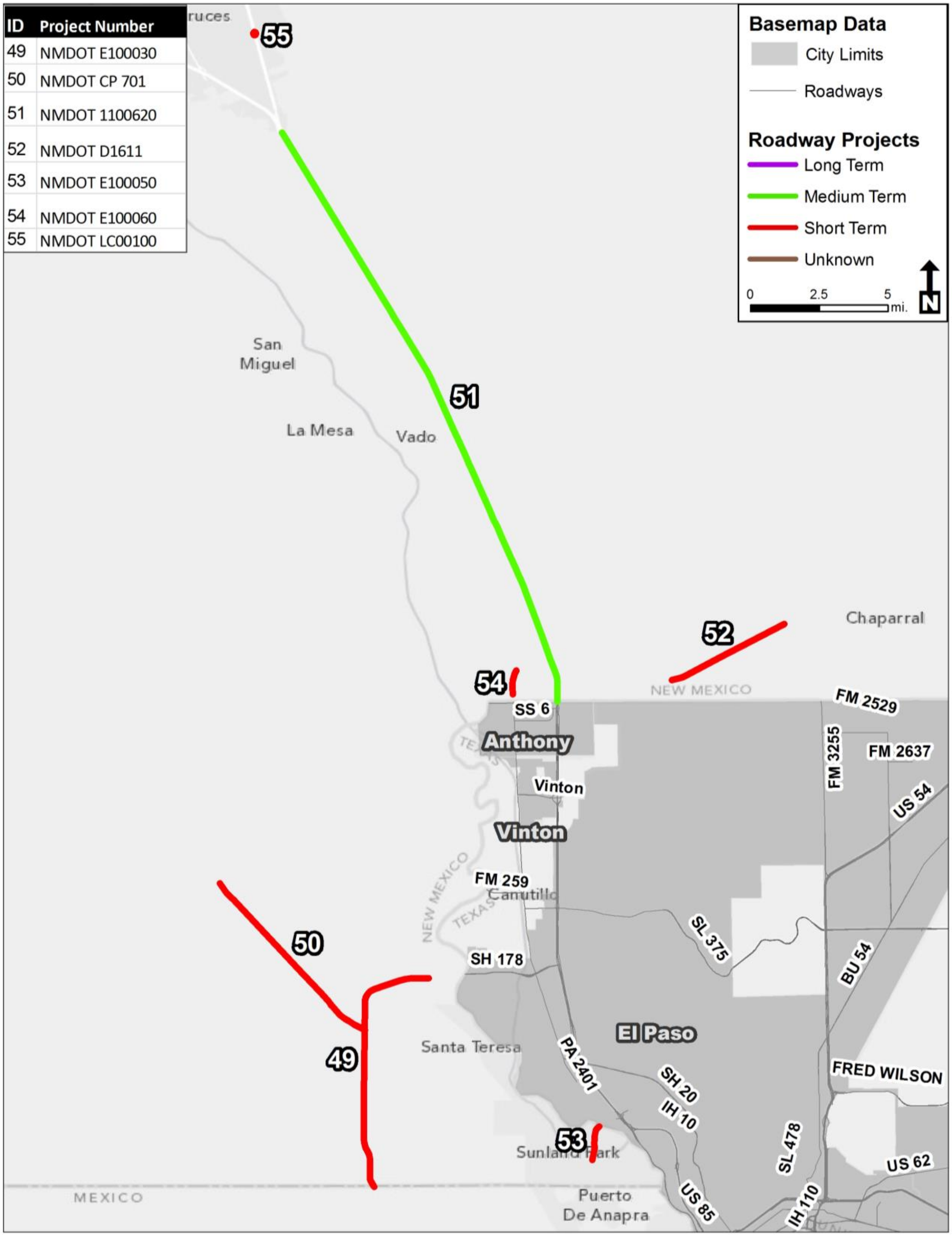

Figure 5.4: Planned Road and Interchange Projects in Doña Ana County

5.5.2 Planned Rail Project in Doña Ana County

Two planned rail projects were submitted for inclusion in the Border Master Plan. The highest ranked planned rail project in the U.S. Focused Study Area is the preparation of a Presidential Permit application for the construction of the Santa Teresa, New Mexico, rail bypass (see Table 5.13). Currently, rail service to the Paso del Norte region is provided by three railroads: UPRR, traversing New Mexico and Texas generally from west to east; BNSF, from north to south along the Rio Grande River; Ferromex, traversing Chihuahua from south to north. UPRR and BNSF converge with FXE for the binational exchange of freight at two adjacent bridges across the river in central El Paso and the City of Juárez.

Within El Paso and the City of Juárez, the rail corridors have been in place for over 100 years. In the City of Juárez, rail extends 10 miles from the bridges at the river southward through the urban center. Rail activity disrupts the movement of vehicle traffic so adversely at 12 major vehicle crossings in the City of Juárez that the city has restricted FXE operations to a few early morning hours per day. As a result, binational rail exchange is at or near capacity. In addition, the confined urban rail corridors on both sides of the border do not provide access to rapidly growing industrial areas that would greatly benefit from direct rail availability.

Two studies were completed in 2003 that considered the proposed Santa Teresa rail bypass. Both studies concluded that construction of a rail bypass extending from the existing BNSF line north of Anthony, New Mexico, to the west mesa and then to the vicinity of Santa Teresa, New Mexico, and an interchange with a new FXE extension at the border to be the most feasible relocation. An added benefit would be that the bypass would give UPRR access to FXE from a new major intermodal rail yard at Santa Teresa, which is under development. A Presidential Permit from USDOS will be required for the proposed international crossing. The State of New Mexico, the State of Chihuahua, and the Municipality and City of Juárez have executed a Memorandum of Understanding (MOU) to jointly pursue the Presidential Permit.

Table 5.13: Planned Rail Project in Doña Ana County

Term	Project Number	Agency	Project Description	Estimated Cost ($2012)	Rank*
Short	USB-RAIL-01	New Mexico Border Authority	Prepare Presidential Permit for the construction of the Santa Teresa, New Mexico, rail bypass.	$1,800,000	1

Note: * Ranking out of two U.S. rail projects

5.6 Municipality of Juárez

5.6.1 Planned POE Projects in Municipality of Juárez

The POEs in the Municipality of Juárez make up a large percentage of the total number of crossings in the Mexico Focused Study Area. Of the 23 POE projects identified in the Mexico Focused Study Area, 14 are planned in the Municipality of Juárez. Planned POE projects were identified for the Santa Teresa/Jerónimo POE, Bridge of the Americas, Ysleta-Zaragoza International Bridge, Good Neighbor International Bridge, and Paso del Norte International Bridge. In addition, two new planned crossings for Anapra-Sunland Park and the Santa Teresa/Jerónimo rail POE were identified to the northwest of the City of Juárez.

Planned POE Projects at Existing POEs

The ranking of the planned projects at existing POEs in the Municipality of Juárez is provided in Table 5.14. Table 5.14 shows that 10 of the 23 planned POE projects are at existing POEs in the Municipality of Juárez. These projects include the construction of sidewalks, modernization and expansion of three POEs, and a freight shuttle system. The highest ranked planned project at an existing POE in the Municipality of Juárez (ranked eighth in the Mexico Focused Study Area) is planned at the Santa Teresa/Jerónimo POE and involves the construction of sidewalks for pedestrians using this facility.

Table 5.14: Planned POE Projects at Existing POEs in Municipality of Juárez

Term	Project Number	Bridge/Crossing	Project Description*	Estimated Cost ($2012)	Rank**
Short	AI-CI-08	Santa Teresa/Jerónimo POE	Construct sidewalks to provide dedicated routes for pedestrians using the POE.	$275,590	8
Short	AI-CI-02	Bridge of the Americas	Modernize and expand administrative facilities and perform renovations at existing crossing.	$6,299,212	9
Short	GobChi-CI- 12	Ysleta-Zaragoza International Bridge	Widen access road to Mexican Customs from 2 to 3 lanes to increase capacity and to separate heavy vehicles.	$6,299,212	11
Medium	CDJ-CI-004	Ysleta-Zaragoza International Bridge	Build the FSS.	N/A	12
Medium	AI-CI-07	Santa Teresa/Jerónimo POE	Remodel and expand administrative facilities and security at border crossing.	$5,511,811	14
Short	AI-CI-01	Ysleta-Zaragoza International Bridge	Modernize and expand administrative facilities and perform renovations at existing crossing.	$6,299,212	15
Short	AI-CI-03	Good Neighbor International Bridge	Modernize and expand administrative facilities and perform renovations at existing crossing.	$6,299,212	16
Short	AI-CI-10	Paso del Norte International Bridge	Modernize and expand administrative facilities and perform renovations at existing crossing.	$6,299,212	17
N/A	AI-CI-09	Santa Teresa/Jerónimo POE	Expand and modernize import and export areas.	N/A	20
N/A	SCT-DGDC-CI-02	Paso del Norte International Bridge	Implement facilities for “green” transportation modes.	N/A	20

Note: * Project description as provided by sponsoring agency
** Ranking out of 23 Mexican POE projects

New POE Projects

Table 5.15 shows that the highest ranked new POE project in the Municipality of Juárez (ranked second in the Mexico Focused Study Area) is the construction of a new, non-commercial crossing at Anapra-Sunland Park. The proposed crossing will connect McNutt Road (SH 273) and Sunland Park Drive on the U.S. side with Carretera Anapra/San Jerónimo in Mexico. Initially, the crossing will have four lanes plus an additional two lanes for buses and two lanes for pedestrians. In the future, the four lanes may be expanded to six. The new crossing will have double-stacked operational booths and ITS technologies to expedite the processing of passenger vehicles, buses, bicycles, motorcycles, and pedestrians.

Table 5.15: Planned New POE Projects in Municipality of Juárez

Term	Project Number	Bridge/ Crossing	Project Description*	Estimated Cost ($2012)	Rank**
Medium	CDJ-CI-001	Anapra-Sunland Park	Construct new, non-commercial POE northwest of the City of Juárez.	$14,400,000	2
Medium	GobChi-CI-13	Santa Teresa/ Jerónimo POE	Construct new rail POE to divert cargo away from the urban area of the City of Juárez in conjunction with the Samalayuca-Jerónimo rail loop.	$128,000,000	6
Short to Medium	CDJ-CI-002	El Paso-Municipality of Juárez (New POE)	Construct non-commercial POE between Bridge of the Americas and the Ysleta-Zaragoza POE, with SENTRI, bus, and pedestrian facilities.	N/A	13
Medium	CDJ-CI-008	Billy the Kid Proposed POE (between Socorro and San Elizario)	Build the FSS.	N/A	20

Note: * Project description as provided by sponsoring agency
** Ranking out of 23 Mexican POE projects

The second-highest ranked new POE project in the Municipality of Juárez (ranked sixth in the Mexico Focused Study Area) is the construction of a new rail POE at the Santa Teresa/Jerónimo POE at a total estimated cost of $128,000,000.

Other new POE projects in the Municipality of Juárez include the construction of a new non-commercial bridge between the Bridge of the Americas and the Ysleta-Zaragoza International Bridge and an FSS at a new proposed POE between Socorro and San Elizario.

5.6.2 Planned Road and Interchange Projects in Municipality of Juárez

On the Mexican side, 51 road and interchange projects that serve the POEs are planned in the Mexico Focused Study Area. Nine of the 10 highest ranked Mexican road and interchange projects in the Mexico Focused Study Area are planned in the Municipality of Juárez. In addition, 44 of the 51 Mexican projects are in the Municipality of Juárez. The ranking of the planned road and interchange projects that serve the POEs in the Municipality of Juárez is provided in Table 5.16.

Table 5.16 shows that the highest ranked road project in the Municipality of Juárez and the Mexico Focused Study Area is Project SCT-DGDC-CARR-02, which involves the construction of the City of Juárez's Loop, connecting the Guadalupe/Tornillo POE to MEX 2. The planned project is designed to accommodate an AADT of 4,800 vehicles, of which trucks are estimated to be 25 percent.

The second-, third-, and seventh-highest ranked road projects in the Municipality of Juárez (ranked second, third, and sixth in the Mexico Focused Study Area, respectively) are Projects CentroSCT-CARR-06, CentroSCT-CARR-08, and CentroSCT-CARR-07, which involve the construction, modernization, widening, curve elevation, and radius modification of different sections of MEX 48. MEX 48 loops around the southwest side of the City of Juárez, connecting MEX 2 with the Santa Teresa/Jerónimo POE. The planned project is designed to accommodate an AADT of more than 2,000 vehicles, of which trucks are estimated to be 33 percent. The proposed bridge and access road are expected to alleviate congestion in the area, as well as promote economic activity.

Project CDJ-CARR-002 ranked fourth in the Municipality of Juárez and extends 16 de Septiembre Avenue to form a loop around the neighborhood of Rancho Anapra. Rancho Anapra will connect the City of Juárez with the proposed Anapra-Sunland Park and Santa Teresa/Jerónimo POEs.

Table 5.16: Planned Road and Interchange Projects in Municipality of Juárez

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
Medium	SCT-DGDC-CARR-02 (8)	City of Juárez Loop	Construct access loop to the new Guadalupe/Tornillo POE.	$62,992,125	1
Short	CentroSCT-CARR-06 (4)	MEX 48	Modernize and widen MEX 48 to include a shoulder on each side.	$11,023,622	2
Short	CentroSCT-CARR-08 (39)	MEX 48	Modify the radius and super-elevation of the curve located at the Kilometer 18 marker.	$275,590	3
Medium	CDJ-CARR-002 (9)	Rancho Anapra Loop (Extension of 16 de Septiembre Avenue)	Construct a new urban 4-lane highway to connect to the Anapra-Sunland Park and Santa Teresa/Jerónimo POEs without passing through the Rancho Anapra neighborhood.	N/A	4
Short	CentroSCT-CARR-07 (48)	MEX 48	Repave sub-base.	$1,322,834	6
Medium	GobChi-CARR-24∞	16 de Septiembre Avenue, Juan Gabriel Road, Oscar Flores Boulevard, Norzagaray Boulevard, ^ and Anapra-Jerónimo Highway	Perform pavement preservation of POE access roads.	$7,086,614	7
Medium	CentroSCT-CARR-09	MEX 48	Construct a highway access road to the Santa Teresa/Jerónimo POE bridge.	$3,779,527	8
Short	GobChi-CARR-05 (2)	Intersection of Manuel Gómez Morín Boulevard and Manuel Clouthier Avenue	Construct overpass.	$3,937,000	9

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
Short	GobChi-CARR-19 (29)	MEX 48	Modernize the intersection of MEX 48 and the Jerónimo Loop.	$590,551	10
Long	GobChi-CARR-33 (31)	MEX 2	Construct overpass at intersection with MEX 48.	$6,692,913	11
Short	GobChi-CARR-04 (1)	Intersection of Ramón Rayón Avenue and Manuel Clouthier Avenue	Construct overpass.	$3,937,000	13
Medium	CDJ-CARR-006 (11)	Camino Real and 16 de Septiembre Avenue	Construct overpass.	N/A	14
Short	GobChi-CARR-14 (3)	Intersection of Cloro Street and Norzagaray Boulevard ^	Construct overpass.	$2,362,204	15
Medium to Long	GobChi-CARR-32 (30)	Jerónimo-Anapra Highway	Construct an upper loop for vehicles heading toward MEX 48.	$905,511	16
Medium to Long	GobChi-CARR-31 (45)	Jerónimo-Anapra Highway	Install actuated traffic signals on access roads to the import/export facilities at the Santa Teresa/Jerónimo POE.	$118,110	18
N/A	CentroSCT-CARR-17	Intersection of 16 de Septiembre Avenue and Francisco Villa Avenue	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	20
N/A	CentroSCT-CARR-18	Municipio Libre, between Juan Gabriel Road and Ing. F. Dozal	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	20
Medium	GobChi-CARR-23∞	De las Américas Avenue, Pérez Serna Avenue, Heroico Colegio Militar Avenue, Juan Pablo II Boulevard, and Tecnólogico Avenue	Perform pavement preservation of arterial roads that serve as access roads to POEs.	$2,283,464	22

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
N/A	CentroSCT-CARR-19	Vicente Guerrero at the intersection with Francisco Villa Avenue	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	23
N/A	CentroSCT-CARR-20	David Herrera at the intersection with Francisco Villa Avenue	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	23
Short	CDJ-CARR-003	Anapra-Jerónimo Highway	Remove 0.9 miles of highway, forcing traffic to use the new segment and thus avoiding conflicts with the line waiting to cross the Santa Teresa/Jerónimo POE.	N/A	25
Medium to Long	CDJ-CARR-009 (41)	Intersection of MEX 45, Samalayuca Jerónimo Loop, and Tangencial Avenue	Construct intersection/overpass.	$10,000,000	26
Medium	CDJ-CARR-022 (20)	Norzagaray Boulevard^	Construct direct cargo access to the Norzagaray Boulevard^ peripheral loop.	$170,866	27
Short	CDJ-CARR-012 (58)	16 de Septiembre Avenue	Extend 16 de Septiembre Avenue to connect with the Camino Real peripheral.	N/A	28
Long	CDJ-CARR-028 (38, 56)	Samalayuca Jerónimo Highway	Construct loop to complete vehicle and cargo infrastructure directed toward the Santa Teresa/Jerónimo and Anapra/Sunland Park POEs.	N/A	29
Medium	CDJ-CARR-019 (17)	Francisco Villarreal Torres Avenue	Construct transverse expansion; improve drainage infrastructure.	$213,385	31
Medium	CDJ-CARR-023 (46)	Juan Pablo II Boulevard	Construct diamond-shaped overpass.	$366,141	32
Medium	CDJ-CARR-027 (22)	Norzagaray Boulevard^	Construct intersection to facilitate cargo traveling to and from the Santa Teresa/ Jerónimo and Anapra/Sunland Park POEs.	$305,511	32

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
Medium	CDJ-CARR-017 (15)	Juan Pablo II Boulevard	Construct transverse expansion; improve drainage infrastructure.	$1,653,543	34
Short	CDJ-CARR-014 (57)	Various access roads to Ysleta-Zaragoza POE	Improve vehicle and pedestrian access.∞	N/A	35
Long	CDJ-CARR-024 (37)	Internacional Boulevard	Construct 3.4 miles of road to complete vehicle and cargo infrastructure directed toward the Santa Teresa/Jerónimo POE and proposed rail bridge.	N/A	35
Long	CDJ-CARR-025 (21)	Norzagaray Boulevard^	Construct overpasses to facilitate cargo moving to and from the Santa Teresa/Jerónimo POE and proposed rail bridge.	$396,850	38
Long	CDJ-CARR-026 (59)	Juan Pablo II Boulevard	Construct intersection to facilitate cargo moving to and from Ysleta-Zaragoza POE and San Elizario Tangential .	$305,511	38
Long	CDJ-CARR-011 (13)	Extension of Independencia Boulevard	Construct 10-lane highway.	N/A	40
Medium	CDJ-CARR-021 (19)	Independencia Loop at the intersection with Búfalo Street	Construct diamond-shaped overpass.	$366,141	40
Short	GobChi-CARR-20	Ramón Rayón Avenue and Independencia Boulevard	Construct sidewalk.	$1,417,322	42
Medium to Long	CDJ-CARR-007 (12)	Tangencial Avenue	Construct tangent from the intersection of MEX 45 and Jerónimo Loop to the intersection of Fronterizo Boulevard and De las Naciones Highway.	N/A	43

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
Medium to Long	CDJ-CARR-008 (34)	16 de Septiembre Avenue	Extend 16 de Septiembre Avenue, linking City of Juárez with the Santa Teresa/Jerónimo POE.	N/A	43
Short to Medium	CDJ-CARR-004 (32)	Carretera de las Naciones	Construct alternative connector to Guadalupe-Tornillo and the eastern region of City of Juárez.	N/A	45
Short	Privado-CARR-01 (40)	MEX 48	Construct access road to the FOXCONN maquila located at the Kilometer 19 marker.	$472,440	46
Long	CDJ-CARR-010 (36)	Intersection of De las Naciones Highway, the extension of Fronterizo Boulevard, and Tangencial Avenue	Construct intersection/overpass.	$8,000,000	48
Short	CDJ-CARR-016 (14)	David Herrera Jordán	Improve road infrastructure to enhance access to the SENTRI lane at the Good Neighbor International Bridge.	N/A	49
Medium	CDJ-CARR-005 (33)	Fronterizo Boulevard	Extend Fronterizo Boulevard east toward the Rio Grande.	N/A	50
Medium	CDJ-CARR-018 (16)	Camino Real	Improve connections and access to the Camino Real peripheral.	N/A	51

Note: * Project description as provided by sponsoring agency
** Ranking out of 51 Mexican road and interchange projects
∞ Not included in location maps
^ Norzagaray Boulevard is also known as Prolongación Poniente del Boulevard Internacional

Project GobChi-CARR-24 ranked sixth in the Municipality of Juárez and seventh in the Mexico Focused Study Area. This project forms part of a pavement preservation and improvement program to improve access to the most-used bridges in the Municipality of Juárez. The project will improve the LOS on five major arterial roads in the area.

Figures 5.5, 5.6, and 5.7 illustrate the location of the planned projects for which location information could be obtained by planning horizon (short, medium, and long term) listed in Table 5.16.

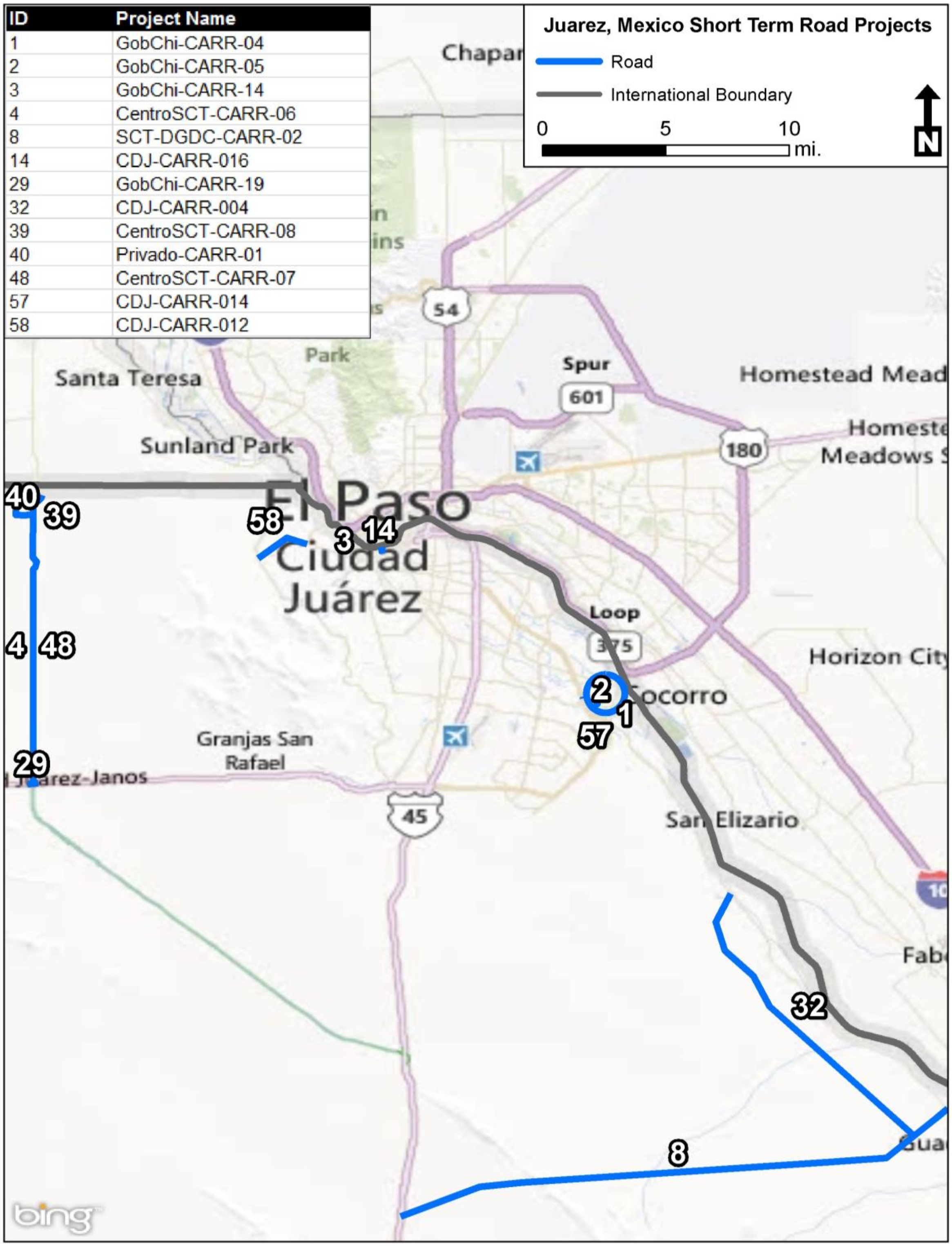

Figure 5.5: Planned Short-Term Road and Interchange Projects in Municipality of Juárez

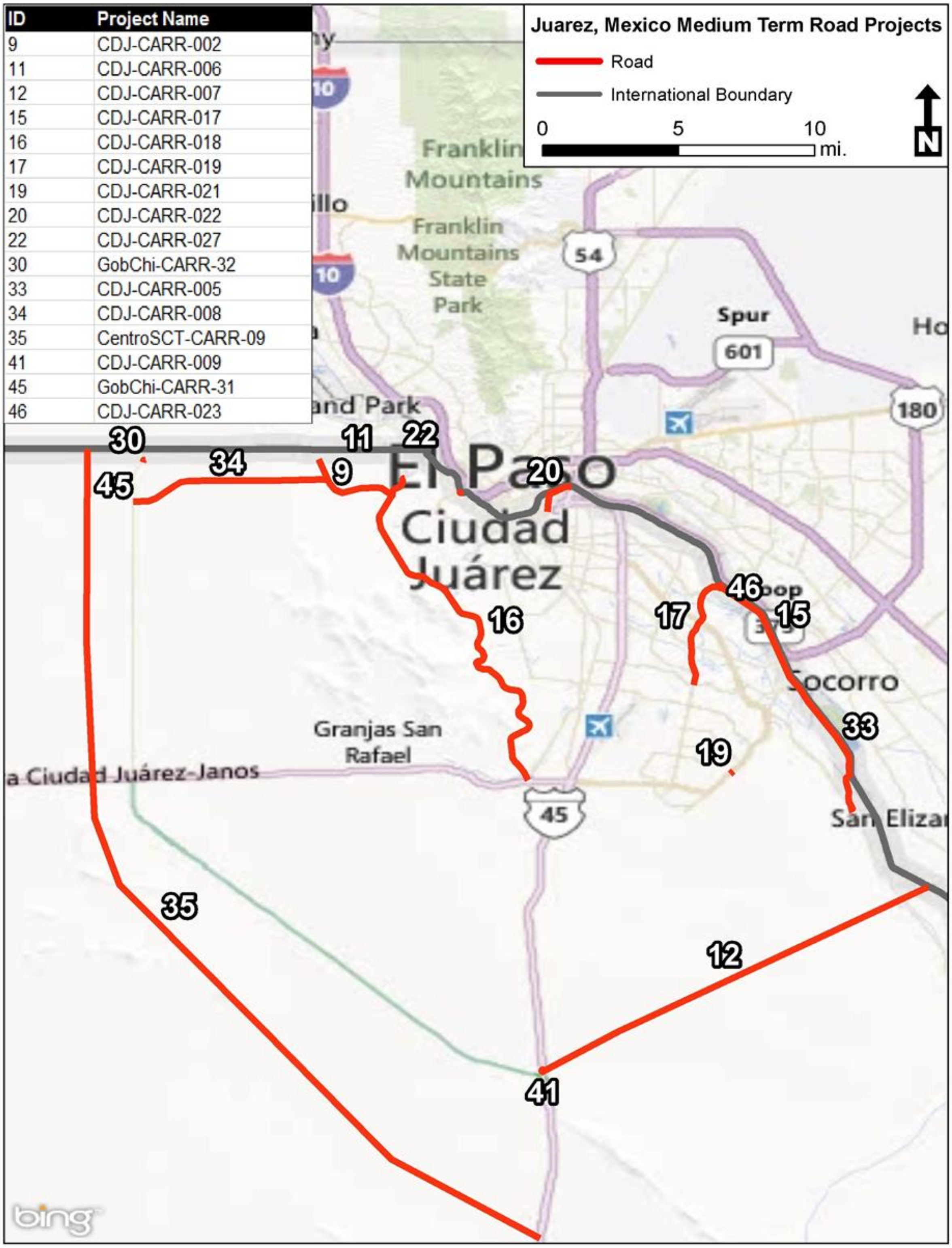

Figure 5.6: Planned Medium-Term Road and Interchange Projects in Municipality of Juárez

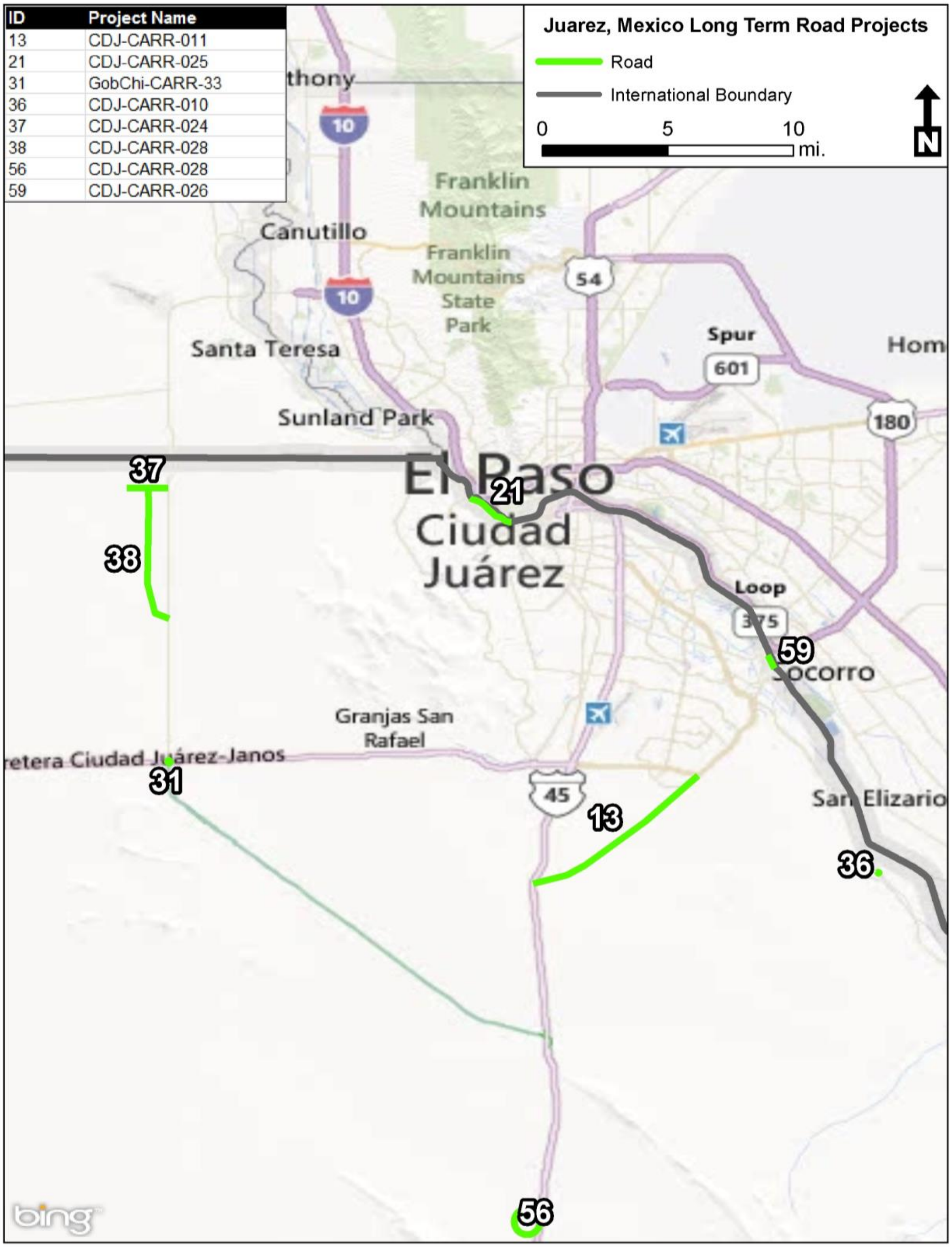

Figure 5.7: Planned Long-Term Road and Interchange Projects in Municipality of Juárez

5.6.3 Planned Transit Projects in Municipality of Juárez

On the Mexican side, only one planned transit project, shown in Table 5.17, was submitted for inclusion in the Border Master Plan. The planned project involves general improvements to the public transportation system and the development of a BRT system. The BRT project is expected to become operational in 2013. This investment will add up to 30 buses per hour to the public transportation system in the Municipality of Juárez.

Table 5.17: Planned Transit Projects in Municipality of Juárez

Term	Project Number (Map ID)	Location	Project Description*	Estimated Cost ($2012)	Rank
Short	CDJ-CARR-013 (49)	Juan Gabriel Road, Zaragoza Boulevard, 16 de Septiembre Avenue, Paseo Triunfo de la República, and Tecnológico Avenue	Improve public transportation, develop BRT, and connect originating zones with important destinations, including POEs.	$4,430,009	1

Note: * Project description as provided by sponsoring agency

Figure 5.8 illustrates the location of the planned BRT project identified in the Municipality of Juárez.

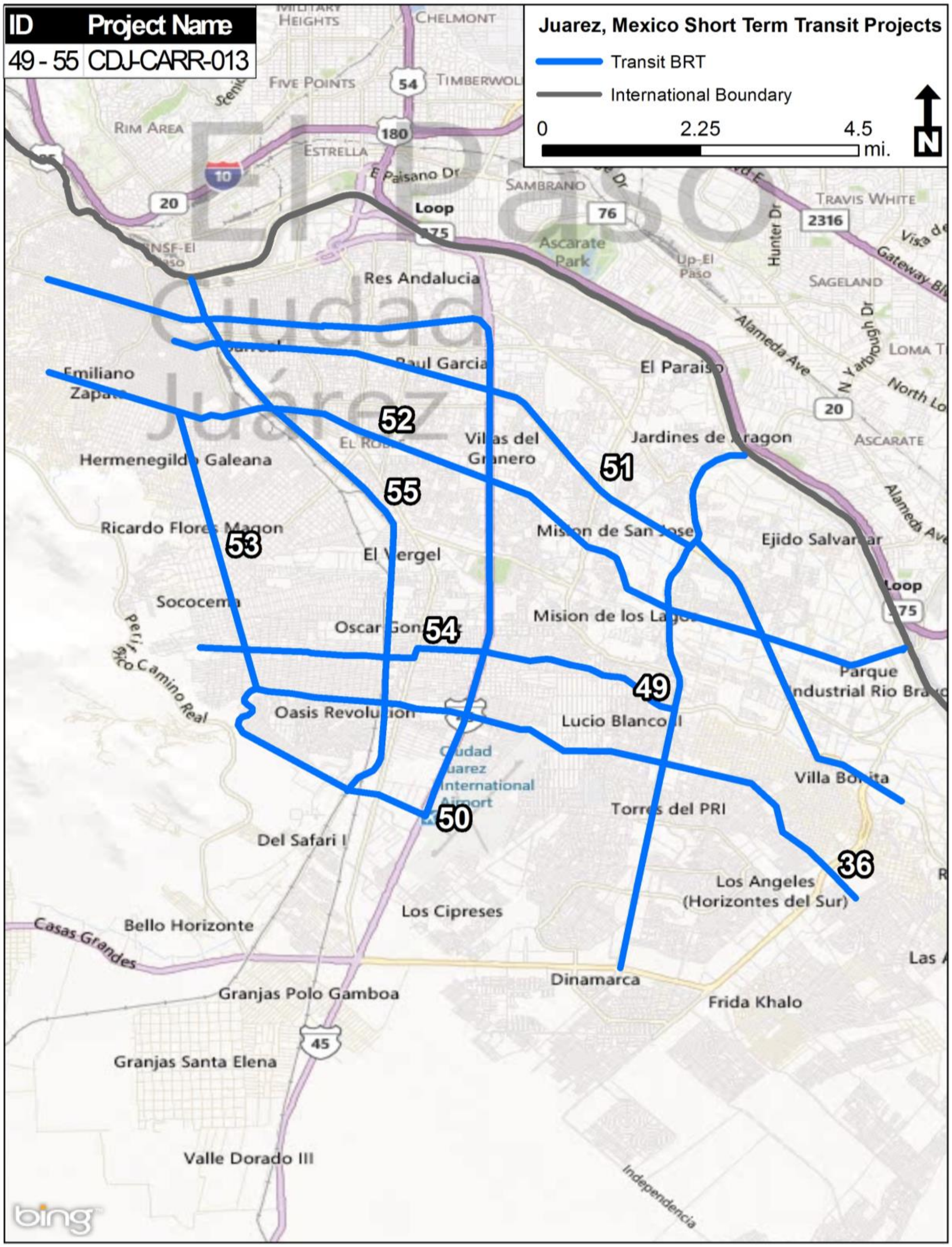

Figure 5.8: Planned Transit Project in Municipality of Juárez

5.6.4 Planned Rail Projects in Municipality of Juárez

On the Mexican side, three planned rail projects were identified in the Mexico Focused Study Area. Two of these rail projects are planned in the Municipality of Juárez (see Table 5.18). Table 5.18 shows that the highest ranked rail project in the Municipality of Juárez and the Mexico Focused Study Area is the construction of a new rail line that connects the City of Juárez to the new Santa Teresa/Jerónimo POE (Project GobChi-FERR-001). The cost of this project is estimated at approximately $126 million. The second planned rail project involves construction of a rail spur connecting to the Electrolux Plant in the southeast of the City of Juárez.

Table 5.18: Planned Rail Projects in Municipality of Juárez

Term	Project Number (Map ID)	Owner	Project Description*	Estimated Cost ($2012)	Rank**
Short to Medium	GobChi-FERR-001 (42)	N/A	Construct a new rail line from the City of Juárez to the Santa Teresa/Jerónimo POE.	$125,984,031	1
Short	FERR-002 (43)	N/A	Construct a rail spur connecting to the Electrolux Plant in the southeast of the City of Juárez.	N/A	3

Note: * Project description as provided by sponsoring agency
** Ranking out of three Mexican rail projects

Figures 5.9 and 5.10 illustrate the location of the planned rail projects by planning horizon identified in the Municipality of Juárez.

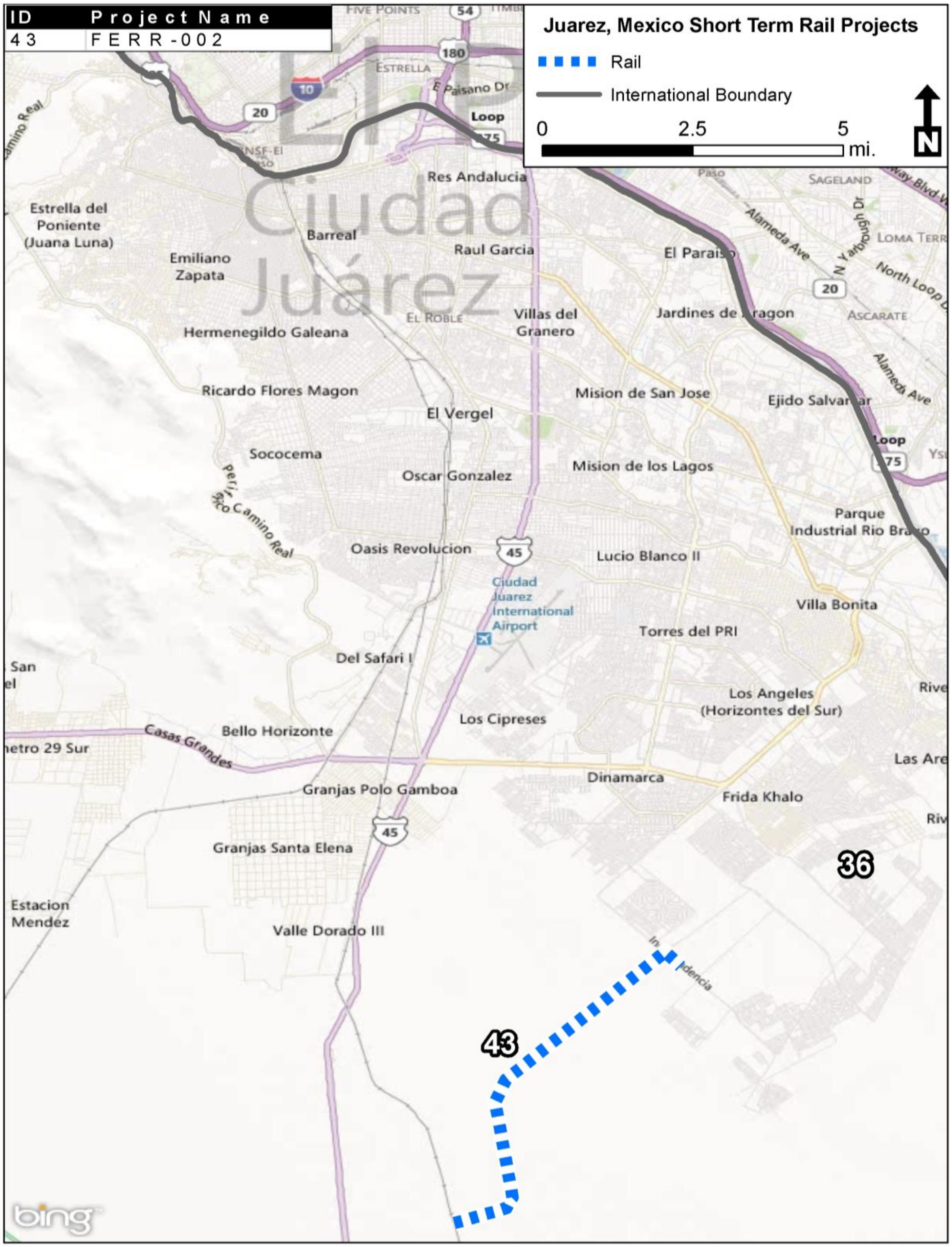

Figure 5.9: Planned Short-Term Rail Projects in Municipality of Juárez

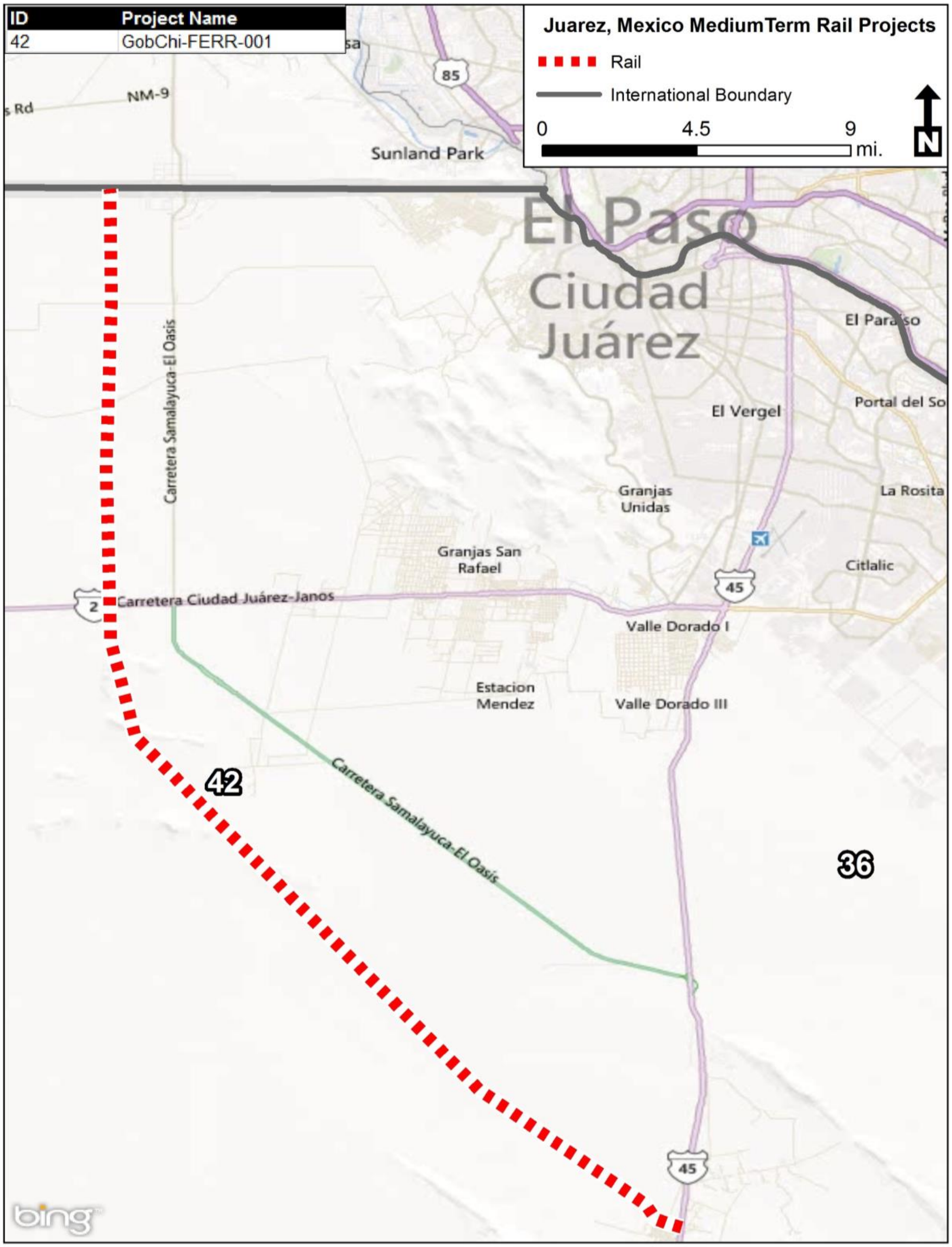

Figure 5.10: Planned Medium-Term Rail Projects in Municipality of Juárez

5.7 Municipalities of Guadalupe and Práxedis G. Guerrero

5.7.1 Planned POE Projects in Municipalities of Guadalupe and Práxedis G. Guerrero

The ranking of the planned POE projects identified in the Municipalities of Guadalupe and Práxedis G. Guerrero is provided in Tables 5.19 and 5.20.

Table 5.19: Planned POE Project at Existing POE in Municipalities of Guadalupe and Práxedis G. Guerrero

Term	Project Number	Bridge	Project Description*	Estimated Cost ($2012)	Rank**
Medium	AI-CI-06	Fort Hancock-El Porvenir International Bridge	Modernize and expand administrative facilities.	$6,299,212	19

Note: * Project description as provided by sponsoring agency
** Ranking out of 23 Mexican POE projects

Table 5.20: New POE Project in Municipalities of Guadalupe and Práxedis G. Guerrero

Term	Project Number	Bridge	Project Description*	Estimated Cost ($2012)	Rank**
Short	SCT-DGDC-CI-06	Guadalupe/ Tornillo	Construct administrative facilities and bridge structure for new Guadalupe/Tornillo POE.	$27,200,000	1

Note: * Project description as provided by sponsoring agency
** Ranking out of 23 Mexican POE projects

Planned POE Project at Existing POEs

The only planned project (see Table 5.19) in the Municipalities of Guadalupe and Práxedis G. Guerrero involves the modernization and expansion of the administrative facilities at the Fort Hancock-El Porvenir International Bridge (Project AI-CI-06).

New POE Project

Table 5.20 shows that administrative facilities and the bridge structure for the new Guadalupe/Tornillo POE was the highest ranked POE project in the Municipality of Guadalupe and the Mexico Focused Study Area.

5.7.2 Planned Road and Interchange Projects in Municipalities of Guadalupe and Práxedis G. Guerrero

The only planned road project, shown in Table 5.21 and Figure 5.11, in the Municipalities of Guadalupe and Práxedis G. Guerrero ranked 30th out of the 51 planned Mexican road and interchange projects in the Mexico Focused Study Area. Project SCT-DGDC-CARR-01 involves the modernization of the intersection of MEX 2 and the road leading to the Fort Hancock-El Porvenir International Bridge.

Table 5.21: Planned Road and Interchange Project in Municipalities of Guadalupe and Práxedis G. Guerrero

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
Medium	SCT-DGDC-CARR-01 (23)	MEX 2	Modernize the intersection of MEX 2 and the road leading to the Fort Hancock-El Porvenir International Bridge; construct shoulders and merge lanes.	$393,700	30

Note: * Project description as provided by sponsoring agency
** Ranking out of 51 Mexican road and interchange projects

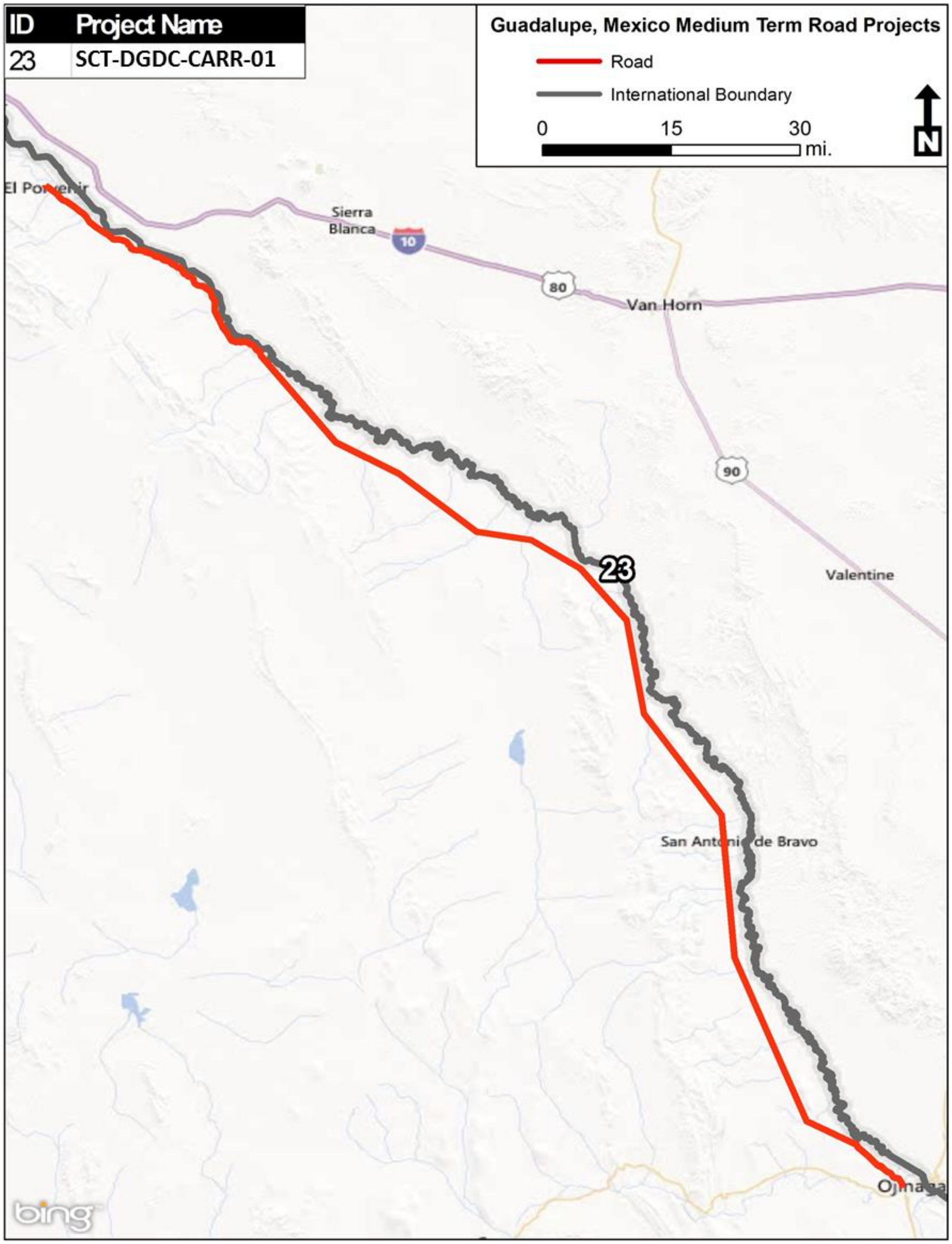

Figure 5.11: Planned Medium-Term Road and Interchange Project in Municipalities of Guadalupe and Práxedis G. Guerrero

5.8 Municipality of Ojinaga

5.8.1 Planned POE Projects in Municipality of Ojinaga

Seven planned Mexican projects involving the Municipality of Ojinaga were submitted for inclusion in the Border Master Plan, including a new crossing and the construction of administrative facilities. Tables 5.22 and 5.23 show that 4 of the 10 highest ranked Mexican POE projects are planned in the Municipality of Ojinaga.

Planned POE Projects at Existing POEs

Six planned projects were identified at existing POEs in the Municipality of Ojinaga. The ranking of these planned POE projects is provided in Table 5.22. The construction of exclusive export lanes (Project GobChi-CI-01) and exclusive import lanes (Project GobChi-CI-11) at the Presidio-Ojinaga International Bridge tied in ranking first in the Municipality of Ojinaga (tied in ranking third out of the 23 planned POE projects in the Mexico Focused Study Area).

Project GobChi-CI-14, which ranked third in the Municipality of Ojinaga (seventh out of the 23 planned POE projects in the Mexico Focused Study Area), involves the reconstruction and widening of the Presidio-Ojinaga Rail Bridge. This project also includes the modernization of the existing border infrastructure. The other planned rail POE project in the Municipality of Ojinaga, Project FERR-CI-03, includes the construction of access infrastructure, platforms, and areas of security and inspection to begin operations at the Presidio-Ojinaga Rail Bridge.

The construction of a new span parallel to the existing bridge was submitted as Project SCT-DGDC-CI-03. This project ranked fourth in the Municipality of Ojinaga and 10th out of the 23 planned POE projects in the Mexico Focused Study Area. Government entities are currently reviewing this project and Project AI-CI-04-SCT-DGDC-CI-04, included in Table 5.23, as two alternative POE options for improving bridge capacity in the Municipality of Ojinaga.

New POE Project

The only new POE project in the Municipality of Ojinaga (ranked fifth in the Mexico Focused Study Area) involves the construction of a new bridge and administrative facilities. This proposed bridge was submitted as Project AI-CI-04-SCT-DGDC-CI-04 (see Table 5.23).

Table 5.22: Planned POE Projects at Existing POEs in Municipality of Ojinaga

Term	Project Number	POE	Project Description*	Estimated Cost ($2012)	Rank**
Short	GobChi-CI-01	Presidio-Ojinaga International Bridge	Construct exclusive export lane at the existing bridge.	$551,181	3
Medium	GobChi-CI-11	Presidio-Ojinaga International Bridge	Construct exclusive import lane at the existing bridge.	$551,181	3
Medium	GobChi-CI-14	Presidio-Ojinaga International Bridge	Reconstruct and widen the Presidio-Ojinaga Rail Bridge and modernize existing border infrastructure.	N/A	7
Medium	SCT-DGDC-CI-03	Presidio-Ojinaga International Bridge	Construct a new span parallel to the existing bridge to provide increased vehicle capacity.	$3,149,606	10
Medium	FERR-CI-03	Presidio-Ojinaga International Bridge	Construct access infrastructure, platforms, and areas of security and inspection necessary to begin operation of the Presidio-Ojinaga Rail Bridge.	$787,401	18
Short	AI-CI-05	Presidio-Ojinaga International Bridge	Modernize and expand administrative facilities at the existing bridge.	$6,299,212	20

Note: * Project description as provided by sponsoring agency
** Ranking out of 23 Mexican POE projects

Table 5.23: Planned New POE Project in Municipality of Ojinaga

Term	Project Number	POE	Project Description*	Estimated Cost ($2012)	Rank**
Medium	AI-CI-04-SCT-DGDC-CI-04	Presidio-Ojinaga International Bridge	Construct new international bridge and new administrative facilities.	$10,629,921	5

Note: * Project description as provided by sponsoring agency
** Ranking out of 23 Mexican POE projects

5.8.2 Planned Road and Interchange Projects in Municipality of Ojinaga

Six planned road and interchange projects in the Municipality of Ojinaga were submitted for inclusion in the Border Master Plan. The rankings of these six projects are presented in Table 5.24. Table 5.24 shows that 1 of the 10 highest ranked Mexican road and interchange projects is in the Municipality of Ojinaga. The highest ranked road and interchange project in the municipality (ranked fifth out of the 51 Mexican road and interchange projects) involves the modernization and widening of MEX 2 along the U.S.-Mexico border from El Porvenir to Ojinaga (Project CentroSCT-CARR-16). This project will include high-occupancy vehicle lanes and is expected to accommodate double the 2010 AADT, as well as facilitate increased economic activity.

The modernization of CHIH 67 (Projects GobChi-CARR-25 and GobChi-CARR-29) ranked second and fourth in the Municipality of Ojinaga (ranked 12th and 19th out of the 51 Mexican road and interchange projects), respectively. These projects will improve CHIH 67 from Ojinaga south to the intersection with Highway CHIH 80 by constructing a parallel section of road to result in a divided highway, thereby increasing the safety and LOS on the facility while providing additional vehicle capacity. In addition, Project GobChi-CARR-29 also includes the construction of a new loop south of the City of Ojinaga.

Figures 5.12 and 5.13 illustrate the projects listed in Table 5.24 for which location information could be obtained.

Table 5.24: Planned Road and Interchange Projects in Municipality of Ojinaga

Term	Project Number (Map ID)	Highway	Project Description*	Estimated Cost ($2012)	Rank**
Short	CentroSCT-CARR-16 (47)	MEX 2	Modernize and widen the rural section to accommodate 2 lanes and shoulders from El Porvenir to Ojinaga.	$167,559,055	5
Medium	GobChi-CARR-25 (5)	CHIH 67	Modernize CHIH 67; construct a second parallel section of highway.	$22,047,244	12
Medium	GobChi-CARR-26 (6)	CHIH 80	Modernize CHIH 80–La Mula; construct a second parallel section of highway.	$27,559,055	17
Medium	GobChi-CARR-29 (7)	CHIH 67	Construct a new loop south of Ojinaga to connect directly to the Presidio-Ojinaga International Bridge.	$6,062,992	19
Medium	CDJ-CARR-020 (18)	Presidio-Ojinaga Inter-national Bridge Access	Improve urban infrastructure and perform pavement preservation from Fronteriza Street to Coronado Street.	N/A	35
Medium	CentroSCT-CARR-01 (23)	MEX 2	Construct the Border Highway.	$51,181,102	46

Note: * Project description as provided by sponsoring agency
** Ranking out of 51 Mexican road and interchange projects

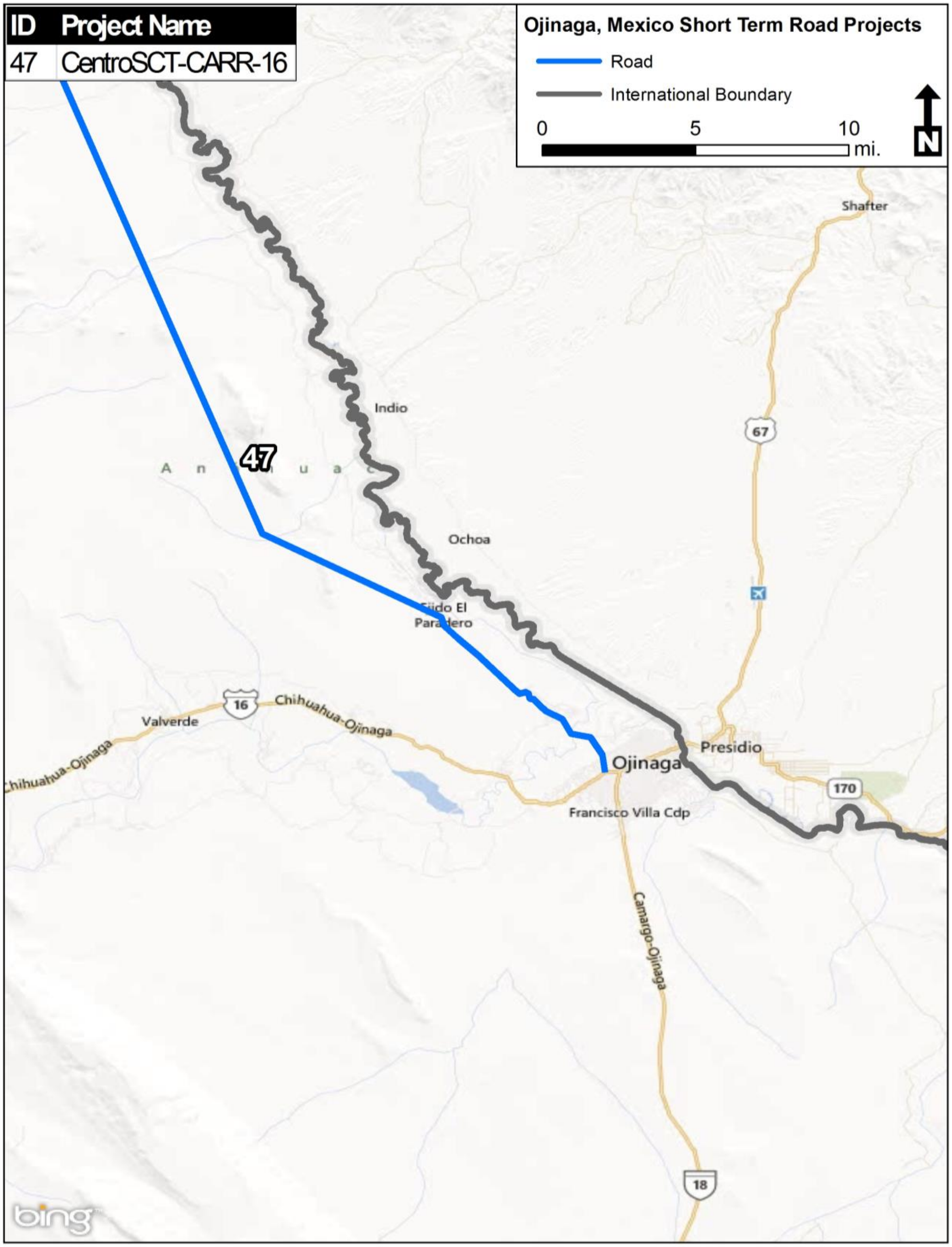

Figure 5.12: Planned Short-Term Road and Interchange Project in Municipality of Ojinaga

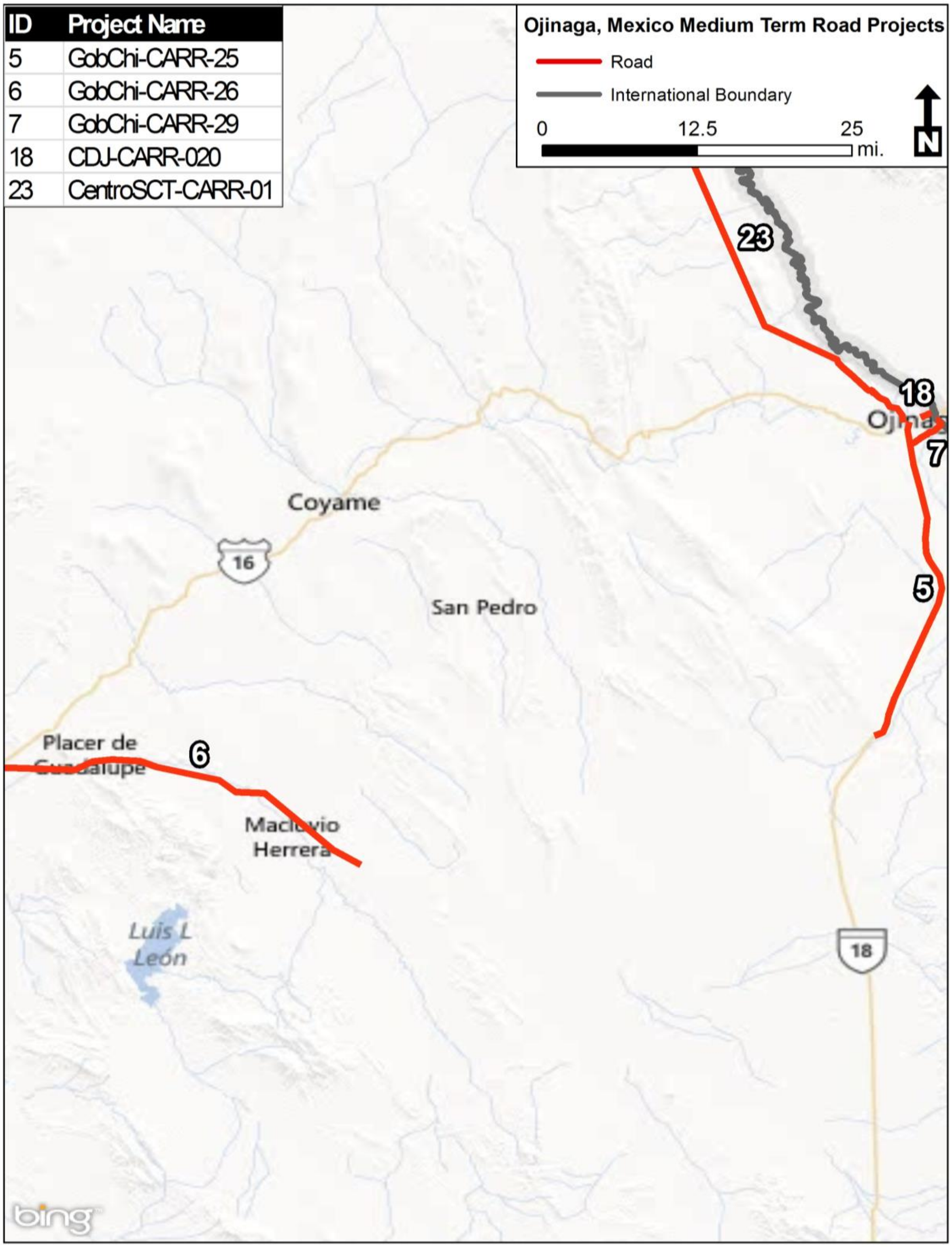

Figure 5.13: Planned Medium-Term Road and Interchange Projects in Municipality of Ojinaga

5.8.3 Planned Rail Project in Municipality of Ojinaga

One planned rail project was identified in the Municipality of Ojinaga (see Table 5.25). This project provides for the replacement and improvement of rail line Q in the Ojinaga region at an estimated cost of approximately $266 million.

Table 5.25: Planned Rail Project in Municipality of Ojinaga

Term	Project Number (Map ID)	Owner	Project Description*	Estimated Cost ($2012)	Rank**
Medium	FERR- 001 (44)	N/A	Replace and improve rail and structures on the Chihuahua-Ojinaga section of the Q rail line.	$265,748,031	2

Note: * Project description as provided by sponsoring agency
** Ranking out of three Mexican rail projects

Figure 5.14 shows the location of this rail project.

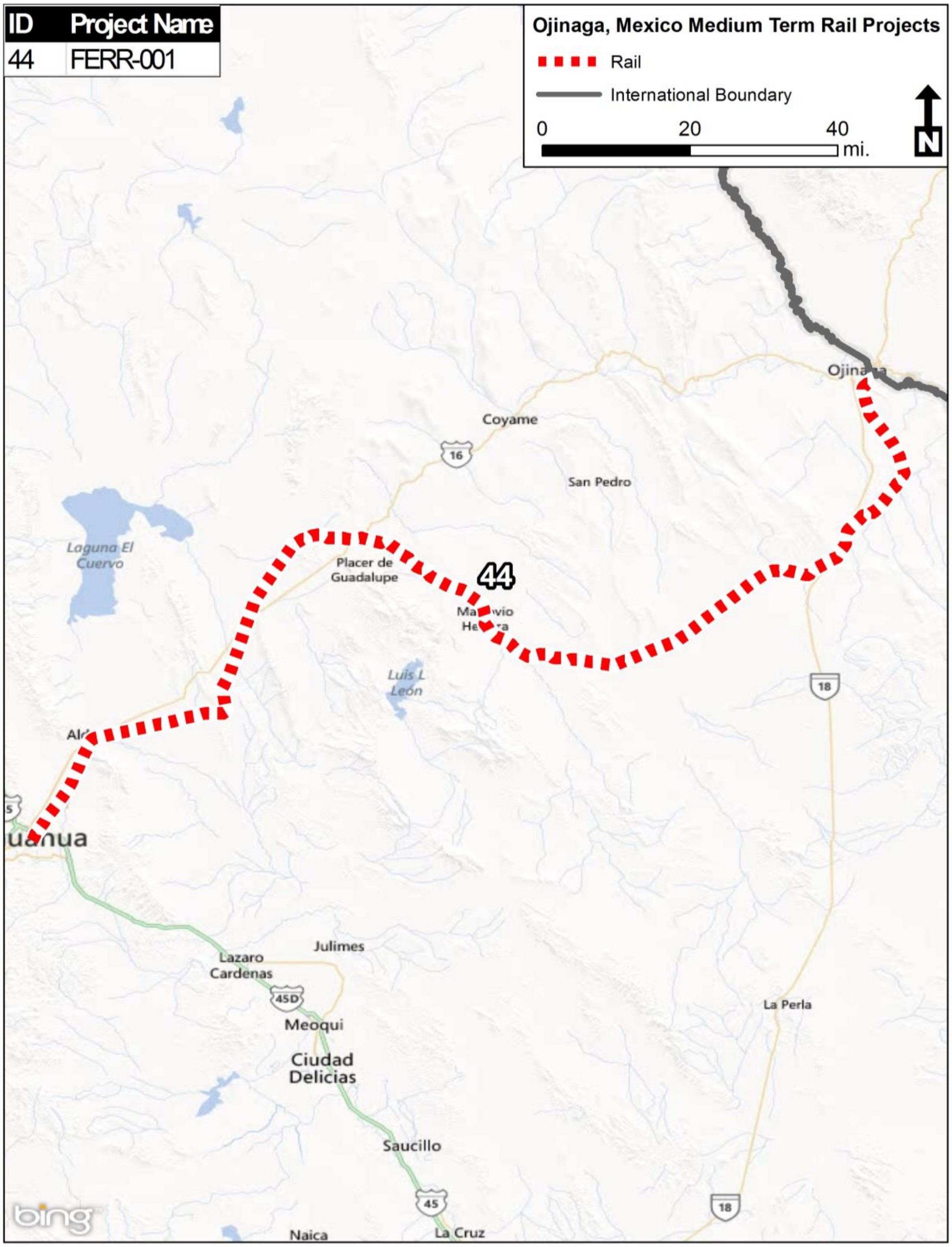

Figure 5.14: Planned Medium-Term Rail Project in Municipality of Ojinaga

5.9 POE Projects Requiring Binational Coordination

The Guadalupe/Tornillo POE is currently under construction on the U.S. side, and it ranked first in the Mexico Focused Study Area. In addition to the Guadalupe/Tornillo POE, nine other POE projects were identified that require binational coordination in the Focused Study Area. To rank these nine projects, the scores of the planned projects in the United States and Mexico were added. This provided a combined ranking for the planned POE projects that require binational coordination.

The planned FSS (Project X501 in the U.S. Focused Study Area and Project CDJ-CI-004 in the Mexico Focused Study Area) at the Ysleta-Zaragoza International Bridge ranked highest with a combined score of 64.7. FSS provides an automated, zero-emission, low-cost, and high-performing option for shippers who are increasingly constrained by congestion along critical freight corridors. The system is predicted to facilitate increased security at the border while supporting international trade, improving air quality, and promoting regional economic development.

The new planned POE between the Bridge of the Americas and Ysleta-Zaragoza International Bridge as proposed by the Camino Real Corridor Border Improvement Plan ranked second. A combined score of 51.2 was calculated for these two projects (Project EPMPO C022X in the U.S. Focused Study Area and Project CDJ-CI-002 in the Mexico Focused Study Area). The project ranked 14th in the U.S. Focused Study Area and 13th in the Mexico Focused Study Area.

The expansion of the Presidio-Ojinaga International Bridge (Project 0924-07-010 in the U.S. Focused Study Area and Project SCT-DGDC-CI-03 in the Mexico Focused Study Area) ranked third with a combined score of 48.7. The U.S. project ranked 16th in the U.S. Focused Study Area, and the Mexico project ranked 10th in the Mexico Focused Study Area.

The new planned POE at Anapra-Sunland Park (Project EPMPO M619X in the U.S. Focused Study Area and Project CDJ-CI-001 in the Mexico Focused Study Area) ranked fourth. Limited information was available for the planned U.S. project, resulting in a combined score of 33.9. The Mexico project ranked second in the Mexico Focused Study Area.

The new planned FSS at the proposed new Billy the Kid POE between Socorro and San Elizario (Project USB-POE-23 in the U.S. Focused Study Area and Project CDJ-CI-008 in the Mexico Focused Study Area) ranked fifth. The project ranked 18th in the U.S. Focused Study Area and 20th in the Mexico Focused Study Area. The combined project score was 24.4.

Finally, two projects were submitted that did not have a "counterpart" project. The first is a new POE project in the Municipality of Ojinaga, which includes the construction of a new bridge and administrative facilities (Project AI-CI-04-SCT-DGDC-CI-04). This proposed bridge ranked fifth in the Mexico Focused Study Area. The second project is the Secure Origins POE project in El Paso (Project USB-POE-16), which ranked seventh in the U.S. Focused Study Area. Secure Origins seeks to monitor commercial vehicles and cargo on the U.S.-Mexico border by providing real-time information across the entire supply chain and software-enhanced analysis of real-time data. It is expected that the project will be completed in 2013 on the U.S. side at an estimated cost of $10 million. Advanced technologies like Ready and SENTRI will be installed at select locations to improve mobility and traffic flow, and reduce waiting time for truck traffic. The provision of remote logistics is anticipated to improve efficiency and safety for cross-border cargo movements.

5.10 Planned U.S. Projects in Focused Study Area

Tables 5.26 through 5.29 provide the ranking of all the planned POE, road and interchange, transit, and rail projects, respectively, in the U.S. Focused Study Area.

Table 5.26: Planned U.S. POE Projects in Focused Study Area

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Medium	X501	City of El Paso	Freight Shuttle System	Build the FSS, an automated, zero-emission, low-cost, and higher performing option for shippers that are increasingly constrained by the growing congestion in many critical freight corridors.	Ysleta-Zaragoza International Bridge	$150,000,000	1
Medium	USB-POE-09	City of El Paso	Expansion of Primary Commercial Inspection Lanes at the Zaragoza POE	Add up to 6 additional primary inspection lanes at the Zaragoza POE to increase POE capacity.	Ysleta-Zaragoza International Bridge	$5,000,000	2
Short	USB-POE-20	City of El Paso	Zaragoza POE Passenger Vehicle Bridge Lane Reconfiguration and Ready Lane	Reconfigure the lanes by reducing the width of sidewalks on each side of the bridge from 10 feet to 5 feet to increase the number of lanes from 5 lanes (1 SENTRI, 2 northbound, and 2 southbound) to 6 lanes (1 SENTRI, 1 dedicated Ready, 2 northbound, and 2 southbound lanes). The project will include signage.	Ysleta-Zaragoza International Bridge	$300,000	3
Short	USB-POE-02	City of El Paso	Blue Tooth Border Wait Time System	Deploy a system to measure, relay, and archive wait and crossing times of both U.S.- and Mexico-bound pedestrians and POVs at the Stanton/Good Neighbor International Bridge POE in downtown El Paso.	Good Neighbor International Bridge	$120,000	4
Short	USB-POE-03	City of El Paso	Bridge of the Americas Ready Lane	Dedicate 1 bridge lane, from the Mexican Aduanas inspection area to CBP primary inspection area, as a Ready lane.	Bridge of the Americas	$100,000	5

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Short	USB-POE-14	City of El Paso	Paso del Norte Ready Lane	Dedicate 1 bridge lane, from the Mexican toll plaza to CBP primary inspection area, as a Ready lane.	Paso del Norte International Bridge	$100,000	6
Short	USB-POE-16	City of El Paso	Secure Origins	Implement Secure Origins to monitor commercial vehicles and cargo on the U.S.-Mexico border by providing real-time information across the entire supply chain and software-enhanced analysis of real-time data.	El Paso	$10,000,000	7
Short	EPMPO A524X-CAP	City of El Paso	Zaragoza POE Bridge Repairs and Commercial Lane Reconfiguration	Repair the commercial and non-commercial bridge spans and reconfigure the commercial bridge lanes to increase the number of northbound lanes from 2 to 3, as well as install LED signage.	Ysleta-Zaragoza International Bridge	$500,000	8
Short	USB-POE-01	City of El Paso	Blue Tooth Border Wait Time System	Deploy a system to measure, relay, and archive wait and crossing times of both U.S.- and Mexico-bound pedestrians and POVs at the Paso del Norte International Bridge in downtown El Paso.	Paso del Norte International Bridge	$120,000	9
Medium	T071X	City of El Paso	Bridge of the Americas Park-n-Ride and Transit Station	Promote the use of mass transit. The project will include a transit (bus) station, a taxi stand, and passenger vehicle parking.	Bridge of the Americas	$1,500,000	10
Medium	USB-POE-19	City of El Paso	Zaragoza POE Commercial Toll Facility and Cargo Hold Area	Construct a state-of-the-art commercial toll collection facility that uses dynamic tolling and a cargo hold area.	Ysleta-Zaragoza International Bridge	$5,000,000	11

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Short	0924-06-435/ T070X	City of El Paso	Zaragoza International Bridge Park-N-Ride	Promote use of mass transit. The project will include a transit (bus) station, a taxi stand, and passenger vehicle parking at the no longer used Border Safety Inspection Facility.	Ysleta-Zaragoza International Bridge	$953,289	12
Short	USB-POE-12	City of El Paso	New CBP Commercial POE Entrance and Exit at the Zaragoza POE	Design and implement a new commercial entrance and exit to the CBP compound at the Zaragoza POE. The new entrance and exit will be connected to the new access road through Pan American Drive and Winn Road.	Ysleta-Zaragoza International Bridge	$2,000,000	13
Long	EPMPO C022X	City of El Paso	New POE Bridge—El Paso	Construct a new commuter POE (POVs and pedestrians) between the Bridge of the Americas and the Ysleta-Zaragoza International Bridge as recommended by the Camino Real Border Improvement Plan.	Between Bridge of the Americas and Ysleta-Zaragoza International Bridge	$120,000,000	14
Long	EPMPO T013B-2	Sun Metro Transit	International Mass Transit (BRT/LRT) between Juarez and El Paso	Provide international mass transit (BRT/LRT) between City of Juárez and El Paso using FTA funds	El Paso–City of Juárez through the Paso del Norte and Good Neighbor International Bridges	$79,473,126	15
Medium	0924-07-010	TxDOT/ Presidio County	Presidio-Ojinaga International Bridge Crossing	Prepare Presidential Permit for the addition of a twin structure and the construction of the twin structure.	Presidio-Ojinaga International Bridge	$15,401,000	16

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Short	USB-POE-11	City of El Paso	Mass Transit Cross-Border System at the Paso del Norte POE	Use mass transit (buses equipped with a security system) to shuttle pedestrians from City of Juárez to El Paso.	Paso del Norte International Bridge	$20,000,000	17
Long	USB-POE-23	EPMPO and IMIP (sponsor-ed as a PPP)	Freight Shuttle System	Build the FSS, an automated, zero-emission, low-cost, and higher performing option for shippers that are increasingly constrained by the growing congestion in many critical freight corridors. The system will increase the security of the border while facilitating international trade, improving air quality, and promoting regional economic development.	Billy the Kid Port of Entry, between Socorro, Texas, and San Elizario, Texas	$100,000,000	18
Short	USB-POE-24	EPMPO	Ysleta-Zaragoza Northbound High Security Lane	The High Security Lane is a method to manage the traffic congestion and mitigate air quality within the POE air shed. It also provides a more efficient option for commuters traveling northbound from Mexico to the United States. The system provides an extra lane for pre-scanned applicants who commute from Juarez to El Paso. The system and the extra lane will provide an additional lane to help decrease POE queuing and wait time, improve air quality, and promote regional economic development.	Ysleta-Zaragoza International Bridge	$500,000	19

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Short	USB-POE-25	EPMPO	Bridge of the Americas Southbound High Security Lane	Implement the High Security Lane, a method to manage the traffic congestion and mitigate air quality within the POE air shed. It also provides a more efficient option for commuters traveling southbound into Mexico. The system provides an extra lane for pre-scanned applicants who commute from El Paso to Juarez. The system and the extra lane will provide an additional lane to help decrease POE queuing and wait time, improve air quality, and promote regional economic development.	Bridge of the Americas	$500,000	19
Short	USB-POE-04	City of El Paso	Bridge Repairs at Good Neighbor/ Stanton Street International Bridge	Make necessary repairs to joints of bridge.	Good Neighbor International Bridge	$50,000	21
Un-known	USB-POE-05	FMCSA	Commercial and Bus Inspection Facility	Implement Phase I—Feasibility and Phase II—Design/Build.	Bridge of the Americas	$1,926,000	21
Un-known	USB-POE-06	FMCSA	Commercial and Bus Inspection Facility	Implement Phase I—Feasibility and Phase II—Design/Build.	Presidio, Texas	$1,161,000	21
Un-known	USB-POE-07	FMCSA	Commercial and Bus Inspection Facility	Implement Phase I—Feasibility and Phase II—Design/Build.	Santa Teresa LPOE	$1,669,000	21
Un-known	USB-POE-08	FMCSA	Commercial and Bus Inspection Facility	Implement Phase I—Feasibility and Phase II—Design/Build.	Ysleta-Zaragoza International Bridge	$1,380,000	21

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Un-known	USB-POE-10	Presidio County	International Rail Bridge on the South Orient at Presidio	Reconstruct the international rail bridge on South Orient at Presidio, Texas.	Presidio County		21
Medium	EPMPO C028X	City of El Paso	Light Rail Study for Mass Transit Cross-Border System	Study toll fixed-rail system that transports pre-cleared international commuters in a secure capsule between downtown El Paso and downtown City of Juarez.	El Paso	$300,000	21
Un-known	EPMPO M619X	City of Sunland Park	New POE Bridge—Anapra Sunland Park	Construct a new POE at Sunland Park, New Mexico/Anapra, Chihuahua.	Sunland Park City, New Mexico, and Anapra, Chihuahua	N/A	21
Short	USB-POE-13	City of El Paso	Paso del Norte Bridge Repairs	Make necessary repairs to joints of bridge.	Paso del Norte International Bridge	$50,000	21
Short	NMDOT CN 7682	NMDOT	Santa Teresa Commercial Weight Inspection Station	Build infrastructure for Santa Teresa Commercial Inspection Facilities.	Santa Teresa LPOE	$10,109,383	21
Short	USB-POE-17	City of El Paso	Southbound Empty Truck Lane in the Aduana Compound	Implement an empty truck lane in the Aduana compound. Currently empty trucks are not allowed to cross southbound at the Zaragoza POE.	Ysleta-Zaragoza International Bridge—Aduana compound	N/A	21

Term	Project Number	Agency	Project Name	Project Description	Project Location	Estimated Cost ($2012)	Rank
Short	USB-POE-18	City of El Paso	Increase the Number of Southbound Access Gates to Aduana	Increase the number of southbound access gates to Aduana from 2 to 4.	Ysleta-Zaragoza International Bridge—Aduana compound	N/A	21
Short	EPMPO C027X	City of El Paso	Zaragoza Commercial Toll Office Building	Construct a state-of-the-art toll collection facility. The facility will use dynamic tolling to increase traffic efficiency.	Ysleta-Zaragoza International Bridge	$5,031,445	21
Short	USB-POE-21	BNSF	Vado East Levee Rehabilitation Project	MP 128.5 to 129—Construct East Levee embankment improvements and Del Rio drain improvements. Work will encroach on BNSF ROW. Agreements in place.	N/A	N/A	21
Short	USB-POE-22	BNSF	Canutillo Phase 2 Improvements	MP 1139.1 to 1144.3—Construct flood wall and gates parallel to BNSF ROW. Work will encroach on BNSF ROW. Plans have not been approved by BNSF. Multiple options are being reviewed.	N/A	N/A	21

Table 5.27: Planned U.S. Road and Interchange Projects in Focused Study Area

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	0924-06-418	TxDOT/ City of El Paso	New	Pan American Drive at Loop 375 to Ysleta-Zaragoza POE	Build new commercial access road to the Ysleta-Zaragoza International Bridge.	$5,488,358	1
Unknown	0374-02-097	TxDOT	US 62	US 62—Global Reach/ Yarbrough Drive to RR 659 (Zaragoza Road)	Add capacity.	$138,000,000	2
Short	2121-04-093	TxDOT	IH 10	IH 10—IH 10 at Loop 375	Make interchange improvements, including construction of direct-connector Loop 375 northbound to IH 10 eastbound.	$21,000,000	3
Medium	0924-06-111	TxDOT	Old Hueco Tanks Road	Old Hueco Tanks Road—FM 76 (North Loop Road) to Intersection of Eastlake at Gateway Boulevard East	Construct new 4-lane raised median divided urban collector to extend Eastlake Boulevard to FM 76.	$10,000,000	4
Short	2121-03-151	TxDOT	IH 10	IH 10—Viscount Boulevard to FM 659 (Zaragoza Road)	Construct new roadway lanes.	$18,191,741	5
Short	2552-03-049/ EPMPO F040X-MOD	TxDOT	Loop 375	Loop 375—IH 10 to Zaragoza Road (FM 659)	Construct managed lanes.	$36,300,000	6
Short	0002-01-055	TxDOT	SH 20 (Alameda)	SH 20 (Alameda)—Padres Drive to Loop 375	Reconstruct roadway.	$9,156,000	7

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Medium	EPMPO M068X	City of El Paso	N/A	Various—POEs within El Paso to POEs within El Paso	Implement ITS system (Border Traveler and Cargo Information System).	$3,900,000	8
Medium	2552-04-027	TxDOT	Loop 375	Loop 375—Park Street to Paisano Drive (US 62)	Construct a new location, freeway: Loop 375 extension.	$184,050,000	9
Short	0924-07-010	TxDOT/ Presidio County	US 67	US 67—O'Reilly Street to POE	Improve US 67 at the POE.	$1,670,000	10
Unknown	2552-02-028	TxDOT	Loop 375	Loop 375—Spur 601 to Montana Avenue (US 62/180)	Add 1 lane in each direction and frontage roads.	$22,000,000	11
Unknown	0924-06-090	TxDOT	New	Border Highway Extension from East Zaragoza Road to Fabens POE	Construct the Border Highway Extension East.	$135,700,000	12
Unknown	2552-02-029	TxDOT	Loop 375	Loop 375—Spur 601 to Dyer Street (BU 54A)	Add 1 lane in each direction.	$35,000,000	13
Medium	0002-14-039	TxDOT	FM 258 (Socorro Road)	FM 258 (Socorro Road)—SH 20 (Alameda) North to SH 20 (Alameda) South	Install continuous turn lane and widen paved shoulders.	$2,149,518	14
Short	NMDOT E100030	NMDOT	NM 136	NM 136—MP 7.5 to MP 8.4	Perform pavement preservation and design and construction of multi-use path on NM 136, including drainage and erosion control.	$5,928,503	15

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Unknown	0924-06-136	TxDOT	New	Construct a New Location Non-freeway: Northeast El Paso Bypass (Toll)	Construct a new location, non-freeway: Northeast El Paso Bypass (toll) 1.8 miles east of Railroad Drive overpass to Texas/New Mexico State line on FM 3255.	$153,200,000	16
Short	NMDOT CP 701	NMDOT	Strauss Road	Strauss Road—NM 136 to approximately 6.5 Miles from Union Pacific Intermodal Yard	Improve A-017 (Strauss Road) and Industrial Drive, and relocate St. John's access point on NM 136. Reconstruction and rehabilitation will include infrastructure and professional services.	$11,523,000	17
Short	2121-03-131	TxDOT	IH 10	IH 10—Hammet Street to US 54 (Patriot Freeway)	Make interchange improvements.	$4,655,875	18
Unknown	2121-01-084	TxDOT	IH 10	IH 10—New Mexico State Line to 0.865 Miles North of SH 20	Install main lane micro mill and 2-inch overlay.	$5,900,000	19
Short	0002-02-051	TxDOT	SH 20	SH 20—Loop 375 to Fabens (FM 76)	Resurface roadway.	$4,545,000	20
Medium	NMDOT 1100620	NMDOT	IH 10	IH 10 Pavement Preservation	Perform IH 10 pavement preservation, from Las Cruces to Texas State line.	$9,000,000	21

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Medium	EPMPO F048X	City of El Paso	Loop 375	Loop 375—North Loop (FM 76) to Zaragoza POE	Loop 375 (Americas) exit ramps—Reconstruct on- and off-ramps for Loop 375 West of Pan American Drive to segregate POE commercial and non-commercial traffic.	$7,000,000	22
Short	NMDOT E100050	NMDOT	Sunland Park Drive	Sunland Park Drive	Perform pavement preservation of Sunland Park Drive, from Texas State line to McNutt Road (NM 273).	$1,275,000	23
Short	0924-06-436	TxDOT	Eastlake Boulevard	Eastlake Boulevard—From IH 10 to Approximately 0.25 Miles West of Darrington Road	Widen 4-lane divided to 6-lane divided.	$12,626,502	24
Short	NMDOT LC00100	NMDOT	Missouri Avenue, Las Cruces, New Mexico	Missouri Avenue Bridge, Las Cruces, New Mexico	Perform bridge rehabilitation/widening of Missouri Avenue Bridge.	$9,000,000	25

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	NMDOT D1611	NMDOT	NM 404/ NM 213	NM 404/ NM 213—Anthony Gap to Warrior Highway	Construct new roundabout at the intersection of NM 404 and NM 213. New pavement with signing, lighting, and traffic control will be placed to assist with congestion and traffic control in the area.	$2,099,441	26
Unknown	1281-02-005	TxDOT	FM 1110	FM 1110 (Clint Cutoff Road)—IH 10 to SH 20	Widen roadway to 4 lanes.	$17,000,000	27
Long	EPMPO A520X-MOD	City of El Paso	Billy the Kid	New—Terminus (Approximately 1 Mile Southeast of Zaragoza Road) to Loop 375 Road	Build 4-lane undivided arterial to connect Zaragoza Road to Loop 375.	$5,595,000	28
Short	NMDOT E100060	NMDOT	Anthony, New Mexico	NM 460—Anthony Drainage Project	Build storm drain alignment, curb, gutter, and ADA-compliant sidewalk along Anthony Drive.	$2,500,000	29
Short	EPMPO P442X	TxDOT	US 62/180	US 62/180—US 62/180 at Hawkins	Construct highway grade separation.	$6,333,900	30
Short	0924-06-269/ EPMPO A123X	City of El Paso	City Street (CS)	CS—Spur 276 (on Isela Rubalcava Boulevard) to El Paso Community College	Construct new road, 4-lane divided.	$3,140,711	31
Short	0924-06-154	TxDOT/ City of El Paso	CS	CS—Stiles Drive to Alameda Avenue	Replace bridge; reconstruct 2 overpasses (2-lane undivided) at UPRR	$5,600,000	32

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Short	0924-06-190/ EPMPO R307D∞	TxDOT/ City of El Paso	Central Business District	CS—Central Business District to Phase IV	Repair roadway; reconstruct downtown streets at CBD.	$11,516,000	32
Short	EPMPO M017X∞	City of El Paso	Entire city	Citywide	Reconstruct 15 intersections (project phased down to 8 intersections—7 already completed; 1 left).	$1,245,853	32
Short	0924-06-311/ EPMPO A552C-MOD	TxDOT/ El Paso County	Manuel F. Aguilera Highway (FM 3380)	Manuel F. Aguilera Highway (FM 3380)—0.35 Miles South of SH 20 (Alameda Avenue) to IH 10 at O.T. Smith Road	Build 2-lane undivided, including overpass at SH 20/UPRR.	$17,233,091	35
Short	0924-06-429	TxDOT/ City of El Paso	CS	CS—On Santa Fe Street Bridge from Franklin Street to Main Street	Repair bridge.	$696,000	36
Short	EPMPO M405X/ 1046-01-024	City of El Paso	Zaragoza Road (FM 659)	Zaragoza Road (FM 659)	Install traffic management technology; install fiber interconnect for Zaragoza Road.	$1,805,338	37
Short	EPMPO S306X	TxDOT	IH 10	IH 10—At Chelsea Street	Improve traffic signal.	$376,925	37
Short	EPMPO M025B/ 0924-06-379∞	City of El Paso	VA	Various Locations (Off System)	Install traffic management technology.	$2,232,331	39

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Medium	EPMPO M077X/ 0924-06-437	City of El Paso	VA	Citywide	Reconstruct 8 intersections, including left-turn lanes and adding right-turn lanes: Mesa/Resler, Viscount/Hawkins, Mesa/Sunland Park, Saul Kleinfeld/Montwood, Saul Kleinfeld/Pebble Hills, Viscount/Montwood, Airport/Founders, and Airport/Cassidy.	$1,000,000	39
Short	EPMPO C026X	City of El Paso	VA	Street Car Alternative Analysis	Perform analysis to provide justification for implementation of a proposed street-car route that will bring a critical transit project connecting the Paso del Norte International Bridge to the "Golden Horseshoe" Shopping District, Downtown Government District, Entertainment District, Medical District, and EPCC and UTEP campuses.	$1,500,000	39

Term	Project ID	Agency	Highway	Project Name*	Project Description	Estimated Cost ($2012)	Rank**
Long	EPMPO T305	Sun Metro Transit	VA	Oregon Street Car Project	Design and construct roadway and pedestrian elements required to integrate street car project, including purchasing of street cars.	$132,713,860	39
Medium	BMP-RD-002	BNSF	State Spur 1966	State Spur 1966	Construct new highway overpass crossing on State Spur 1966 at MP 1154.72—in preliminary planning with TxDOT; funding to be 100% funded by TxDOT and possibly others (no BNSF cost). No schedule has been suggested for this project.	N/A	39

Table 5.28: Planned U.S. Transit Projects in Focused Study Area

Term	Project Number	Agency	Highway	Project Name	Project Description	Estimated Cost ($2012)	Rank
Short	EPMPO T017D/0374-02-089	Sun Metro Transit	US 180 (Montana Avenue)/ Montana Corridor Routes	BRT on US 180 (Montana Avenue)/ Montana Corridor Routes	Construct BRT System on US 180 (Montana Avenue)/ Montana Corridor Routes: On Montana Avenue at Piedras to Airway (northbound)/Viscount (southbound) to Hawkins to Montana to Tierra Este to R.C. Poe.	$9,248,808	1
Short	EPMPO T015C-2	Sun Metro Transit	SH 20	BRT System Construction	Construct BRT System on SH 20 (Alameda Avenue): On Santa Fe Street at Fourth Avenue to Kansas/Campbell Street, to San Antonio/Magoffin Road, to Texas/Myrtle Street to Alameda Avenue to Zaragoza Road.	$8,400,000	2
Short	EPMPO T015C/0001-02-054	Sun Metro Transit	SH 20	BRT on SH 20 (Mesa Street)	Design and construct BRT: On Santa Fe Street at Fourth Avenue to Franklin Avenue to Oregon Street to Glory Road to Mesa Street to Remcon Circle.	$6,130,000	3
Short	EPMPO TO17C/0167-02-050	Sun Metro Transit	Dyer Corridor Routes	BRT on Dyer Corridor Routes	Design and construct BRT/ITS/signal prioritization/diamond-striped lanes: On Santa Fe Street at Fourth Avenue to Dyer Street (BU 54A) to Diana Drive to Wren Street.	$9,168,000	4
Short	EPMPO T017D-1	Sun Metro Transit	US 62/180	US 62/180—Hueco Club Park to Airway Boulevard	Perform preliminary engineering for BRT system.	$2,000,000	N/A

Table 5.29: Planned U.S. Rail Projects in Focused Study Area

Term	Project Number	Agency	Project Description	Estimated Cost ($2012)	Rank
Short	USB-RAIL-01	New Mexico Border Authority	Prepare Presidential Permit for the construction of the Santa Teresa, New Mexico, rail bypass.	$1,800,000	1
N/A	USB-RAIL-02	BNSF	Perform various upgrades to 31 bridges on the BNSF El Paso Subdivision within the next 10–15 years.	N/A	2

5.11 Planned Mexico Projects in Focused Study Area

Tables 5.30 through 5.33 provide the ranking of all planned POE, road and interchange, transit, and rail projects, respectively, in the Mexico Focused Study Area.

Table 5.30: Planned Mexico POE Projects in Focused Study Area

Term	Project Number	Project Description	Project Location	Estimated Cost ($2012)	Rank
Short	SCT-DGDC-CI-06	Construct administrative facilities and bridge structure for new Guadalupe/Tornillo POE.	Guadalupe/Tornillo	$27,200,000	1
Medium	CDJ-CI-001	Construct new, non-commercial POE northwest of City of Juárez.	Anapra-Sunland Park	$14,400,000	2
Short	GobChi-CI-01	Construct exclusive export lane at the existing bridge.	Presidio-Ojinaga International Bridge	$551,181	3
Medium	GobChi-CI-11	Construct exclusive import lane at the existing bridge.	Presidio-Ojinaga International Bridge	$551,181	3
Medium	AI-CI-04 and SCT-DGDC-CI-04	Construct new international bridge and new administrative facilities.	Presidio-Ojinaga International Bridge	$10,629,921	5
Medium	GobChi-CI-13	Construct new rail POE to divert cargo away from the urban area of City of Juárez in conjunction with the Samalayuca-Jerónimo rail loop.	Santa Teresa/Jerónimo POE	$128,000,000	6
Medium	GobChi-CI-14	Reconstruct and widen the Presidio-Ojinaga Rail Bridge and modernize existing border infrastructure.	Presidio-Ojinaga International Bridge	N/A	7
Short	AI-CI-08	Construct sidewalks to provide dedicated routes for pedestrians using the POE.	Santa Teresa/Jerónimo POE	$275,590	8
Short	AI-CI-02	Modernize and expand administrative facilities and renovations at existing crossing.	Bridge of the Americas	$6,299,212	9
Medium	SCT-DGDC-CI-03	Construct a new span parallel to the existing bridge to provide increased vehicle capacity.	Presidio-Ojinaga International Bridge	$3,149,606	10
Short	GobChi-CI-12	Widen access road to Mexican Customs from 2 to 3 lanes to increase capacity and to separate heavy vehicles.	Ysleta-Zaragoza International Bridge	$6,299,212	11

Term	Project Number	Project Description	Project Location	Estimated Cost ($2012)	Rank
Medium	CDJ-CI-004	Build the FSS.	Ysleta-Zaragoza International Bridge	N/A	12
Short to Medium	CDJ-CI-002	Construct non-commercial POE between Bridge of the Americas and the Ysleta-Zaragoza POE, with SENTRI, bus, and pedestrian facilities.	El Paso-City of Juárez (New POE)	N/A	13
Medium	AI-CI-07	Remodel and expand administrative facilities and security at border crossing.	Santa Teresa/Jerónimo POE	$5,511,811	14
Short	AI-CI-01	Modernize and expand administrative facilities and renovations at existing crossing.	Ysleta-Zaragoza International Bridge	$6,299,212	15
Short	AI-CI-03	Modernize and expand administrative facilities and renovations at existing crossing.	Good Neighbor International Bridge	$6,299,212	16
Short	AI-CI-10	Modernize and expand administrative facilities and renovations at existing crossing.	Paso del Norte International Bridge	$6,299,212	17
Medium	FERR-CI-03	Construct access infrastructure, platforms, and areas of security and inspection necessary to begin operation of the Presidio-Ojinaga Rail Bridge.	Presidio-Ojinaga International Bridge	$787,401	18
Medium	AI-CI-06	Modernize and expand administrative facilities.	Fort Hancock-El Porvenir International Bridge	$6,299,212	19
N/A	AI-CI-09	Expand and modernize import and export areas.	Santa Teresa/Jerónimo POE	N/A	20
N/A	SCT-DGDC-CI-02	Implement facilities for "green" transportation modes.	Paso del Norte International Bridge	N/A	20
Short	AI-CI-05	Modernize and expand administrative facilities at the existing bridge.	Presidio-Ojinaga International Bridge	$6,299,212	20
Medium	CDJ-CI-008	Build the FSS.	Billy the Kid Proposed POE (between Socorro and San Elizario)	N/A	20

Table 5.31: Planned Mexico Road and Interchange Projects in Focused Study Area

Term	Project Number	Highway	Project Description	Estimated Cost ($2012)	Rank
Medium	SCT-DGDC--CARR-02	City of Juárez Loop	Construct access loop for the new Guadalupe/Tornillo POE.	$62,992,125	1
Short	CentroSCT-CARR-06	MEX 48	Modernize and widen MEX 48 to include a shoulder on each side.	$11,023,622	2
Short	CentroSCT-CARR-08	MEX 48	Modify the radius and super-elevation of the curve located at the Kilometer 18 marker.	$275,590	3
Medium	CDJ-CARR-002	Rancho Anapra Loop (Elongation of 16 de Septiembre Avenue)	Construct a new urban 4-lane highway to connect to the Anapra-Sunland Park and Santa Teresa/Jerónimo POEs without passing through the Rancho Anapra neighborhood.	N/A	4
Short	CentroSCT-CARR-16	MEX 2	Modernize and widen the rural section to accommodate 2 lanes and shoulders from El Porvenir to Ojinaga.	$167,559,055	5
Short	CentroSCT-CARR-07	MEX 48	Repave sub-base.	$1,322,834	6
Medium	GobChi-CARR-24	16 de Septiembre Avenue, Juan Gabriel Road, Oscar Flores Boulevard, Norzagaray Boulevard, Anapra-Jerónimo Highway	Perform pavement preservation of POE access roads.	$7,086,614	7
Medium	CentroSCT-CARR-09	MEX 48	Construct a highway access road to the Santa Teresa/Jerónimo POE bridge.	$3,779,527	8
Short	GobChi-CARR-05	Intersection of Manuel Gómez Morín Boulevard and Manuel Clouthier Avenue	Construct overpass.	$3,937,000	9
Short	GobChi-CARR-19	MEX 48	Modernize the intersection of MEX 48 and the Jerónimo Loop.	$590,551	10

Term	Project Number	Highway	Project Description	Estimated Cost ($2012)	Rank
Long	GobChi-CARR-33	MEX 2	Construct overpass at intersection with MEX 48.	$6,692,913	11
Medium	GobChi-CARR-25	CHIH 67	Modernize CHIH 67; construct a second parallel section of highway.	$22,047,244	12
Short	GobChi-CARR-04	Intersection of Ramón Rayón Avenue and Manuel Clouthier Avenue	Construct overpass.	$3,937,000	13
Medium	CDJ-CARR-006	Camino Real and 16 de Septiembre Avenue	Construct overpass.	N/A	14
Short	GobChi-CARR-14	Intersection of Cloro Street and Norzagaray Boulevard	Construct overpass.	$2,362,204	15
Medium to Long	GobChi-CARR-32	Jerónimo-Anapra Highway	Construct an upper loop for vehicles heading toward MEX 48.	$905,511	16
Medium	GobChi-CARR-26	CHIH 80	Modernize CHIH 80–La Mula; construct a second parallel section of highway.	$27,559,055	17
Medium to Long	GobChi-CARR-31	Jerónimo-Anapra Highway	Install actuated traffic lights on access roads to the import/export facilities at the Santa Teresa/Jerónimo POE.	$118,110	18
Medium	GobChi-CARR-29	CHIH 67	Construct a new loop south of Ojinaga to connect directly to Presidio-Ojinaga International Bridge.	$6,062,992	19
N/A	CentroSCT-CARR-17	Intersection of 16 de Septiembre Avenue and Francisco Villa Avenue	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	20
N/A	CentroSCT-CARR-18	Municipio Libre, between Juan Gabriel Road and Ing. F. Dozal	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	20

Term	Project Number	Highway	Project Description	Estimated Cost ($2012)	Rank
Medium	GobChi-CARR-23	De las Américas Avenue, Pérez Serna Avenue, Heroico Colegio Militar Avenue, Juan Pablo II Boulevard, Tecnólogico Avenue	Perform pavement preservation of arterial roads that serve as access roads to POEs.	$2,283,464	22
N/A	CentroSCT-CARR-19	Vicente Guerrero at the intersection with Francisco Villa Avenue	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	23
N/A	CentroSCT-CARR-20	David Herrera at the intersection with Francisco Villa Avenue	Railroad Security Program: Construct overpass allowing vehicle traffic to cross over Ferromex Line A.	N/A	23
Short	CDJ-CARR-003	Anapra-Jerónimo Highway	Remove 0.9 miles of highway, forcing traffic to use the new segment and avoiding conflicts with the line waiting to cross the Santa Teresa/Jerónimo POE.	N/A	25
Medium to Long	CDJ-CARR-009	Intersection of MEX 45, Samalayuca Jerónimo Loop, and Tangencial Avenue	Construct intersection/overpass.	$10,000,000	26
Medium	CDJ-CARR-022	Norzagaray Boulevard	Construct direct cargo access to the Norzagaray Boulevard peripheral loop.	$170,866	27
Short	CDJ-CARR-012	16 de Septiembre Avenue	Extend 16 de Septiembre Avenue to connect with the Camino Real peripheral.	N/A	28
Long	CDJ-CARR-028	Samalayuca Jerónimo Highway	Construct loop to complete vehicle and cargo infrastructure directed toward the Santa Teresa/Jerónimo and Anapra/Sunland Park POEs	N/A	29

Term	Project Number	Highway	Project Description	Estimated Cost ($2012)	Rank
Medium	SCT-DGDC-CARR-01	MEX 2	Modernize the intersection of MEX 2 and the branch leading to Fort Hancock/El Porvenir Bridge; construct shoulders and merge lanes.	$393,700	30
Medium	CDJ-CARR-019	Francisco Villarreal Torres Avenue	Construct transverse expansion; improve drainage infrastructure.	$213,385	31
Medium	CDJ-CARR-023	Juan Pablo II Boulevard	Construct diamond-shaped overpass.	$366,141	32
Medium	CDJ-CARR-027	Norzagaray Boulevard	Construct intersection to facilitate cargo traveling to and from the Santa Teresa and Anapra/Sunland Park POEs.	$305,511	32
Medium	CDJ-CARR-017	Juan Pablo II Boulevard	Construct transverse expansion; improve drainage infrastructure.	$1,653,543	34
Short	CDJ-CARR-014	Various access roads to Ysleta-Zaragoza International Bridge	Improve vehicle and pedestrian access.	N/A	35
Medium	CDJ-CARR-020	Presidio-Ojinaga International Bridge Access	Improve urban infrastructure and pavement preservation from Fronteriza Street to Coronado Street.	N/A	35
Long	CDJ-CARR-024	Internacional Boulevard	Construct 3.4 mile road to complete vehicle and cargo infrastructure directed toward the Santa Teresa/Jerónimo POE and proposed rail bridge.	N/A	35
Long	CDJ-CARR-025	Norzagaray Boulevard	Construct overpasses to facilitate cargo moving to and from the Santa Teresa/Jerónimo POE and proposed rail bridge.	$396,850	38
Long	CDJ-CARR-026	Juan Pablo II Boulevard	Construct intersection to facilitate cargo moving to and from Ysleta-Zaragoza POE and San Elizario Tangential.	$305,511	38
Long	CDJ-CARR-011	Extension of Independencia Boulevard	Construct 10-lane highway.	N/A	40

Term	Project Number	Highway	Project Description	Estimated Cost ($2012)	Rank
Medium	CDJ-CARR-021	Independencia Loop at the intersection with Búfalo Street	Construct diamond-shaped overpass.	$366,141	40
Short	GobChi-CARR-20	Ramón Rayón Avenue, Independencia Boulevard	Construct sidewalk.	$1,417,322	42
Medium to Long	CDJ-CARR-007	Tangencial Avenue	Construct tangent from the intersection of MEX 45 and Jerónimo Loop to the intersection of Fronterizo Boulevard and De las Naciones Highway.	N/A	43
Medium to Long	CDJ-CARR-008	16 de Septiembre Avenue	Extend 16 de Septiembre Avenue, linking City of Juárez with the Santa Teresa/Jerónimo POE.	N/A	43
Short to Medium	CDJ-CARR-004	Carretera de las Naciones	Construct alternative connector to Guadalupe-Tornillo and the eastern region of the City of Juárez.	N/A	45
Medium	CentroSCT-CARR-01	MEX 2	Construct the Border Highway.	$51,181,102	45
Short	Privado-CARR-01	MEX 48	Construct access road to the FOXCONN maquila located at the Kilometer 19 marker.	$472,440	45
Long	CDJ-CARR-010	Intersection of De las Naciones Highway, the extension of Fronterizo Boulevard, and Tangencial Avenue	Construct intersection/overpass.	$8,000,000	47
Short	CDJ-CARR-016	David Herrera Jordán	Improve road infrastructure to enhance access to the SENTRI lane at Good Neighbor International Bridge.	N/A	48
Medium	CDJ-CARR-005	Fronterizo Boulevard	Extend Fronterizo Boulevard east toward the Rio Grande.	N/A	49

Term	Project Number	Highway	Project Description	Estimated Cost ($2012)	Rank
Medium	CDJ-CARR-018	Camino Real	Improve connections and access to Camino Real.	N/A	50

Table 5.32: Planned Mexico Transit Projects in Focused Study Area

Term	Project Number	Location	Project Description	Estimated Cost ($2012)	Rank
Short	CDJ-CARR-013	Juan Gabriel Road, Zaragoza Boulevard, 16 de Septiembre Avenue, Paseo Triunfo de la República, and Tecnológico Avenue	Improve public transportation; develop BRT and connect originating zones with important destinations, including POEs.	4,430,009	1

Table 5.33: Planned Mexico Rail Projects in Focused Study Area

Term	Project Number	Project Description	Estimated Cost ($2012)	Rank
Short to Medium	GobChi-FERR-001	Construct new rail line from City of Juárez to the Santa Teresa/Jerónimo POE.	$125,984,031	1
Medium	FERR 001	Replace and improve rail and structures on the Chihuahua-Ojinaga section of the Q rail line.	$265,748,031	2
Short	FERR-002	Construct rail spur connecting to the Electrolux Plant in southeast City of Juárez.	N/A	3

5.12 Concluding Remarks

This chapter provides a brief overview of the elements of the ranking framework that was used to prioritize the identified projects in the Focused Study Area. This chapter also provides a ranking of the POE, road and interchange, transit, and rail projects by U.S. county and Mexican municipality.

The more data and information that were provided for a planned project, the greater the opportunity for the planned project to receive a higher score—and the higher the likelihood that the planned project would be ranked higher than a similar project for which limited data were provided. Specifically, a lack of sufficient data and information impacted the Border Master Plan priorities as follows:

- A number of criteria were selected for project prioritization for which the information provided by all stakeholders was either limited or difficult to come by. For example, roadway and interchange project criteria for which data were scarce were as follows (the overall contribution of these criteria to the total project score is in parentheses):
  - Final LOS (4.5 percent).
  - Increase in LOS (7.8 percent).
  - Multiple mode demand (5.9 percent).
  - Funding availability (5.4 percent).
  - Accident rate (3.2 percent).
  - Measures to improve safety (3.1 percent).
- For roadway and interchange projects, the LOS criterion accounted for 12.3 percent of the total score. If LOS data were not provided by stakeholders, the LOS was calculated by the study team, where possible, using other available data such as the number of lanes and traffic volumes. The study team used methods outlined by the *Highway Capacity Manual* (HCM) in calculating the LOS. For freeways and highways, the LOS could be determined from readily available information on road volumes and capacity data. However, for urban arterials with free-flow speeds less than 45 mph, the HCM requires that the LOS be based on maneuverability, delays, and speeds because these factors are heavily influenced at signalized intersections where green and red time allocations determine the capacity of the arterial. Higher traffic volumes result in an increase in the probability of vehicles stopping at an intersection, thus leading to a decrease in the LOS. Without data for the green time allocation at intersections on these arterials, the study team could not accurately determine the volume-to-capacity ratios of the urban arterials. The freeway methodology was therefore

used for calculating the urban arterial LOS, and this approach may not be reflective of the actual LOS of the facility.

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1 In the case of Mexico, an exchange rate of MXN $12.70 per U.S. $1 was considered.

2 CBP, undated, Ready Lane—Radio Frequency Identification (RFID): What Is Ready Lane?, https://help.cbp.gov/app/answers/detail/a_id/1210/kw/ready%20lanes/sno/1 (accessed August 2013).

Chapter 6. Study Summary and Recommendations

The El Paso/Santa Teresa–Chihuahua Border Master Plan was the fifth binational effort along the U.S.-Mexico border. The format approach was similar to that used for the California–Baja California Border Master Plan, which was completed in September 2008 and is currently being updated; the Laredo–Coahuila/Nuevo León/Tamaulipas Border Master Plan, which was completed in 2011; and the Lower Rio Grande Valley–Tamaulipas Border Master Plan, which is currently being finalized.

The development of border master plans is important to identify and prioritize planned projects on the U.S.-Mexico border. The border master plan process:

- Identifies binational POE and multimodal project priorities.
- Secures commitment from stakeholders to implement priority projects.
- Ensures continued dialog among agencies moving forward.

This chapter summarizes the study effort. This chapter also includes a number of observations regarding development of successful border master plans and recommendations to maintain and enhance dialog among Federal, State, regional, and local stakeholder agencies in Texas and Mexico to ensure continued coordination on current and future POE and supporting transportation infrastructure needs and projects.

6.1 Stakeholder Participation

BNAC guided development of the El Paso/Santa Teresa–Chihuahua Border Master Plan. BNAC is composed of 18 voting members and 26 non-voting members. The voting members provided overall direction, established clear metrics for the development of the Border Master Plan, reviewed and endorsed the criteria for prioritizing planned projects, established working groups to work with the study team in securing the relevant data and information, endorsed the final Border Master Plan, and are expected to incorporate the findings and priorities of the Border Master Plan in their agencies' planning and programming processes.

The non-voting members assisted in development of the public and stakeholder outreach activities; reviewed documentation produced by the study team; developed the draft ranking framework for prioritizing projects that was subsequently reviewed, modified, and endorsed by the BNAC voting members; and made recommendations to the BNAC voting members. Six working groups were established to work with the study team in securing the necessary data and information for the development of the Border Master Plan.

For border master plans to be successful, stakeholder participation in and commitment to the development of these plans are critical. The study team secured this for the Border Master Plan by:

- Hosting regular meetings and maintaining contact with stakeholders and committee members.
- Using technology and an innovative approach to provide each BNAC member with an equal voice in developing the ranking framework that was used to prioritize projects.

The study team hosted four BNAC meetings (see Appendix B) and maintained contact through regular e-mail and telephone communications with the working groups and BNAC members. To accommodate BNAC members who are not bilingual, simultaneous translation was available at all meetings.

Since the prioritization of planned projects can be sensitive and contentious, it was critical to design a stakeholder involvement process that was inclusive and ensured the participation of all BNAC members. Furthermore, it was critical to the endorsement of the Border Master Plan and ensuring commitment to the implementation of the Border Master Plan's priorities that the process gave BNAC members an equal voice. Each BNAC member needed an equal voice in developing the draft ranking framework, and each BNAC voting member needed an equal voice in endorsing the final ranking framework that was used to prioritize projects.

Classroom Performance System technology (I>Clickers) enabled anonymous voting and facilitated reaching consensus on the various elements of the ranking framework—categories, category weights, criteria, and criterion weights. The process worked as follows:

- BNAC members were provided with an I>Clicker that allowed them to indicate/vote on an item (e.g., the importance of a specific criterion in prioritizing a project on a scale of A to E, where A was extremely important and E was extremely unimportant).
- Votes were anonymous, but the study team could track how many members voted. Once the votes were cast, the results were displayed, and the study team facilitated a discussion about the voting results.
- BNAC members were subsequently asked to vote again, and the process continued until there was substantial agreement (two-thirds of the respondents agreed) or until the voting results did not change from one round to the next.

This approach allowed all BNAC members to participate in development of the ranking framework. The same process was followed for endorsement of the categories, category weights, criteria, criterion weights, and scoring metric by BNAC voting members.

6.2 Technical Data/Information

Fairly detailed technical data and information are required in development of border master plans to describe the current and future demand for existing border infrastructure and to enable the prioritization of planned future projects. Given adequate technical data and information to prioritize projects, border master plans provide a detailed inventory of the current infrastructure serving cross-border movements and planned project priorities in a study area. High-priority projects included in a binational border master plan provide a powerful argument when competing for transportation funding at the Federal and State levels, as well as for private and local funds.

Similar to the California–Baja California Border Master Plan and the Laredo–Coahuila/Nuevo León/Tamaulipas Border Master Plan, the El Paso/Santa Teresa–Chihuahua Border Master Plan includes a detailed inventory of all transportation facilities serving POEs in the study area. Also similar to past border master planning efforts, a list of planned POE and transportation infrastructure projects was compiled from various planning documents. The list of planned projects was shared with the POE, Transportation Infrastructure, and Rail Infrastructure Working Groups. The study team repeatedly requested that the working group members provide the study team with data necessary to allow prioritization of planned projects. Ultimately, most of the data and information provided to the study team for the planned U.S. road and interchange, transit, and POE projects were submitted by TxDOT, NMDOT, the El Paso MPO, SunMetro, Presidio County, and the City of El Paso. On the Mexican side, Promotora de la Industria Chihuahuense, a State of Chihuahua agency, played a critical role in coordinating and obtaining the data required by the study team for the planned Mexican road and interchange and POE projects. In addition, the Municipality of Juárez provided maps with the geographic location of projects and project information. Planned rail project information was obtained from the New Mexico Border Authority, BNSF, and Ferromex.

The more data and information that were provided for a planned project, the greater the opportunity for the planned project to receive a score—and the higher the likelihood that the planned project would be ranked higher than a similar project for which limited data were provided.

6.3 Recommendations

6.3.1 Institutionalizing the Dialog

Border master plans should be updated when there are major changes in the content of the border master plans. For example, if a number of priority projects have been completed or if a number of planned projects have emerged since the border master plan was developed, the plan will need updating. This keeps the contents and inventories current and allows the border master plan to continue to represent the region's vision and goals. The timing of the updates may differ from region to region.

It is recommended that BNAC convene every year to determine the need for updates. Information on all completed priority projects and any planned projects that have emerged since the completion of the previous Border Master Plan should be presented. This presentation will allow BNAC to make an informed decision about the need to update the planned project inventory and technical data of the Border Master Plan. Similarly, BNAC will be able to determine the need for a comprehensive update to the plan. A comprehensive update would involve revisiting the planning horizons (short, medium, and long term), the geographic boundaries of the study area (Focused Study Area and Area of Influence), the socio-economic data, cross-border travel demand changes, and the ranking framework that was used to prioritize projects. Finally, it is recommended that a representative of BNAC or TxDOT's International Relations Office make regular informative presentations to the U.S./Mexico Joint Working Committee to discuss the need to update the existing Border Master Plan (as determined by BNAC) or to report on any in-progress border master plan updates.

6.3.2 Development of Future Border Master Plans

The study team offers the following observations and recommendations for consideration in development of future border master plans or updates of this Border Master Plan:

- Three of the four U.S. States on the southern border have overseen the development of border master plans. To remain a viable planning tool, these plans must reflect each different region's needs, interests, and priorities. If the ultimate goal is to establish U.S.-Mexico project priorities, it is recommended that regions follow a similar—although not necessarily the same—approach in the development of all border master plans. A consistent approach would allow projects across the entire border to be compared.
- Border master plans currently provide detailed inventories of planned project priorities in a Focused Study Area. Two enhancements to the scope of work for updating the border master plans should be considered: identify funding

opportunities for high-priority projects in the Focused Study Area, and develop technical tools to evaluate the potential regional impact of investments. Specifically, the feasibility of developing technical tools (models) to determine how investment in a specific project would impact demand (e.g., diverting traffic to other crossings) and therefore the need or priority of other planned projects should be determined. The implementation of some of the identified high-priority projects could potentially reduce the need or delay the need for implementing some of the other high-priority projects. As currently developed, border master plans do not quantify or model the demand impact of an investment in specific projects on other crossings or transportation infrastructure in the region.

- Ensure participation by actively reaching out to stakeholders. Keep stakeholders engaged in the development of border master plans, ensure a process where every stakeholder has an equal voice in the selection of the criteria that will be used to prioritize projects, and make all reports and information disseminated available in both English and Spanish. Ultimately, continued support for development of border master plans will only prevail if results can be demonstrated—by the funding and implementation of high-priority projects identified by the border master plan.