



Texas-Mexico Border Region Connectivity Plan

Project Report

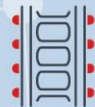


Table of Contents

- 1. Introduction.....
 - Background1-1
 - Study Purpose and Approach.....1-2
 - Study Area.....1-4
 - Demographics.....1-5
 - Goals and Objectives.....1-8
 - Stakeholder Engagement 1-11
- 2. First and Last Mile Connectivity
 - Introduction2-1
 - West Region First and Last Mile2-4
 - Central Region First and Last Mile..... 2-25
 - Laredo Border Crossings..... 2-37
 - South Region First and Last Mile 2-50
- 3. Port-to-Port Connectivity.....
 - Introduction..... 3-1
 - Crossing-to-Crossing Connectivity Analysis3-1
 - Bridge Closures and Alternative Crossings.....3-1
 - Alternative Crossing Analysis3-3
 - West Region Alternative Crossing Analysis.....3-3
 - Diversion Routes, Wait Times, and Volumes3-7
 - Central Region Alternative Crossing Analysis 3-12
 - South Region Alternative Crossing Analysis 3-21
 - Crossing-to-Maritime Port Analysis 3-28

- Maritime Ports in Texas..... 3-28
- Maritime Ports in Mexico..... 3-32
- Port-to-Maritime Port Challenges and Considerations..... 3-34

- 4. Region-to-Region Connectivity.....
 - Region-to-Region Connectivity 4-1
 - Identification of the Regional Border Connectivity Network (RBCN) 4-1
 - Existing Conditions 4-2
 - Community and Stakeholder Engagement..... 4-13
 - Future Conditions and Trends 4-16
 - Needs Assessment Results 4-23
 - Unmet Needs Assessment 4-29
- 5. Strategic Stakeholder Findings.....
 - Strategic Stakeholder Findings 5-1
 - Project Considerations 5-1
 - First and Last Mile Connectivity Projects..... 5-1
 - Port-to-Port Connectivity Project Considerations 5-4
 - Region-to-Region Connectivity Projects 5-5
 - Program and Policy Considerations..... 5-13
 - First and Last Mile Connectivity Programs and Policies 5-13
 - Freight Rail..... 5-15
 - Transit 5-15
 - Port-to-Port Connectivity Programs and Policies..... 5-16
 - Region-to-Region Connectivity Program and Policy Considerations5-17
- 6. A Call to Action
 - A Call for Action..... 6-1



List of Acronyms

AADT	Annual Average Daily Traffic	C-TPAT	Customs-Trade Partnership Against Terrorism
ACE	Automated Commercial Environment	TxDPS	Texas Department of Public Safety
ADA	Americans with Disabilities Act	EV	Electric Vehicle
ADT	Average Daily Traffic	FAST	Free and Secure Trade
ANAM	National Customs Agency of Mexico	FEMA	Federal Emergency Management Agency
AV	Autonomous Vehicle	FHWA	Federal Highway Administration
BNSF	Burlington Northern Santa Fe Railway	FM	Farm to Market
BPT	Jack Brooks Regional Airport	FTZ	Foreign Trade Zone
BRT	Bus Rapid transit	GDP	Gross Domestic Product
BTAC	Border Trade Advisory Committee	GHG	Greenhouse Gas
BTMP	Border Transportation Master Plan	GIS	Geographical Information System
BTS	Bureau of Transportation Statistics	GIWW	Gulf Intracoastal Waterway
C&E	Computer and Electronics Industry	GSA	U.S. General Services Administration
CAV	Connected Autonomous Vehicle	HCRMA	Hidalgo County Regional Mobility Authority
CBP	U.S. Customs and Border Protection	HOU	Houston William P. Hobby International Airport
CHIP	Capital Highway Investment Plan	HR	House Resolution
CMV	Commercial Motor Vehicle	HSC	Houston Ship Channel
COFC	Container-on-Flat-Car	HWY	Highway
CPKC	Canadian Pacific Kansas City Limited Railway	IAH	George Bush Intercontinental Airport
CRISI	Consolidated Rail Infrastructure and Safety Improvements grant	IBTC	International Bridge Trade Corridor
		IBWC	International Water and Boundary Commission
		ICM	Integrated Corridor Management



IH	Interstate Highway	POE	Ports of Entry
ILMM	Labor Indicators for the Municipalities of Mexico	POV	Privately Owned Vehicles
INEGI	“Instituto Nacional de Estadística y Geografía” of Mexico or “National Institute of Statistics and Geography”	QCEW	Quarterly Census of Employment and Wages
iTDM	International Traffic Demand Model	RAISE	Rebuilding American Infrastructure with Sustainability and Equity grant
IMPLAN	Impact Analysis for Planning	RBCN	Regional Border Connectivity Network
ITER	“Integración Territorial” of “Main Results by Locality” from the Mexican Population and housing Census 2020	RM	Ranch to Market or Ranch Road
ITS	Intelligent Transportation Systems	RMA	Regional Mobility Authority
MEX-	Mexican Federal Highway	RVSC	Rio Valley Switching Company
MnDOT	Minnesota Department of Transportation	SAM	Statewide Analysis Model
MnSHIP	Minnesota State Highway Investment Plan	SB	Southbound
MODA	Multiple Objective Decision Analysis	SENTRI	Secure Electronic Network for Travelers Rapid Inspection
MPO	Metropolitan Planning Organization	SH	State Highway
NAFTA	North American Free Trade Agreement	SL	State Highway Loop
NB	Northbound	SS	State Spur
NMBA	New Mexico Border Authority	SUMC	Shared-Use Mobility Center
OPA	Other Principal Arterials	SWART	Southwest Area Regional Transit
OS	Oversized	STIP	Statewide Transportation Improvement Programs
OW	Overweight	TIP	Transportation Improvement Program
P3	Public-Private Partnership	T-MEC	Spanish acronym for the United States-Mexico-Canada Agreement (USMCA)
PM-DIS	Performance Metrics Data Integration System	TMFN	Texas Multimodal Freight Network



TNC	Transportation Network Company (Uber, Lyft, paratransit providers)
TOFC	Trailer-on-Flat-Car
TREDIS	Transportation Economic Development Impact System
TTI	Texas A&M Transportation Institute
TTRI	Travel Time Reliability Index
TxC	TxDOTCONNECT
TxDOT	Texas Department of Transportation
TXPF	Texas Pacífico Transportation Limited
U.S.	United States of America
UP	Union Pacific
UCP	Unified Cargo Processing
US	United States Route
USDA	United States Department of Agriculture
USMCA	U.S.-Mexico-Canada Agreement
USACE	U.S. Army Corps of Engineers
V/C	Volume-to-Capacity Ratio
V2I	Vehicle-to-infrastructure
V2V	Vehicle-to-vehicle
VMT	Vehicle Miles Traveled



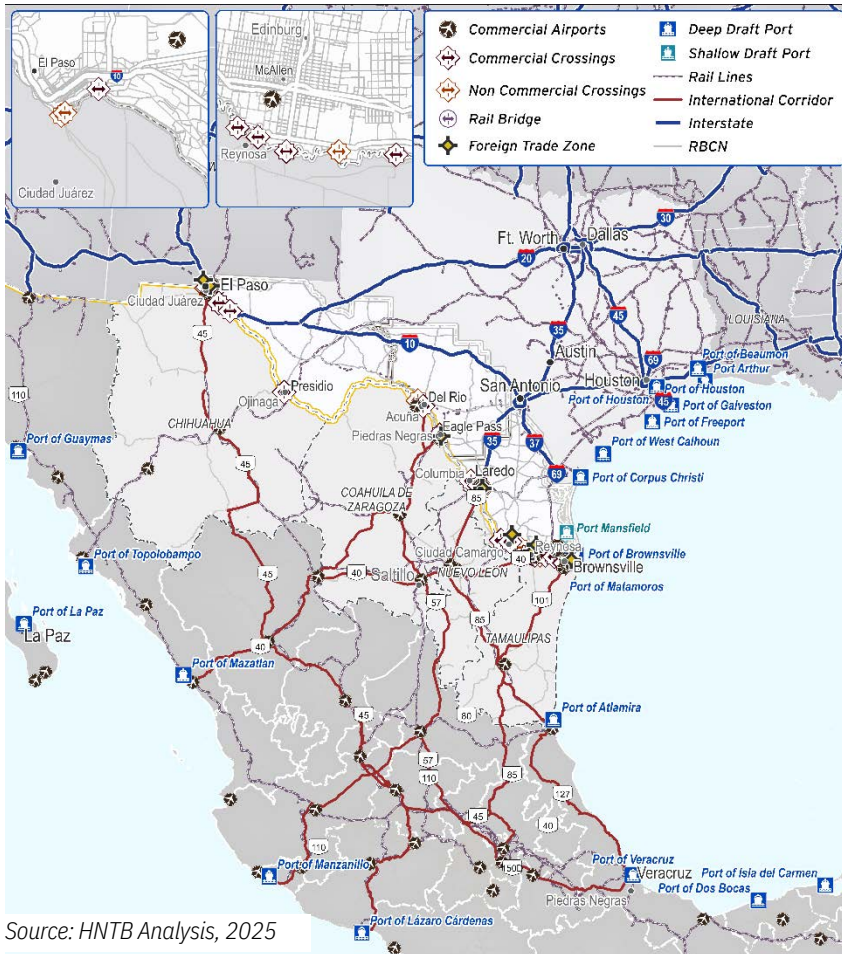
1



Introduction



Figure 1-1: Texas-Mexico Border Region



Background

The Texas-Mexico Border Region (**Figure 1-1**) embodies a critical nexus of economic and cultural interdependence between the United States (U.S.) and Mexico. Texas and Mexico share 1,254 miles of border, approximately 64% of the entire border between the two countries. The Texas-Mexico

Border Region functions as a pivotal corridor for international trade, innovation, and cultural exchange, reflecting the intricate and enduring ties between the U.S. and Mexico.

In 2021, the Texas Department of Transportation (TxDOT) completed the Border Transportation Master Plan (BTMP), a comprehensive, multimodal, long-range strategy designed to enhance transportation infrastructure and ensure seamless and secure movement of people and goods along the Texas-Mexico border. The 2021 BTMP represents extensive coordination and collaboration between stakeholders in Texas and Mexico and built on decades of binational efforts in planning, programming, and advancing policies, programs, and projects to facilitate the efficient and safe cross-border movement of people and goods. This effort also addressed the complex transportation needs of the Texas-Mexico Border Region while bolstering economic vitality and reinforcing the global competitiveness of Texas and the broader North American market.

The 2021 BTMP identified connectivity as a key need, emphasizing critical areas such as intermodal rail facilities, first and last mile connectivity around key multimodal hubs like airports and seaports, and enhanced interconnections between Texas-Mexico border crossings. The effort also highlighted the importance of improving pedestrian, bike, and transit networks to support seamless cross-border movement and access to essential services. Since the completion of the 2021 BTMP, several factors have increased transportation connectivity challenges along the Texas-Mexico border. This includes the U.S.-Mexico-Canada Agreement (USMCA), which replaced the North American Free Trade Agreement (NAFTA) in 2020, which has led to a surge in nearshoring to Mexico. This trend has been driven by proximity to the U.S., lower labor costs, supply chain shifts, and reduced reliance on Asia and has reshaped trade patterns and boosted freight volumes.



Further, according to the Mexican Secretariat of the Economy, or “Secretaría de Economía” (SE), foreign direct investment in Mexico reached a record level of U.S. \$31 billion in the first six months of 2024, fueling new manufacturing and increasing the need for more transportation capacity.¹ However, while substantial investments are underway, infrastructure development is still catching up, and uneven adoption of advanced customs technologies exacerbates existing connectivity challenges.

Study Purpose and Approach

Purpose

The purpose of the Border Region Connectivity Plan (plan) is to assess connectivity challenges along the Texas-Mexico border and develop targeted improvements to meet transportation needs. This assessment provides TxDOT and its stakeholders with a data-informed roadmap to improve the movement of goods and people while addressing safety, mobility, system efficiency, resilience and economic vitality.

Approach

This plan provides a detailed description of existing transportation assets, conditions, and current needs across varying scales of connectivity, and includes an overview of factors that could impact and alter these needs in the future. The current and future needs, identified through data analysis and comprehensive stakeholder engagement, are prioritized and compared against planned and funded investments. The resulting unmet needs are addressed through strategic project, policy, and programmatic considerations which are designed to:

- » Enhance multimodal connections and infrastructure conditions across the border region in both Texas and Mexico.

- » Strengthen safety, security, and resilience of the border transportation system.
- » Improve the efficiency of the movement of goods and people across the Texas-Mexico Border Region.

Together, these elements create a comprehensive framework for addressing connectivity challenges and opportunities, supporting TxDOT’s efforts to meet the demands of a rapidly evolving border region. The plan’s approach was crafted to identify connectivity challenges and opportunities within the border region transportation network through analysis of three connectivity levels: first and last mile, port to port, and region to region.

The following figure summarizes the approach used for identifying and developing project, policy, and program considerations presented in this chapter.

Figure 1-2: Approach and Methods



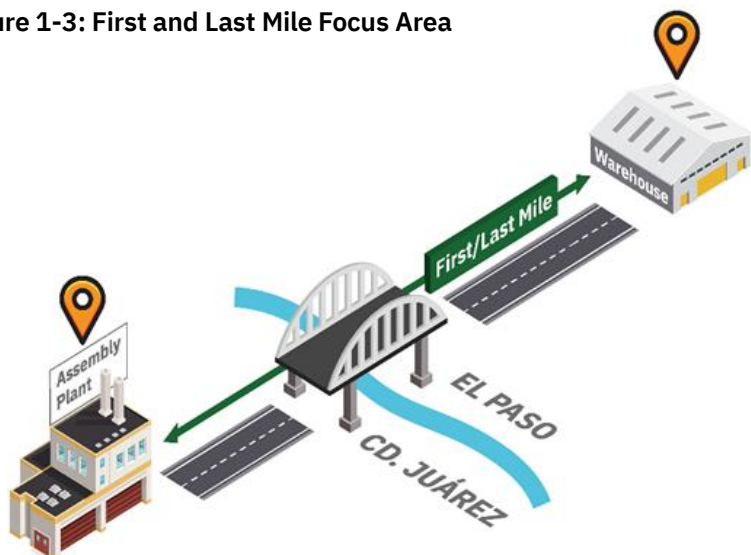
Source: HNTB Analysis, 2025

¹ Foreign direct investment hits record \$31B in Mexico in first half of 2024, [Freight Waves](#), as of August 2024, accessed February 2025



The **First and Last Mile** connectivity analysis focuses on the immediate roadway connections and the border crossing serving an initial origin or destination of cross-border goods. This analysis specifically focuses on short local trips; for example, northbound (NB) or southbound (SB) goods are transported across the border from an assembly plant in Ciudad Juárez to a warehouse or distribution center in El Paso. Typically, local roadways and a single crossing are used to accommodate this portion of cross-border goods movement. The first and last mile analysis focuses on improving the crossing and connectivity for that portion of goods transport.

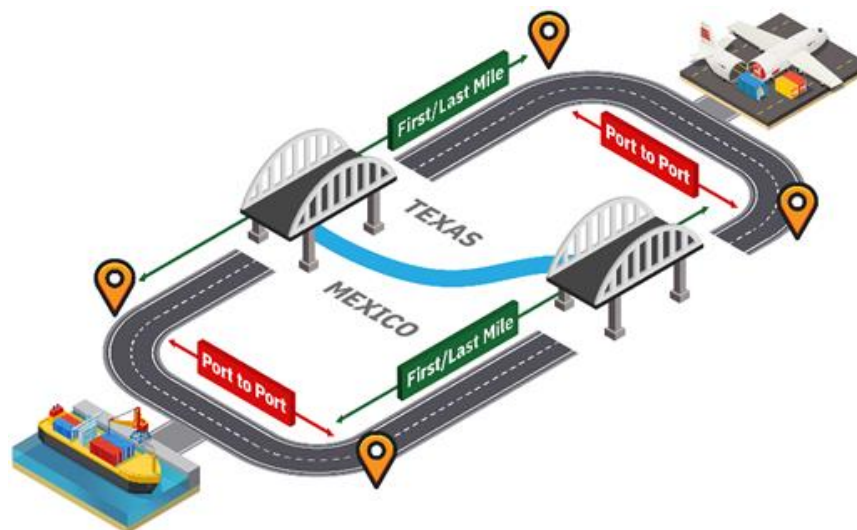
Figure 1-3: First and Last Mile Focus Area



Source: HNTB Analysis, 2025

The **Port-to-Port** connectivity analysis builds upon the first and last mile connectivity analysis by examining the next level of intra-regional trips. This analysis examines the connections between all border crossings and ports within a particular border region, focusing on the major routes that link ports with key origins and destinations of international shipments, such as warehouses and intermodal transfer locations, maritime ports, inland ports, railyards, and airports.

Figure 1-4: Port-to-Port Focus Area



Source: HNTB Analysis, 2025

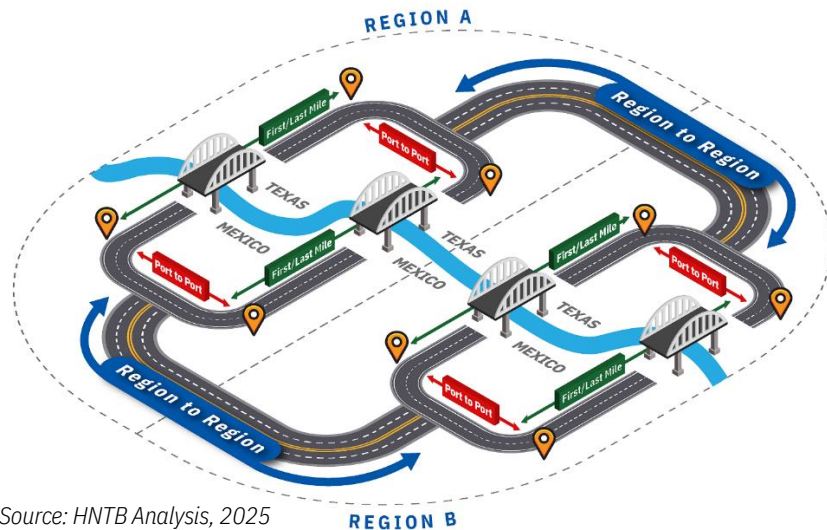
The **Region-to-Region** connectivity component aims to enhance the connections between border regions within Texas and Mexico (referred to as Texas Border Region and Mexico Border Region herein), facilitating long-distance inter-regional trips. The Regional Border Connectivity Network (RBCN), a subset of the multimodal transportation system in the Texas Border Region, is crucial for the movements of goods and people within, to, and through the border region. This portion of the study examines the connectivity challenges within Texas’s border region. For the purposes of analysis, the Texas border region was subdivided into West, Central, and South regions (**Figure 1-6**) to identify opportunities for improvement. Enhancing regional connectivity will provide the resiliency, redundancy, and capacity needed to accommodate future growth in this vital area. Appendix D provides a detailed overview of the plan and the methodology.

The West, Central, and South border regions each encompass portions of multiple TxDOT districts. These regions were not defined based on district boundaries, but rather on the functional relationships among key origins and



destinations within approximately 100 miles of the Texas-Mexico border. Each region reflects a cluster of border-crossing activity hubs that are connected by shared supply chains and primary freight corridors. This regional structure supports the assessment of region-to-region connectivity by highlighting how well current corridors align with actual freight movement. It also helps identify capacity limitations and connectivity gaps that may not be apparent when using administrative boundaries alone.

Figure 1-5: Region-to-Region Focus Area



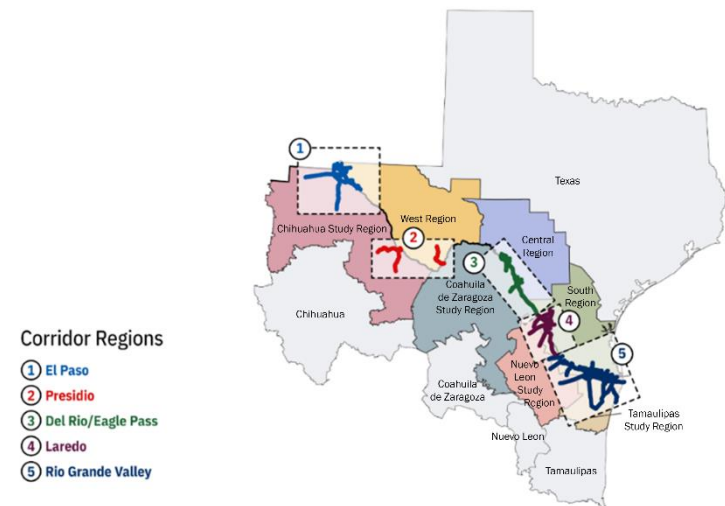
Source: HNTB Analysis, 2025

Study Area

The plan's study area (**Figure 1-6**) includes an area extending approximately 100 miles north and south of the Texas-Mexico border. The study area is home to 13.6 million people in Texas and Mexico and includes the West, Central, and South border regions of Texas and parts of Chihuahua, Coahuila de Zaragoza, Nuevo León, and Tamaulipas in Mexico. In total, there are 43 counties in Texas and 99 municipalities or second-level administrative divisions in Mexico (i.e., municipios). Of these

municipalities and second-level administrative divisions, 23 include ports of entry (POEs) and contain a population of 50,000 or greater (**Figure 1-7**).

Figure 1-6: Texas-Mexico Border Region Connectivity Plan Study Area

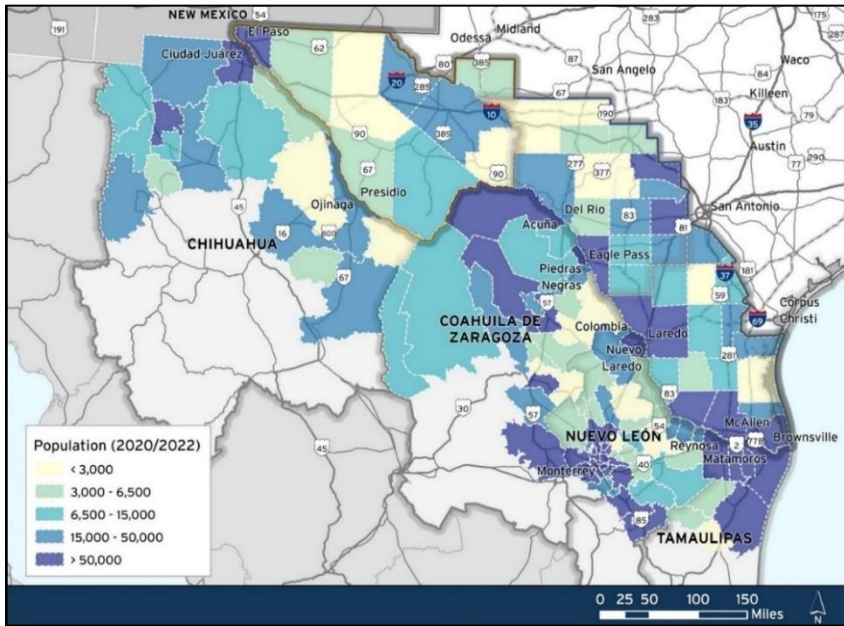


Visualizing Border Region Movements

As part of the Texas-Mexico Border Region Connectivity Plan, TxDOT developed an interactive [StoryMap](#) that summarizes trade trends and transportation needs within the binational region; defined as the area extending 100 miles north and south of the Texas-Mexico border. The [StoryMap](#) provides an accessible overview of the region's transportation network, cross-border trade flows, major industries, critical freight corridors, and recent disruptions caused by natural disasters. It also highlights forward-looking insights to support future planning and investment.



Figure 1-7: Study Area Population, 2022 Texas and 2020 Mexico



Source: Texas Demographic Center, *Texas Population Projections 2020 to 2060, 1.0 Migration Scenario*; National Institute of Statistics and Geography (INEGI) *Principales resultados por localidad (ITER) del Censo de Población y Vivienda 2020*.

Demographics

Population

Figure 1-7 illustrates the population distribution of the approximate 13.6 million people living within the counties and municipalities included in the study area, highlighting significant population concentrations in El Paso/Juárez, Monterrey, and Brownsville/Matamoros. These three metropolitan areas account for 72% of the total population in the study area.

Table 1-1: Important Cities in the Study Area

Country	State	Cities	
United States	Texas	Brownsville	Laredo
		Del Rio	McAllen
		Eagle Pass	Mission
		Edinburg	Pharr
		El Paso	Presidio
Mexico	Chihuahua	Juárez	
		Ojinaga	
	Coahuila de Zaragoza	Acuña	
		Monclova	
		Múzquiz	
		Piedras Negras	
	Nuevo León	Sabinas	
		Apodaca	
	Tamaulipas	Monterrey	
		Matamoros	
		Nuevo Laredo	
		Reynosa	
		Río Bravo	

Source: HNTB Analysis, 2025

Table 1-1 shows the most important cities in the study area. **Table 1-2** details the population distribution by region/state, indicating that nearly half of the study area’s residents live in Nuevo León. Most of this population is concentrated in the Monterrey metropolitan area, the second-largest metropolitan area in Mexico.

Table 1-2: Study Area Population, 2022 Texas and 2020 Mexico

Item	Texas Border Region			Mexico Border Region			
	West	Central	South	Chihuahua	Coahuila	Nuevo Leon	Tamaulipas
Population (in thousands)	915.9	307.3	1,823.0	1,820.7	1,055.4	5,665.8	1,994.6
% of Border Region	6.7%	2.3%	13.4%	13.4%	7.8%	41.7%	14.7%
Total Regional Population	3,046.2			10,536.5			
Total % of the Border Region	22.4%			77.6%			

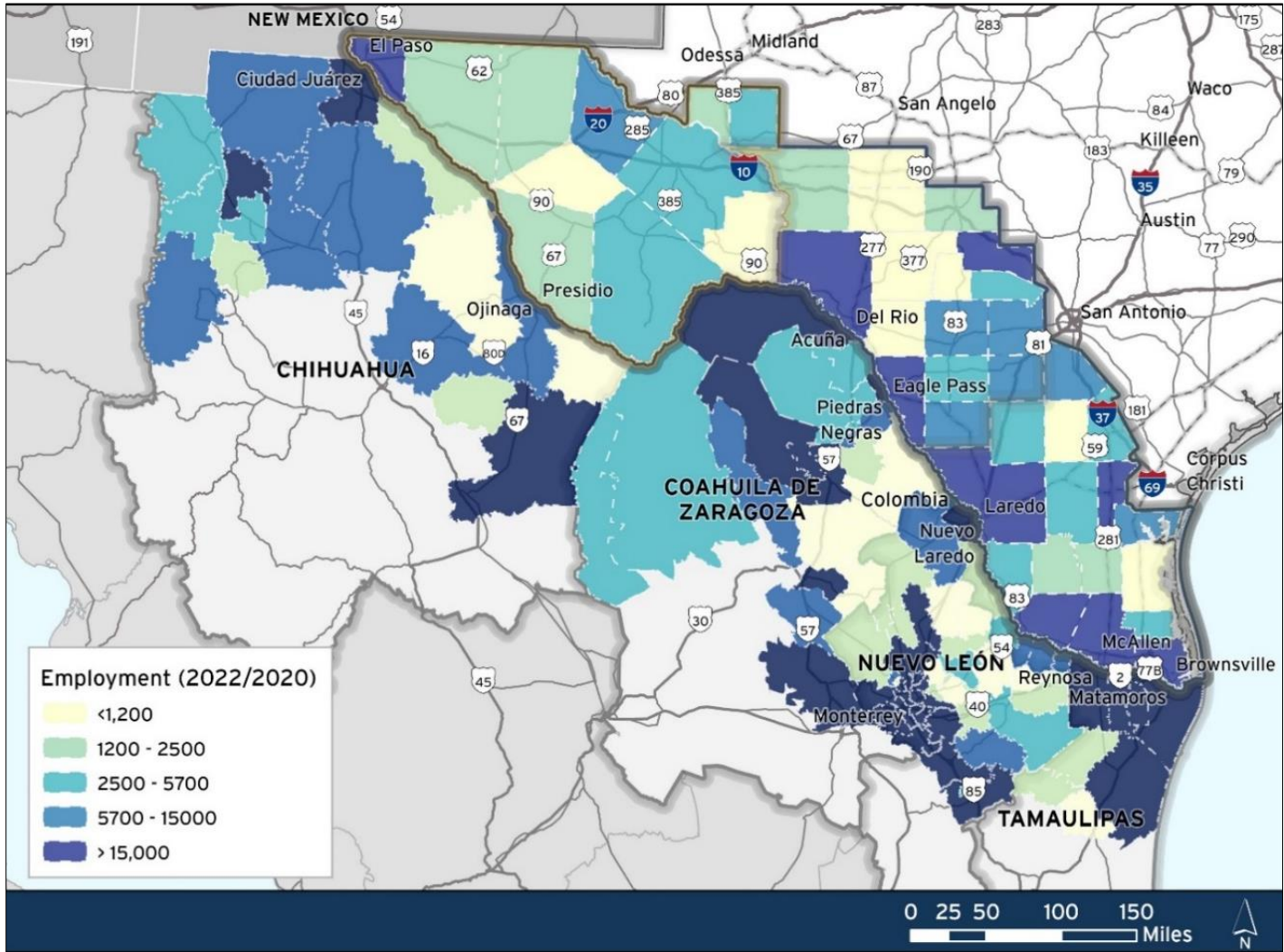
NOTE: Discrepancies in the total are due to rounding. Source: Texas Demographic Center, Texas Population Projections 2020 to 2060, 1.0 Migration Scenario; INEGI Principales resultados por localidad (ITER) del Censo de Población y Vivienda 2020.

Employment

Major employment centers in Texas are mirrored by high employment in Mexico such as El Paso/Juárez, Laredo/Nuevo Laredo, McAllen/Reynosa, and Brownsville/Matamoros (**Figure 1-8**). Additionally, Coahuila’s high-employment region extends from the middle of the state to the border. Monterrey, Nuevo Leon is the only high-employment region that is not adjacent to the border.



Figure 1-8: Study Area Employment, 2022 Texas and 2020 Mexico



Source: Quarterly Census of Employment and Wages (QCEW) 2022 Q4; Labor Indicators for the Municipalities of Mexico (ILMM)



The Texas Border Region represents approximately 22% of total employment in the study area, while the Mexico Border Region comprises about 78% as shown in **Table 1-3**. Nuevo León contributes the most jobs in the border region followed by Coahuila and Tamaulipas. Most employment in the Texas Border Region is concentrated in the South Region followed by the West and Central Regions.

Table 1-3: Study Area Employment for All Industries by Region, 2021 Texas and 2020 Mexico

Region	Texas Border Region			Mexico Border Region				Region Total
	West	Central	South	Chihuahua	Coahuila	Nuevo Leon	Tamaulipas	
Employment (in thousands)	478	158	837	914	473	2763	986	
% of Border Region	7%	2%	13%	14%	7%	42%	15%	
Border region total	1,473			5,136				6,609
Total % of the Border Region	22%			78%				100%

NOTE: Percentages are rounded to the nearest whole number. Source: TREDIS (2021) and Occupied Population over 12 years of age, INEGI Census (2020)

Goals and Objectives

The goals and objectives for the Texas-Mexico Border Region Connectivity Plan were developed in collaboration with binational stakeholders to guide data collection, analysis, and findings throughout the effort. These goals aim to enhance transportation efficiency, reliability, and connectivity between border regions, while also boosting economic competitiveness and ensuring safety and security. Key objectives include modernizing and maintaining transportation assets, protecting the environment, and strengthening cross-border resilience. **Table 1-4** provides a detailed overview of these objectives. Additional details related to goals and objectives can be found in Appendix D.



Table 1-4: Texas-Mexico Border Region Connectivity Plan Goals and Objectives

Goal	Description	Objectives
Mobility and Reliability	Provide options for efficient, reliable transportation between border regions	Develop considerations to address current efficiency needs on the RBCN; Develop considerations to address future efficiency needs on the RBCN; Develop a plan to advance findings which will include the timeline, agency, and possible funding.
Economic Competitiveness	Enhance economic linkages between border regions to boost regional competitiveness and support continued growth in border trade values while balancing both the positive and negative impacts of regional border connectivity projects	Identify and enhance key supply chains that rely on border region connectivity; Identify economic development drivers for border regions in Texas and Mexico; Strengthen economic connectivity between border regions and inland markets in the U.S. and Mexico. Minimize, mitigate, or eliminate adverse impacts from transportation projects on historically disadvantaged border communities; Seek out input and partnerships with stakeholders within federally defined Historically Disadvantaged Communities and Areas of Persistent Poverty.
Safety and Security	Improve travel safety between and within border regions	Reduce crashes and improve safety on the RBCN; Improve security of people and goods movement within the border regions and between the regions on the RBCN.
Connectivity	Improve connectivity within and between border regions	Develop a network of TxDOT roadways significant to border region connectivity; Prioritize transportation needs and improvements to improve border region connectivity.
Cross-Border Resiliency	Increase interconnectivity between border regions to provide resiliency in the event of disruptions	Improve redundancy, access, and network completeness on RBCN to reduce the impact of disruptions; Improve redundancy, access, and network completeness on RBCN to enable safe and secure evacuation and disaster response.
Sustainable Funding	Develop the RBCN to direct funding toward projects that improve border connectivity	Using a data-driven project development approach, prioritize projects that benefit border connectivity; Identify project development needs to ensure projects are shovel-ready as funding becomes available; Seek opportunities for innovative funding strategies such as private partnerships, binational funding with Mexico, and new federal funding programs.



Goal	Description	Objectives
Customer Service	Engage binational stakeholder groups and border region travelers to identify needs and guide future implementation	Prioritize bilingual communication and engagement in all outreach and public communications; Provide meaningful opportunities for public and stakeholder input to influence the direction and outcome of projects, inclusive of underserved communities; Engage stakeholders on both sides of the U.S.-Mexico border.
Asset Preservation	Maintain, preserve, and modernize assets on RBCN	Utilize a data-driven approach to asset management and maintaining a State of Good Repair; Incorporate knowledge of local context in asset management planning from freight volumes on key roadways to the impacts of regional climate on capital assets.
Stewardship and Sustainability	Leverage border connectivity investments to protect and enhance the environment in border regions	Foster binational coordination of infrastructure development on the RBCN; Account for environmental and public health impacts in project prioritization and development; Promote binational collaboration for environmental impact evaluation and shared sustainable development.
Technology Deployment	Leverage technology for safer and more efficient movement of people and goods across the border and between border regions	Employ innovative technologies to address transportation challenges faced in border regions; Seek opportunities for cross-border training and partnership on implementing advanced technology infrastructure.

Source: HNTB Analysis, 2025



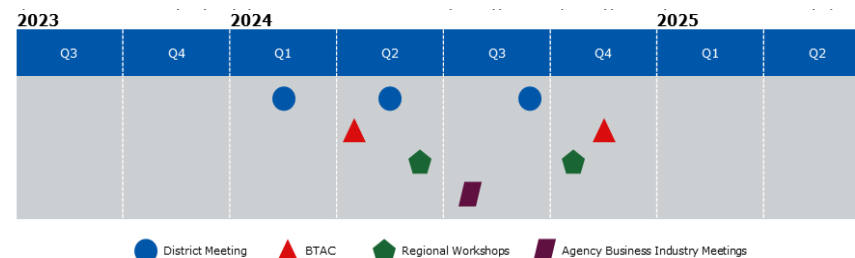
Stakeholder Engagement

Stakeholder engagement was a key component of the Texas-Mexico Border Connectivity Plan to identify transportation infrastructure needs and develop findings. Throughout the effort, binational stakeholders provided input to validate data accuracy and identify needs, challenges, and potential solutions. This engagement occurred through a series of meetings, binational workshops, and targeted interviews with agency and industry members. Stakeholder input was supplemented with continuous engagement with the TxDOT El Paso, Laredo, and Pharr Districts. Details of each engagement activity can be found in Appendix A.

Key partners such as the Metropolitan Planning Organizations (MPOs), government entities, POEs, railway companies, border alliances, Mexican officials, and private industries facilitated the development of comprehensive and sustainable transportation solutions that address the unique challenges and opportunities of the Texas-Mexico Border Region. These contributions include:

- » Representing local and business interests to advocate for economic development and regional competitiveness.
- » Providing data on land use, planned development, and long-range transportation plans.
- » Sharing specialized knowledge on infrastructure challenges, environmental impacts, and capacity constraints.
- » Facilitating cross-border trade, travel, and connectivity to address real-time challenges with border security.
- » Identifying infrastructure needs to improve the movement of goods and people across the border.
- » Supporting cross-border cooperation and representing Mexico’s interests to align regional priorities.

Figure 1-9: Stakeholder Engagement Timeline



Source: HNTB Analysis, 2025

Figure 1-9 displays a series of three meetings held virtually with the TxDOT Border Districts. In-person binational stakeholder workshops were conducted twice during the effort and enhanced with one-on-one interviews with public and private agencies and industry members. In addition, plan updates were communicated with the Border Trade Advisory Committee (BTAC).

- » **TxDOT District Meetings:** Stakeholder engagement with TxDOT District offices in El Paso, Laredo, and Pharr was aligned with binational workshops in 2024. In February, the plan was introduced, and preliminary goals and objectives were discussed with district representatives. In May, a combined district meeting was held to review the existing conditions analysis and incorporate district feedback. In September, findings on needs, challenges, and preliminary findings were shared, with District Engineers and staff providing technical insights, funding knowledge, and historical context to inform the final round of binational workshops in October 2024.
- » **Stakeholder Workshops:** Two rounds of in-person binational regional workshops were conducted in 2024 to engage local governments, federal agencies, trade organizations, and international freight companies in Texas and Mexico. The first round, held in El Paso,



Presidio, Del Rio, Laredo, and McAllen in May and June, had 248 attendees who provided input on the plan's goals and preliminary analysis. The second round, conducted in October in El Paso, Presidio, Eagle Pass, Laredo, and McAllen, involved 204 participants who engaged in break-out discussions, identified challenges, and proposed potential solutions. Feedback was collected through paper maps and a web-based interactive mapping tool.

- » **Agency & Industry Interviews:** To supplement insights from the May workshops, follow-up interviews were conducted virtually in August 2024 with five workshop participants. These participants, representing agency and industry stakeholders from both sides of the border, provided additional data and detailed information not shared during the workshops.
- » **Border Trade Advisory Committee (BTAC):** Established by the 77th Texas Legislature in 2001, the BTAC serves as a platform for communication between the Texas Transportation Commission, TxDOT, the governor, and border trade stakeholders. Updates on the plan's progress were presented to the BTAC during its second quarterly meeting in April and the fourth quarterly meeting in November.

Previous Efforts

In addition to the BTMP, various studies by TxDOT, Texas municipalities, and Mexican municipalities provided valuable insights for the Texas-Mexico Border Region Connectivity Plan effort. TxDOT has conducted numerous local, regional, and statewide studies, including corridor and freight transportation plans, legislative studies, and reviews of transportation plans and mobility analyses in Mexican border cities. Regarding Texas, major corridor studies for I-10, US 90, and Ports-to-Plains identified opportunities to improve safety, mobility, and connectivity, and to accommodate future demand. Bridge assessments examined ways to reduce wait times and

enhance border crossings through expansions, conversions, and upgrades. Economic impact studies explored the benefits of freight transportation on job creation, commodity flow, and statewide gross domestic product (GDP) growth. Texas Delivers 2050, the Texas Freight Mobility Plan, recommended smart freight connector technology on the Texas Multimodal Freight Network (TMFN) to enhance connectivity between modes. TxDOT, in coordination with local agencies, promotes the development of smart freight corridors to improve first and last mile connections, integrate technology, and fund multimodal projects. Additionally, Texas Senate Bill 1308 mandated a study by TxDOT, the Texas Department of Public Safety (TxDPS), and the Texas A&M Transportation Institute (TTI) to examine automated and connected driving systems' potential benefits for addressing congestion at POEs with Mexico.

On the Mexican side, studies led by border region cities like Ciudad Juárez and Nuevo Laredo analyzed socioeconomic conditions, sustainable urban development, and ecological planning, highlighting current and anticipated environmental impacts on infrastructure and land use. Although some studies are outdated, they remain valuable for understanding the Texas-Mexico Border Region's infrastructure and urban planning needs in the context of future growth.

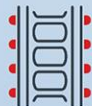
Leveraging insights from past and ongoing efforts, the Texas-Mexico Border Region Connectivity Plan incorporates proven best practices and lessons learned from both sides of the border. These combined findings help shape the framework for identifying both immediate and long-term priorities and aligning stakeholder goals with funding strategies and technological innovations. Ultimately, these documents guide the development of a forward-looking connectivity strategy that addresses infrastructure gaps, enhances safety and mobility, and supports sustainable economic growth throughout the Texas-Mexico Border Region.



2



First and Last Mile Connectivity



Introduction

The TX-MX Border Connectivity First and Last mile refers to the first and last legs of transportation movement to and from a border crossing. It encompasses the accessibility and convenience of connecting people and goods from the border crossing to their nearest origin or destination. The modes of transport include walking, biking, passenger vehicles, ridesharing, commercial trucks, freight trains, or other forms of mobility. The analysis of first and last mile connectivity at the TX-MX border included:

- » Identifying key connectors linking high-capacity roadways (IH, SH, US) to each border crossing.
- » Examining crash statistics, daily traffic patterns (average and peak), and speed data for these critical connectors.
- » Assessing existing transit routes and bike/pedestrian infrastructure connecting border crossings to major travel destinations and intermodal hubs, while also evaluating planned improvements, capacity constraints, and safety concerns.
- » Evaluating freight rail systems and their connections to intermodal rail facilities, along with challenges in enhancing efficiency for cross-border rail movements, and
- » Reviewing planned investments and outstanding challenges or needs within the transportation network surrounding border crossings.

As illustrated in **Figure 2-1**, the first and last mile connectivity analysis covered the 39 roadway and rail border crossings from Santa Teresa, New Mexico, to the Veterans International Bridge at Los Tomates. Within each border crossing area, key needs and challenges were identified with discussions focused on the different modes of connectivity — highway, freight rail, transit, pedestrian and bicycle, and airport. This first and last mile covers 2,417 miles north and south of the borders.

Importance of First and Last Mile Connectivity at the Texas-Mexico Border

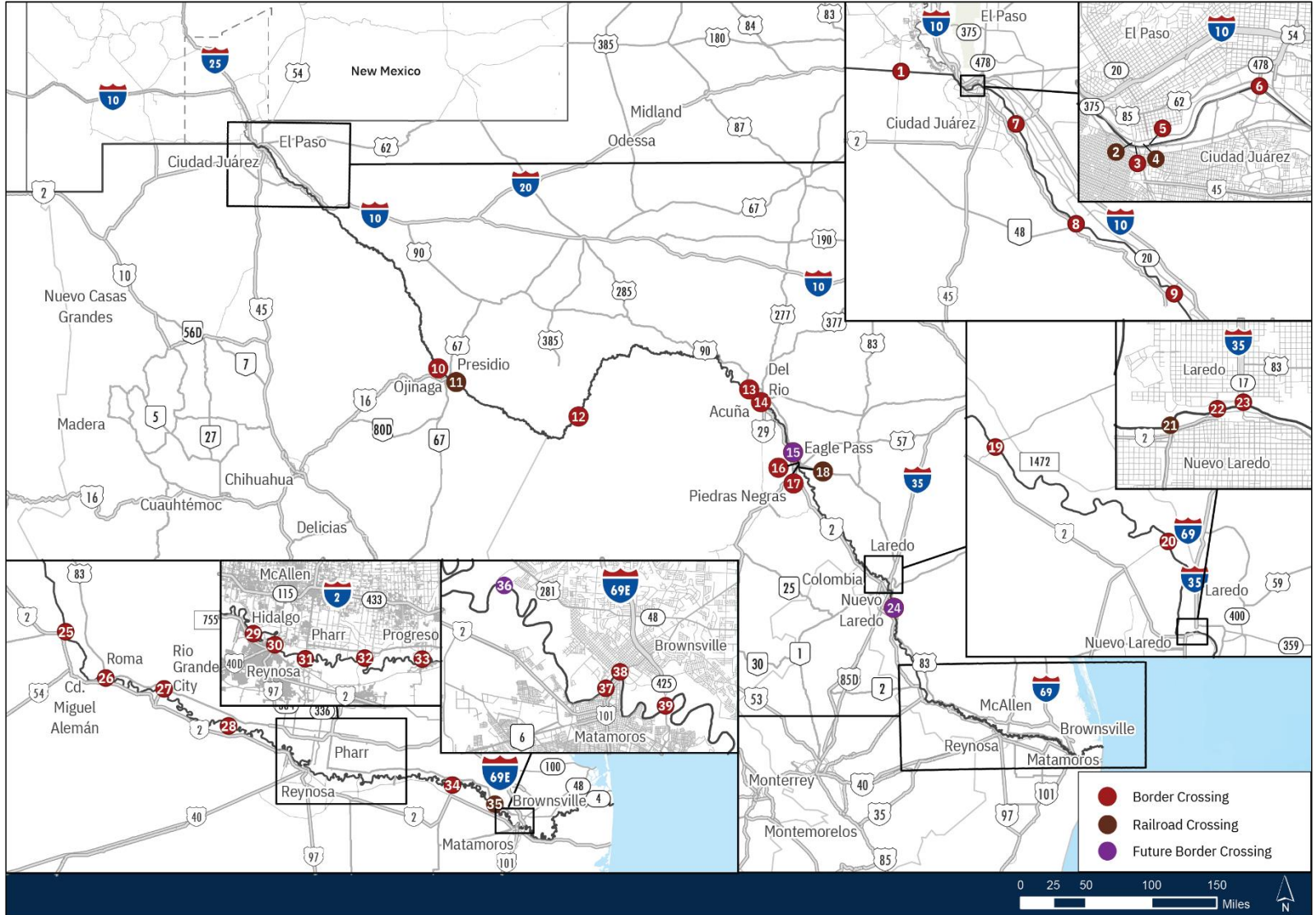
In this report, “first and last mile” corridors refer to the first and last legs of people and goods movement to and from a border crossing. Improving first and last mile connectivity is important for the following reasons:

- » It enhances the efficiency and attractiveness of cross-border travel by reducing travel time, cost, and inconvenience for commuters.
- » It reduces the reliance on passenger vehicles by providing pedestrians/bicyclists access to transit at a border crossing.
- » It enhances the efficiency and attractiveness of cross-border trade by eliminating bottlenecks that increase travel time and cost.
- » It fosters the development of more livable and sustainable cities by removing congestion and pollution associated with queuing passenger vehicles and commercial trucks.

Note: A [presidential permit](#) for the Green Corridors Intelligent Freight Transportation System near Laredo was approved on June 27th, 2025. As at the time of writing, the exact location of the bridge was unknown and not included in the maps and tables.



Figure 2-1: First and Last Mile Connectivity Border Crossing Areas



Source: Jacobs Analysis, 2025



Table 2-1: Border Crossing Areas and Modes of Transport Analyzed

International Crossing		Modes Analyzed				
1	Santa Teresa Crossing					N/A
2	Burlington Northern Santa Fe (BNSF) Railroad El Paso Bridge	N/A	N/A	N/A	N/A	
3	Paso del Norte Bridge	N/A				N/A
4	Good Neighbor Bridge (Stanton)	N/A		N/A	N/A	N/A
5	Union Pacific (UP) Railroad El Paso Bridge	N/A	N/A	N/A	N/A	
6	Bridge of the Americas					N/A
7	Ysleta Bridge					N/A
8	Marcelino Serna Bridge					N/A
9	Fort Hancock-El Porvenir Bridge	N/A			N/A	N/A
10	Presidio-Ojinaga International Bridge					N/A
11	South Orient Railroad Bridge	N/A	N/A	N/A	N/A	
12	Boquillas Crossing (<i>not included in study</i>)	N/A	N/A	N/A	N/A	N/A
13	Lake Amistad Dam Crossing	N/A		N/A	N/A	N/A
14	Del Rio International Bridge					N/A
15	Puerto Verde Global Trade Bridge (<i>future</i>)	N/A	N/A	N/A	N/A	N/A
16	Eagle Pass International Bridge	N/A			N/A	N/A
17	Camino Real International Bridge					N/A
18	UP Eagle Pass Railroad Bridge	N/A	N/A	N/A	N/A	
19	Colombia Solidarity Bridge					N/A
20	World Trade Bridge (Laredo Bridge IV)		N/A	N/A	N/A	N/A

International Crossing		Modes Analyzed				
21	Canadian Pacific Kansas City Limited Railway Laredo Railroad Bridge	N/A	N/A	N/A	N/A	
22	Gateway to the Americas Bridge (Laredo Bridge I)	N/A			N/A	N/A
23	Juárez-Lincoln Bridge (Laredo Bridge II)	N/A		N/A		N/A
24	Laredo IV/V International Bridge (<i>future</i>)	N/A	N/A	N/A	N/A	N/A
25	Lake Falcon Dam International Crossing	N/A		N/A	N/A	N/A
26	Roma-Ciudad Miguel Alemán International Bridge					N/A
27	Starr-Camargo Bridge				N/A	N/A
28	Los Ebanos Ferry	N/A			N/A	N/A
29	Anzalduas International Bridge	N/A		N/A		N/A
30	McAllen-Hidalgo International Bridge	N/A				N/A
31	Pharr International Bridge			N/A		N/A
32	Donna-Rio Bravo International Bridge	N/A			N/A	N/A
33	Progreso International Bridge					N/A
34	Free Trade International Bridge (Los Indios)					N/A
35	West Rail Bridge	N/A	N/A	N/A	N/A	
36	Flor de Mayo Bridge (<i>future</i>)	N/A	N/A	N/A	N/A	N/A
37	Brownsville & Matamoros Express Bridge	N/A			N/A	N/A
38	Gateway International Bridge	N/A				N/A
39	Veterans International Bridge at Los Tomates					N/A

Source: Jacobs Analysis, 2025



West Region First and Last Mile

The West Region first and last mile encompasses 11 border crossings located at the Santa Teresa, El Paso, and Presidio ports of entry.

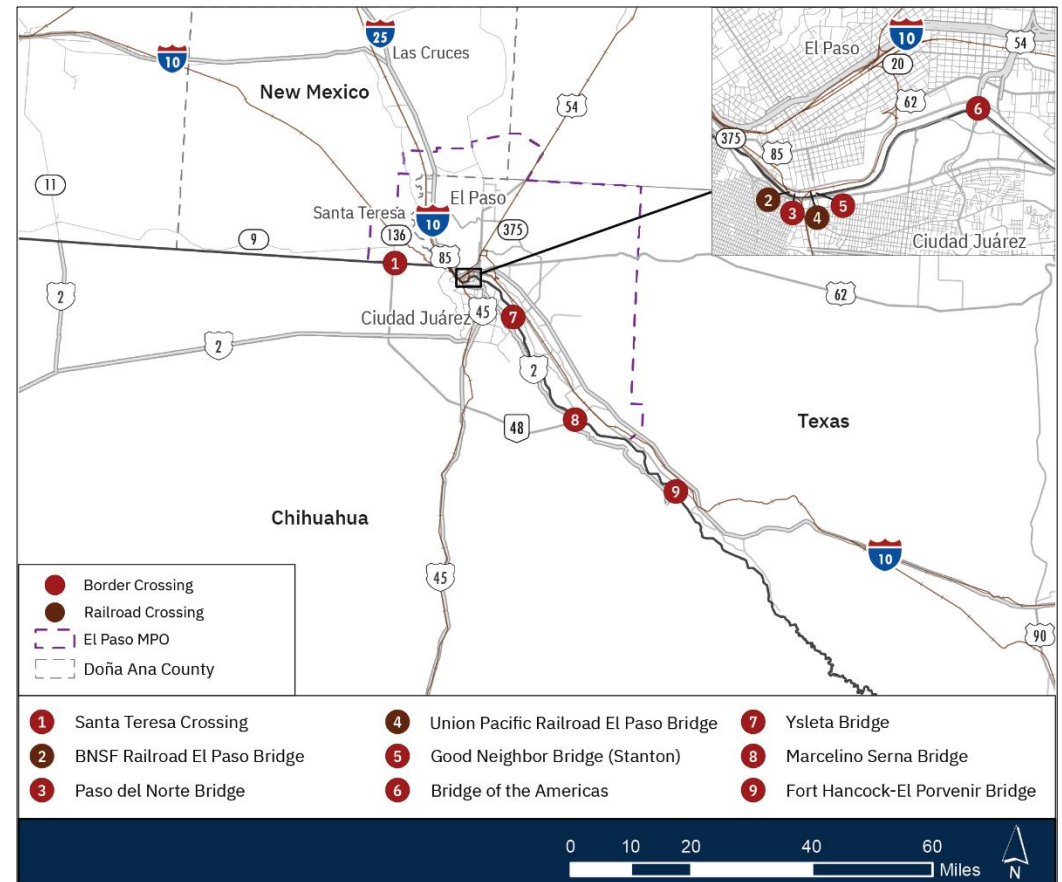
Santa Teresa and El Paso Border Crossings

The El Paso border crossing area has nine border crossings, of which two are rail crossings. The study area included Santa Teresa Crossing near Doña Ana County in New Mexico because it is located within El Paso MPO's boundary, and in proximity to the El Paso POEs (Figure 2-2).

In 2024, the El Paso and Ysleta Ports of Entry facilitated \$104.0 billion in U.S.-Mexico trade.² The POEs in this region account for 18.0% of all northbound truck traffic and 11.9% of all northbound rail containers crossing from Mexico into Texas in 2024.³

Representatives of the El Paso MPO⁴ stated that 85% of the cross-border travel is local and entails trips between Ciudad Juárez and El Paso. Long-distance trips are typically between origins and destinations in the Mexican state of Chihuahua and inland U.S. locations.

Figure 2-2: El Paso Border Crossings



Source: Jacobs Analysis, 2025

² Bureau of Transportation Statistics (BTS) TransBorder Freight program

³ [BTS Border Crossing/Entry Data](#)

⁴ Interview with El Paso MPO as part of the Border Connectivity Plan Study (01/16/2024)



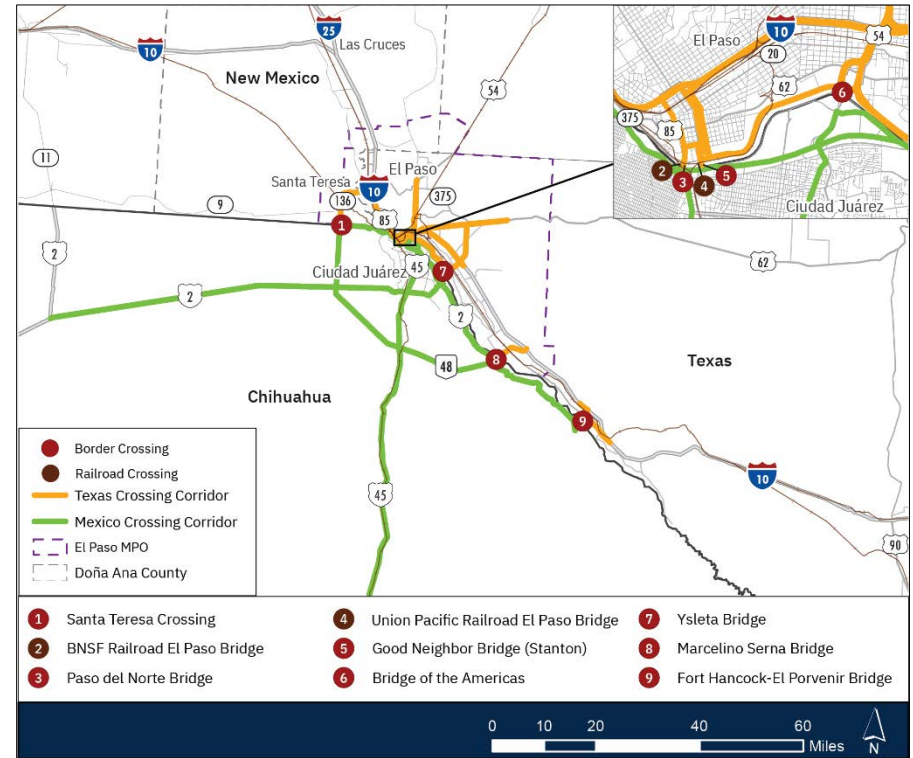
First and Last Mile Highway Connectivity in Santa Teresa and El Paso

The study identified key corridors that connect the international border crossing on the U.S. side to major industrial areas, intermodal facilities, or other major corridors that provide region-to-region connectivity.

In some cases, only one major corridor was identified by the study (e.g., NM 136, which links the Santa Teresa border crossing to the nearby major industrial area and I-10), but in other instances, several key corridors provide connectivity between the border crossing and industrial, intermodal facilities, and/or major corridors. These corridors tend to be in the higher functional classification groups (e.g., interstates and major arterials) and serve as strategic links to and from the border crossings.

Figure 2-3 shows the first and last mile highway corridors analyzed in the El Paso border crossing area. On the U.S. side, these corridors include I-10, US 54, US 62, SL 375, FM 3380, FM 1088, SH 20, SS 148, NM and SH 178 (Santa Teresa). On the Mexico side these corridors include CHIH 48, MX 45, MX 2, Av. Rafael P Serna, Anapra-San Jerónimo, Blvd Ing Bernardo Norzagaray, Av. Benito Juárez, Av. de la Raza, Av. de las Américas, Lib. Ciudad Juárez, Ciudad Juárez-El Porvenir, Blvd. Independencia, Av. Waterfill, Av. Colegio Militar and Blvd. Cuatro Siglos.

Figure 2-3: First and Last Mile Highway Corridors Analyzed for the Santa Teresa and El Paso Border Crossings



Source: Jacobs Analysis, 2025



Table 2-2 summarizes the highway needs and challenges pertaining to the first and last mile connectors serving the Santa Teresa and El Paso border crossings. Additional information for each crossing is provided in the section, **Santa Teresa and El Paso Border Crossing Profiles – First and Last Mile Needs and Challenges**.

Table 2-2: Santa Teresa and El Paso First and Last Mile Highway Needs and Challenges

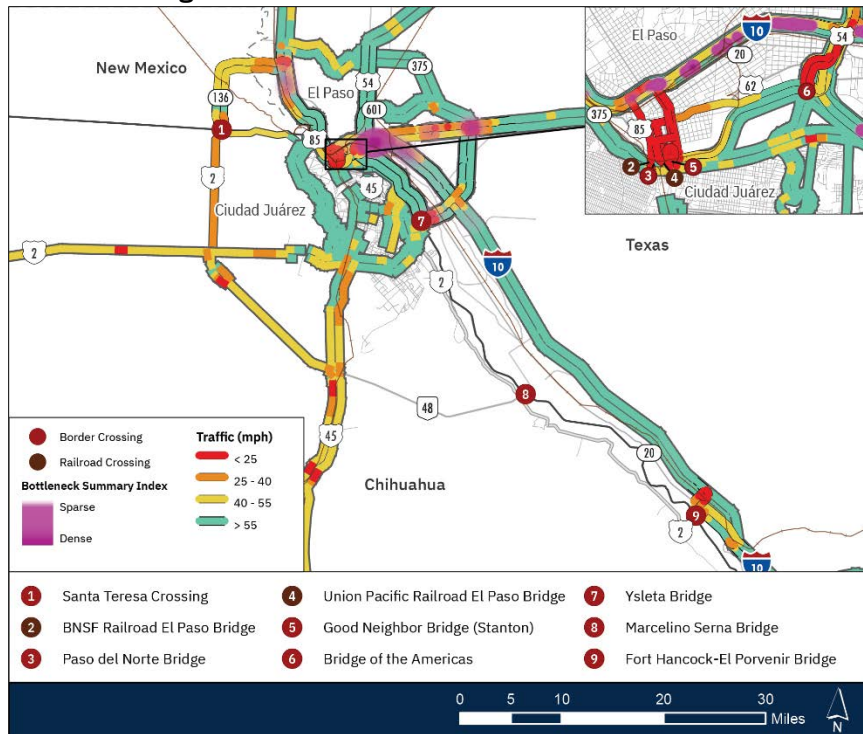
First and Last Mile Highway Needs and Challenges	Santa Teresa Crossing	Paso del Norte Bridge	Good Neighbor Bridge	Bridge of the Americas	Ysleta Bridge	Marcelino Serma Bridge	Fort Hancock-El Porvenir
	1	3	5	6	7	8	9
Stop and Go Traffic (north/south)	✓	✓	✓	✓	✓	N/A	✓
Crash Hotspot on Road(s) Serving Bridge (Texas)	N/A	✓	✓	✓	✓	N/A	✓
High Pedestrian Activity Near Bridge	N/A	✓	✓	✓		N/A	
Bottlenecks on Major Road(s) Serving Bridge	✓	N/A	N/A	✓	✓	N/A	✓
Geometric Challenges (e.g., one-way roads with stop signs, complex interchanges, signalized intersections, merging traffic)	N/A	✓	✓	✓	✓	N/A	✓
Highway Capacity Issues (e.g., high traffic volumes, high truck traffic volumes)	✓	✓	✓	✓	✓	N/A	✓
Operational Issues (e.g., longer processing times, staffing shortages, time restrictions)	N/A	N/A	N/A	✓	✓	N/A	N/A

Source: Jacobs Analysis, 2025



Figure 2-4 visualizes the stop-and-go traffic conditions on the road segments serving the El Paso border crossings during the peak period (except for Marcelino Serna Bridge). This congestion on the U.S. side may be attributed to the number of lanes open at the international crossings and the associated wait times for queued vehicles. **Figure 2-4** also shows that MEX-2 and MEX-45, both major corridors to access Ciudad Juárez, experience moderate traffic speeds along longer corridor segments.

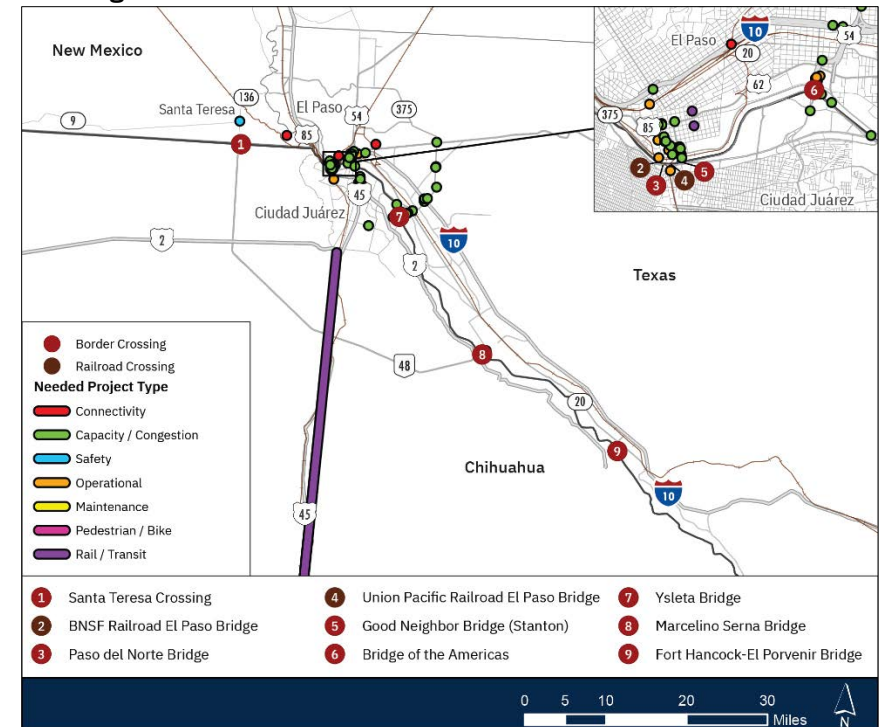
Figure 2-4: Traffic Speed on Roads Serving Santa Teresa and El Paso border crossings – Peak Traffic Conditions



Source: Jacobs Analysis, 2025

Figure 2-5 provides a visual representation of insights obtained during the stakeholder interviews and workshops. Challenges were categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bike. Specific needs and challenges pertaining to each international bridge are discussed in subsequent sections.

Figure 2-5: Stakeholder Identified Highway Connectivity Needs and Challenges in Santa Teresa and El Paso



Source: Jacobs Analysis, 2025

Additional information on the characteristics and performance indicators for each of the first and last mile connections in Santa Teresa and the El Paso area can be found in Appendix B.

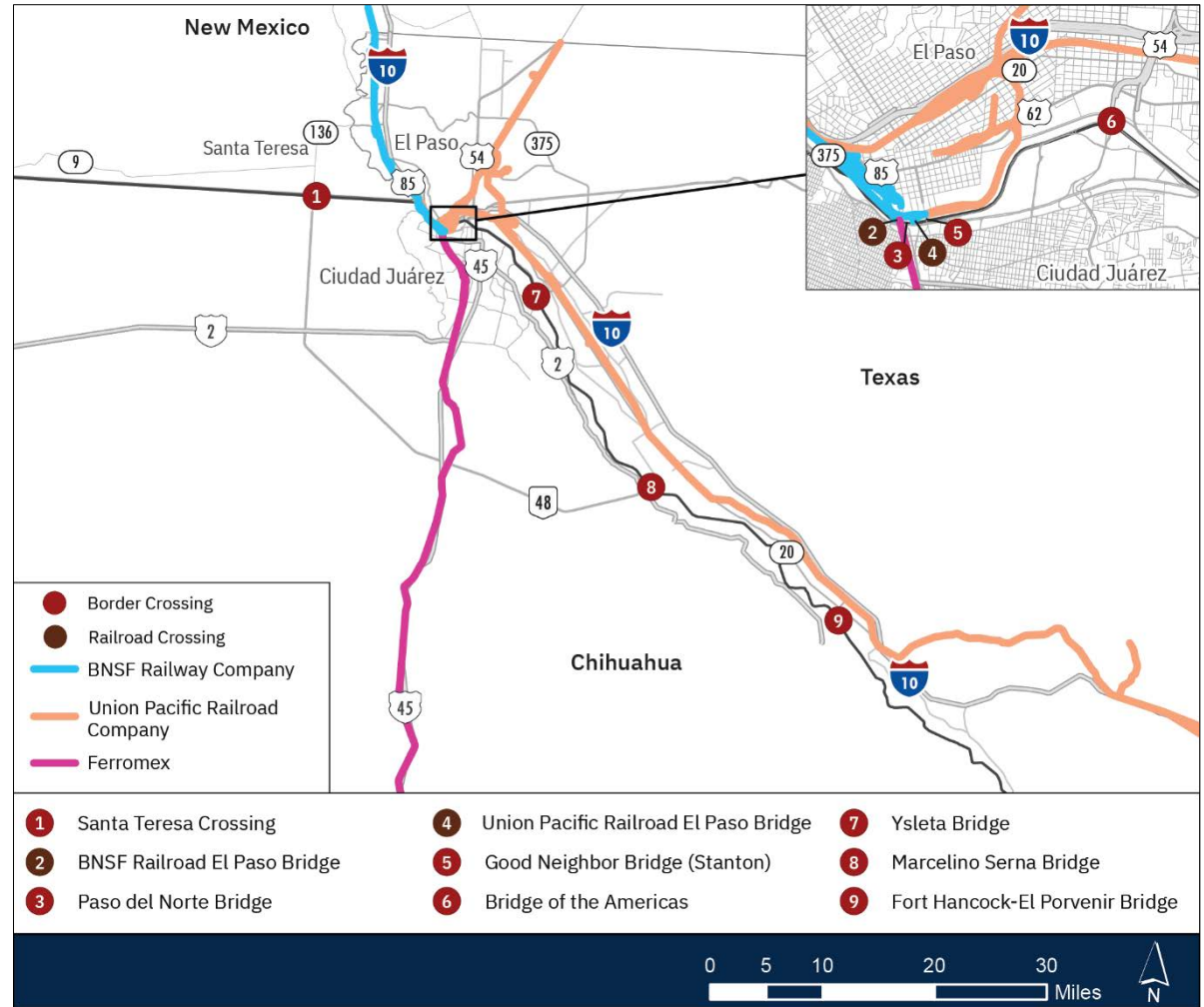


First and Last Mile Rail Connectivity in Santa Teresa and El Paso

Figure 2-6 shows the freight rail network in the El Paso border crossing area. Currently, there is no international rail bridge between New Mexico and Mexico. There are also no short lines operating in El Paso. Some rail lines are used by the military and tend to have old sidings. Warehouses line up against the railroad in the Hopkins, Stiles, and Fabens areas, but in some cases, the railroad sidings have been closed. In the industrial areas, trains only use the tracks sporadically. During the workshops, stakeholders expressed a need for a rail line from the UP railyard in New Mexico and crossing into Mexico paralleling the alignment of NM 136, MEX-2, and MEX-45D. It is believed that this rail connection could relieve congestion in El Paso.

In general, stakeholders felt that there were either no impacts or some minor traffic interferences with the rail lines (e.g. at Gateway Boulevard, Cotton Street, and the Texas Tech campus) in El Paso. But rail operation hours are limited to reduce traffic conflicts. One stakeholder mentioned potential multimodal connectivity issues because of the expansion of I-10 but did not elaborate. Additionally, stakeholders stated the need for Unified Cargo Processing (UCP) and improving efficiency since currently rail crews still need to change in the middle of the international rail bridges.

Figure 2-6: Freight Rail Network in the Santa Teresa and El Paso Border Crossings Area



Source: Jacobs Analysis, 2025



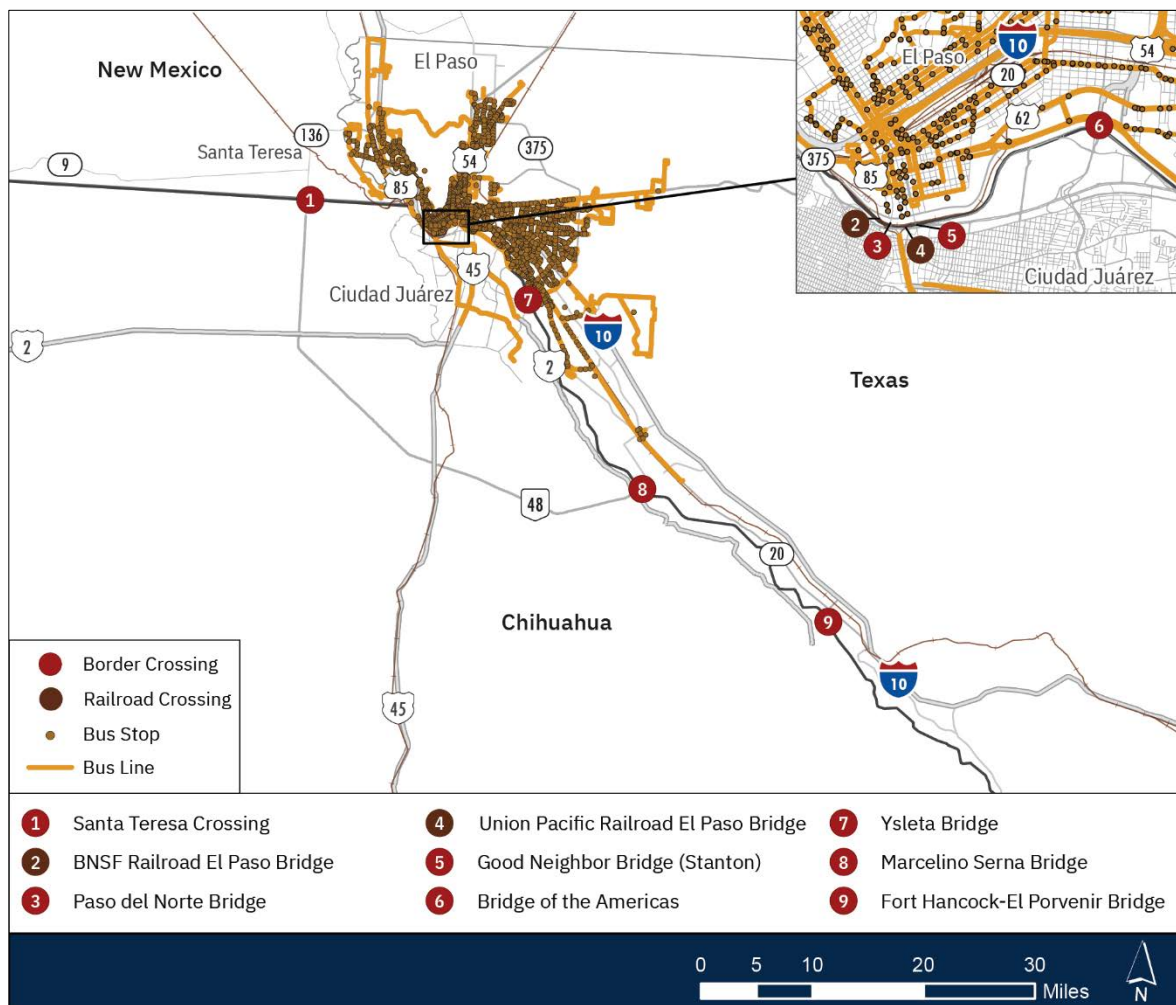
According to stakeholders, most of the rail connectivity issues in El Paso are concentrated in Ciudad Juárez on the Mexican side. The UP rail lines go through downtown Ciudad Juárez and includes 15 at-grade crossings that frequently stop traffic. Stakeholders also pointed to congestion on the single-track Ferromex rail line from the Ferromex rail yard in Ciudad Juárez to the Texas-Mexico border that connects to the BNSF and UP rail bridges. Stakeholders proposed overpasses in downtown Juárez to eliminate these at-grade crossings.

First and Last Mile Transit Connectivity in Santa Teresa and El Paso

Sun Metro and the El Paso Transportation Authority serve as the transit providers in the El Paso border crossing area. Sun Metro operates from Ysleta in the south to northwest El Paso, serving approximately 840,000 people across 250 square miles. The agency runs 161 buses, 67 paratransit vehicles, and six streetcars, though it does not provide service in the Tornillo or Porvenir areas. Meanwhile, the El Paso Transportation Authority focuses on rural communities in El Paso County.

Figure 2-7 shows the transit routes in the El Paso border crossing area.

Figure 2-7: Transit Routes in the El Paso Border Crossing Area



Source: Jacobs Analysis, 2025



Table 2-3: Santa Teresa and El Paso First and Last Mile Transit Needs and Challenges

First and Last Mile Transit Needs and Challenges	Santa Teresa Crossing	Paso del Norte Bridge	Good Neighbor Bridge (Stanton)	Bridge of the Americas	Ysleta Bridge	Marcelino Serra Bridge	Fort Hancock-El Porvenir Bridge
	1	3	5	6	7	8	9
No Scheduled Transit Service to Bridge	✓	N/A	N/A	N/A	N/A	✓	✓
Inadequate Sidewalks (e.g., not continuous sidewalks, poor condition, deteriorating)	✓	N/A	N/A	✓	✓	N/A	N/A
Inadequate Transit Access (e.g., > 30-minute walk to bus stop, pedestrians need to cross major highways)	N/A	N/A	N/A	N/A	N/A	✓	✓
Downtown Congestion Impacts Transit Terminals	N/A	✓	✓	✓	N/A	N/A	N/A

Source: Jacobs Analysis, 2025

Table 2-3 summarizes the transit connectivity needs and challenges of the international bridges identified in El Paso. The table was developed based on insights obtained during the stakeholder interviews, workshops, and the post-workshop interviews. It shows that there is currently no scheduled transit service to the Marcelino Serra Bridge and the Fort Hancock-El Porvenir Bridge. For Ciudad Juárez, a stakeholder mentioned that POVs and rapid transit buses add to congestion in the city. Specific needs and challenges pertaining to each international bridge are discussed next.

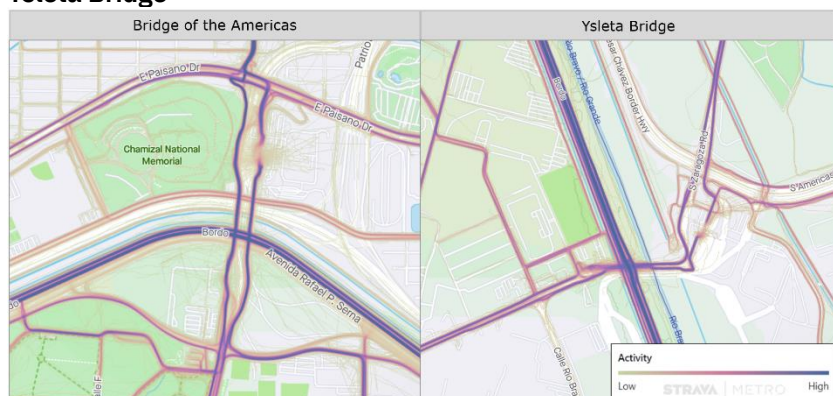
First and Last Mile Pedestrian and Bicycle Connectivity in El Paso

The viability of walking and biking across the border depends on development patterns and available infrastructure. While pedestrian and bicycle traffic are permitted at all crossings in El Paso, the absence of dedicated bike lanes presents a challenge. Additionally, pedestrians are discouraged from crossing at the Fort Hancock-El Porvenir Bridge due to safety concerns, as it is a two-lane bridge designated for POVs.



Figure 2-8 shows the routes with high bicycle activity serving the Bridge of the Americas and the Ysleta International Bridge. According to the City of El Paso⁵, northbound bicycles can cross either through the POV lanes or the pedestrian lanes. When crossing southbound, bicyclists pay the same toll as pedestrians. Additional information on challenges and needs for each crossing is provided in the section, **Santa Teresa and El Paso Border Crossing Profiles – First and Last Mile Needs and Challenges**.

Figure 2-8: Strava Bicycle Trips at the Bridge of the Americas and the Ysleta Bridge



Source: Screenshot of Strava Metro Heatmap (2024). Accessed June 27, 2024.

(metroview.strava.com)

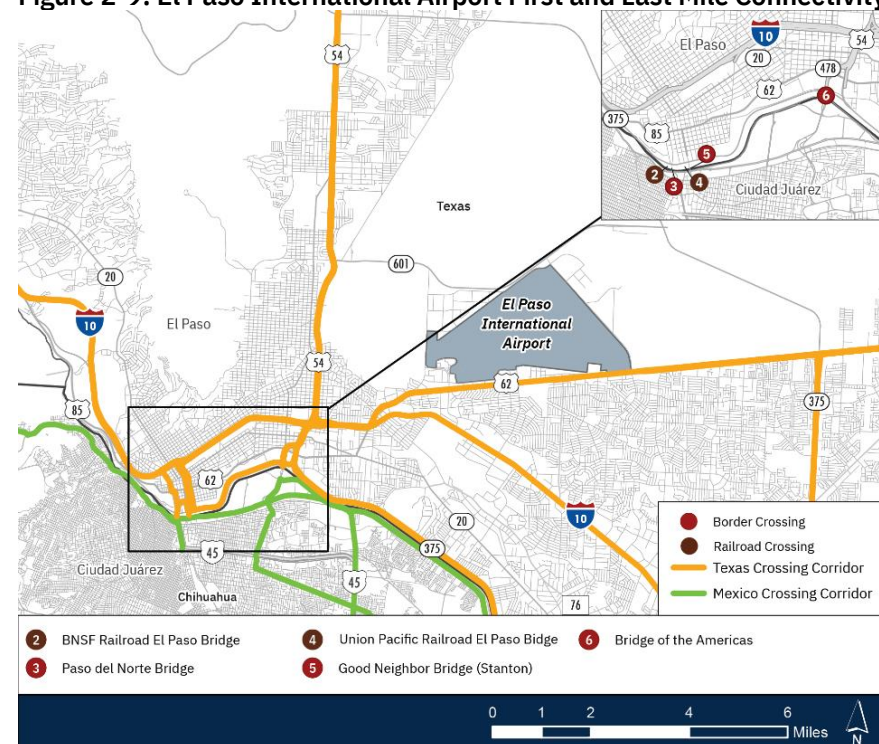
First and Last Mile Airport Connectivity in El Paso

The El Paso International Airport (ELP), the Doña Ana County International Jetport, and the Las Cruces International Airport are the three airports in the El Paso border crossing area (**Figure 2-9**). Ciudad Juárez has the Aeropuerto Internacional Abraham González. Stakeholders reported there is no direct transit services available to the airports from El Paso’s two downtown bridges (Paso del Norte and Good Neighbor [Stanton] Bridge).

⁵ City of El Paso Stakeholder Interview, January 3rd, 2024

Cross-border travelers change buses at the downtown Sun Metro transfer center to access the airport.

Figure 2-9: El Paso International Airport First and Last Mile Connectivity



Source: Jacobs Analysis, 2025



Santa Teresa and El Paso Border Crossing Profiles – First and Last Mile Needs and Challenges

Santa Teresa Crossing, New Mexico

Highway Connectivity Needs and Challenges

- » Santa Teresa is a major POV and CMV crossing – and specifically a major crossing for Oversized/Overweight (OS/OW) vehicles.
- » The crossing is experiencing significant northbound POV traffic from Mexico into New Mexico (NM), resulting in a bottleneck. NM 136 is the major connector from the crossing to I-10 and is experiencing significant POV and CMV traffic.
- » Stakeholders reported that streets in Santa Teresa get blocked by OS vehicles traveling from I-10 on the U.S. side to cross at Santa Teresa.

Rail Connectivity Needs and Challenges

- » Despite the existing UP railyard and rail lines in Santa Teresa, New Mexico, there is currently no international rail bridge between New Mexico and Mexico.
- » The Santa Teresa International Rail Study - Feasibility Corridor Study Report provided eight alternative routes for a rail line crossing the New Mexico-Mexico border at Santa Teresa. Two preferred alternatives intersect the UP Railroad north of its Santa Teresa terminal. Both alternatives are 27-29 miles long. The two alternatives were chosen to minimize rail operation constraints (seen at the El Paso crossing), limit the potential of roadway-rail grade crossing incidents, and increase regional economic development.

Transit Connectivity Needs and Challenges

- » There is currently no scheduled transit service to the Santa Teresa Crossing or along NM 136 within five miles of the bridge.
- » A new international crossing at Sunland Park has been proposed. It is expected that this new crossing will serve more passenger traffic compared to the existing commercial crossing in Santa Teresa. This new international crossing will require improved connectivity in terms of better transit options and service times between Santa Teresa and Sunland Park.
- » Stakeholders, however, remarked that the population density does not currently support transit improvements.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Residents noted poor pedestrian infrastructure and insufficient lighting for areas leading to NM 136 from the crossing.
- » Stakeholders also reported that the industrial parks, which are planned near the Santa Teresa Crossing and UP Railroad, will become large employment centers. This will require improvements in transit and pedestrian connectivity to these areas.
- » Additionally, if the new POE at Sunland Park is built, the Santa Teresa Crossing could benefit from connectivity between the two.



Paso Del Norte and Good Neighbor Bridge (Stanton), El Paso, Texas

Highway Connectivity Needs and Challenges

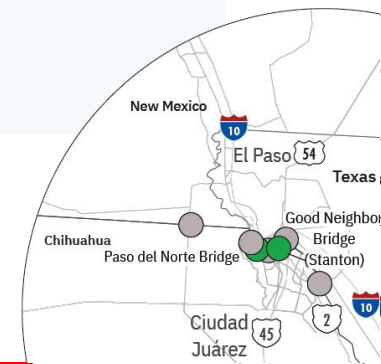
- » Congestion resulting in stop-and-go traffic was observed on the roadways serving the two downtown bridges in El Paso – Paso Del Norte and Good Neighbor (Stanton) Bridges.
- » Stakeholders commented that these congestion issues and bottlenecks in downtown El Paso emerged after the I-10 Connect Project. The bottleneck that developed when crossing the Bridge of the Americas resulted in POV drivers changing their travel patterns to avoid that bottleneck and using Good Neighbor Bridge. To avoid the I-10 bottleneck that emerged, some were also traffic diverted to US 54.
- » Downtown congestion is also exacerbated by one-way roadways with stop-controlled intersections and high levels of pedestrian activity.
- » Queuing at the POEs impacts downtown commuter traffic and causes congestion on Stanton Street and Paisano Drive. POV traffic traveling to and from the downtown bridges also utilizes SL 375.
- » Stakeholders anticipate that congestion and traffic speeds on SL 375 will worsen when the Oregon Street Exit opens.
- » Numerous crash hotspots were observed on roadways serving the two downtown El Paso bridges between 2014 and 2022.
- » Additionally, the study identified four high-injury intersections near the downtown bridges.

Transit Connectivity Needs and Challenges

- » Sun Metro's downtown transit terminals, which serve travelers crossing at the Paso del Norte and Good Neighbor (Stanton) bridges, are affected by downtown congestion, particularly on Paisano Drive.
- » The Transborde Yellow bus service provides cross-border transit at these two bridges but operates on a flexible timetable with a limited fleet.
- » Since bus passengers must disembark to clear customs, maintaining a fixed schedule is challenging.
- » Additionally, security concerns have complicated efforts to establish transit-only lanes and a streetcar service across the border.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » At these bridges, pedestrians are required to pay a small fee to walk across a partially shaded bridge.
- » In Downtown El Paso, dense blocks, no bike lanes, on-street angled parking, lots of destinations.
- » In Downtown Juárez, dense blocks, some bike lanes, on-street parking, wide sidewalks, lots of destinations.



Bridge of the Americas, El Paso, Texas

Highway Connectivity Needs and Challenges

- » Significant peak-hour congestion and stop-and-go traffic occur on the southbound approach to the Bridge of the Americas due to merging traffic from US 62 and I-10.
- » Stakeholders have observed that queuing and long wait times at this bridge create bottlenecks on I-10 and SL 375.
- » Congestion and delays are expected to worsen, as projections indicate more than three million POV crossings per year by 2050. The current infrastructure is insufficient to accommodate this growing demand.
- » An increase in inspections (recently, also for southbound trips) has caused congestion and a significant increase in wait times at the Bridge of the Americas.
- » Stakeholders noted that commercial 18-wheelers make up a significant portion of the traffic crossing at the Bridge of the Americas.
- » Stakeholders also highlighted that while the U.S. encourages Mexican companies to participate in the Free and Secure Trade (FAST) and Customs-Trade Partnership Against Terrorism (C-TPAT) programs, long wait times at border crossings diminish the benefits of these initiatives. Enhancing the efficiency of border crossings is therefore crucial to reducing bottlenecks.
- » Additionally, Montana Avenue and East Yandell Drive have been identified as high-injury segments near this bridge.

Transit Connectivity Needs and Challenges

- » Inadequate Sidewalks (e.g., not continuous sidewalks, poor condition, deteriorating)
- » Schoolchildren cross at the Bridge of the Americas to go to school in El Paso. The transit service to Bridge of the Americas is inadequate. There are only two transit stops (providing access to two bus routes) within 0.5 miles of the international bridge. Accessing both transit stops requires pedestrians to walk across and along major highways, posing safety concerns.
- » Downtown Congestion Impacts Transit Terminals.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » At the Bridge of the Americas, pedestrians are required to pay a small fee to walk across a partially shaded bridge.
- » On the Texas side of the border, pedestrian and bicycle safety is a concern due to wide highways, parking lots, and few destinations
- » On the Mexico side of the border, pedestrian and bicycle safety is a concern due to suburban office parks, big parking lots, highways with sidewalks, no bike lanes.



Ysleta Bridge, El Paso, Texas

Highway Connectivity Needs and Challenges

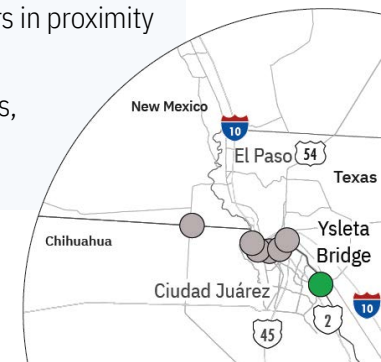
- » On the U.S. side, South Zaragoza Road has four travel lanes, while the Mexican side, Avenida Waterfill, has only one lane providing POV access to the Ysleta Bridge. Stakeholders noted that this imbalance leads to congestion at the bridge, causing northbound delays not only along Avenida Waterfill but also along SL 375, east of the international bridge.
- » Additionally, Americas Avenue, which connects the bridge to SL 375, has been identified as a high-injury segment.

Transit Connectivity Needs and Challenges

- » There is a high demand for transit services at the Ysleta Bridge, specifically for students who cross as pedestrians. However, there is currently no direct bus service to or from Ysleta Bridge.
- » Pedestrians must cross SL 375 – a high-speed facility - to access a bus stop on Route 60 to the Mission Valley transfer center. Bus service to Ysleta Bridge is challenging because buses get stuck in the POV and commercial traffic crossing at the bridge.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Pedestrian connectivity to this bridge is poor and at the bridge, pedestrians deal with unshaded sidewalks.
- » Travelers must cross a major highway (i.e., SL 375) to access the bridge, creating safety concerns.
- » Sidewalk gaps are also observed within ½-mile of the busiest bus stops.
- » Stakeholders reported that it takes pedestrians 20-25 minutes to cross northbound at the Ysleta Bridge in the off-peak period (and 60-90 minutes during the peak period).
- » It takes southbound pedestrians, on average, 10-15 minutes to cross during the peak period.
- » Other pedestrian and bicycle safety concerns on the Texas-side of the bridge include parking lots, manufacturing and logistics centers in proximity to the bridge.
- » On the Mexico side of the border, other pedestrian and bicycle safety concerns are due to suburban shopping centers, big parking lots, highways with sidewalks, no bike lanes and the proximity of manufacturing facilities.



Marcelino Serna Bridge, El Paso, Texas

Highway Connectivity Needs and Challenges

- » The Marcelino Serna Bridge has a lower number of crossings compared to the Ciudad Juárez-El Paso International Bridges.
- » The Marcelino Serna Bridge has continued to struggle to attract truck crossings since its opening in 2016.
- » It is expected that the new University of Texas at El Paso campus and industrial developments near Van Horn (i.e., Amazon Blue Origin) will result in increased crossings at the Marcelino Serna Bridge. These developments are expected to result in congestion on Fabens Road (to the west) and OT Smith Road (to the east) of the Marcelino Serna Bridge in the future.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Stakeholders reported that the Marcelino Serna Bridge is underutilized by pedestrians/bicyclists because there are fewer destinations in the vicinity of the bridge accessible by walking/biking.

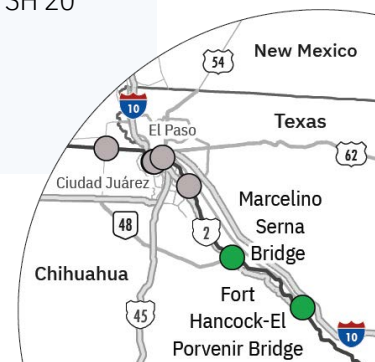
Fort Hancock – El Porvenir Bridge, El Paso, Texas

Highway Connectivity Needs and Challenges

- » I-10 and SH 20 provide access to the Fort Hancock-El Porvenir Bridge. Data indicates bottlenecks and peak-period traffic delays on the I-10 interchange ramps, primarily due to truck traffic generated by land parcels along the interstate. SH 20, which serves as a key vehicular route to the bridge, also experiences moderate to slow traffic speeds.
- » Additionally, crash hotspots have been observed at the interchange, on the ramps along Knox Avenue connecting to I-10, and on the SH 20 ramp leading to I-10.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » School children cross the Fort Hancock-El Porvenir Bridge to access schools in the U.S. There are no safe sidewalks for them to use.



First and Last Mile Connectivity Improvements in Santa Teresa and El Paso

Funded Highway Connectivity Improvements in Santa Teresa and El Paso

The study identified 72 fully funded planned improvements on the first and last highway miles that serve the El Paso border crossings. **Figure 2-10** showcases the fully funded improvements and investments that TxDOT is implementing to address the identified needs and challenges on the first and last mile corridors. These are categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bicycle improvements.

Figure 2-10: Fully Funded Planned Improvements and Investments to Address Needs and Challenges



Source: TxC. Data accurate as of November 2024

Figure 2-10 also shows that many of these planned improvements aim to address safety – TxDOT’s number one priority – by reducing accidents and improving traffic flow.

Beyond the fully funded improvements and investments from TxDOT, stakeholders noted that the New Mexico Border Authority (NMBA) has secured funding for a private vehicle parking lot, a walkway to enhance connectivity, and upgrades to the commercial parking lot at the Santa Teresa Crossing. The private vehicle parking lot and walkway projects are currently in the design phase. Additionally, there are proposed sidewalk construction projects along NM 136, Strauss Rd, and Airport Rd, as well as a planned multi-use path along McNutt Rd.

Finally, in 2022, the U.S. General Services Administration awarded \$700 million for the modernization of Bridge of the Americas. The project includes the modernization of U.S. CBP inspection facilities for pedestrians, POVs, and CMVs. Project construction is planned for October 2026 and substantial completion is expected by November 2029.

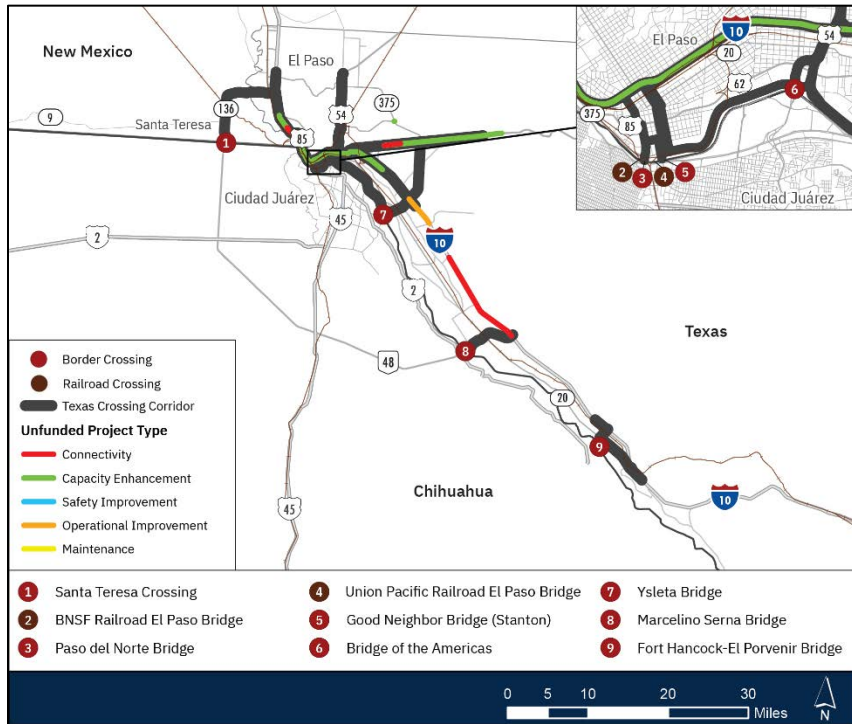
In preparation for the expected disruptions during the construction phase of this project, the El Paso MPO has started the development of its Strategic Plan for Border Crossings using their International Traffic Demand Model (iTDM). The iTDM will allow the El Paso MPO to test different scenarios and get a better understanding of the challenges and how traffic can be diverted and accommodated during the construction phase of the modernization of Bridge of the Americas.



Other Planned Highway Connectivity Improvements in Santa Teresa and El Paso

In addition to the fully funded planned investments highlighted in the previous section, TxDOT is also working on several initiatives that will alleviate needs/challenges on the first and last mile segments identified, and/or new highways that will improve connectivity to the international bridges. **Figure 2-11** shows the planned investments in the border crossing area that are currently partially funded or unfunded.

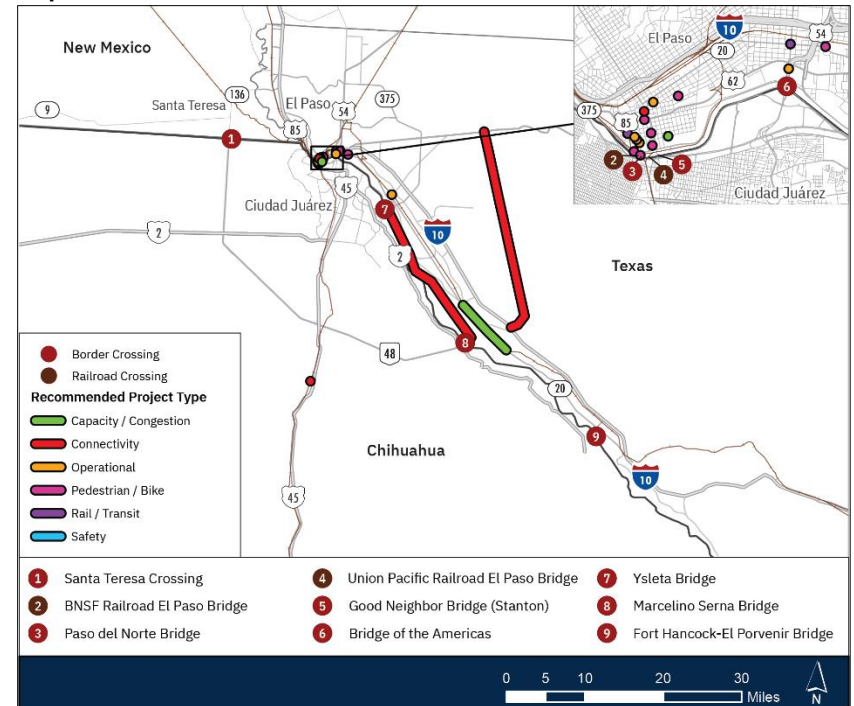
Figure 2-11: Partially Funded/Unfunded Planned Improvements/Investments to Address Needs and Challenges in Santa Teresa and El Paso



Source: Jacobs Analysis, 2025

Stakeholders recommended improvements to address highway/road connectivity needs/challenges to the El Paso border crossings. **Figure 2-12** showcases the stakeholder recommended improvements categorized as capacity/congestion, connectivity, operational, pedestrian/bike, rail/transit and safety. Participants in the October workshop highlighted the need for expanded infrastructure and additional staffing on both sides of the border to better support commercial traffic. For example, the Santa Teresa Crossing currently closes at 10:00 p.m., restricting cross-border trade and travel. Similarly, stakeholders recommended extending the hours of operation and increasing staff at the Bridge of the Americas.

Figure 2-12: Categorized Stakeholder Input Received: Recommended Improvements



Source: Jacobs Analysis, 2025



Stakeholders acknowledged that TxDOT projects on the U.S. side could help mitigate connectivity challenges but emphasized the need for corresponding investments in Mexico to fully address these issues. Chihuahua's government representatives specifically expressed concerns about delays in cross-border projects. As the only Mexican state bordering two U.S. states, maintaining efficient infrastructure is considered essential.

Appendix B and the [Connectivity WebApp](#) provides more detailed information on these fully and partially funded/unfunded planned investments that address needs and challenges in El Paso.

Planned Freight Rail Connectivity Improvements and Findings in El Paso

During interviews, stakeholders mentioned that Doña Ana County received \$31 million in funding from the Federal Railroad Administration for its Railroad Crossing Elimination Program. It was reported that Doña Ana County will use the funding to eliminate an at-grade crossing at Industrial Avenue southeast of UP's Santa Teresa railyard.

Additional proposed but unfunded operational and policy findings from Class I Railroad representatives in the El Paso border crossing area to address freight rail connectivity are included in Chapter 5 of this plan.

Planned Transit Connectivity Improvements in El Paso

Several transit improvements and initiatives are underway in El Paso. The El Paso MPO is exploring the implementation of Bus Rapid Transit (BRT) service to the international bridges to enhance headways and travel times while ensuring connectivity with the BRT systems in Ciudad Juárez. Additionally, Sun Metro is collaborating with TxDOT to expand bus stop locations in El Paso, including along SL 375, and to redesign the Paisano Drive area to relocate bus stops closer to the two downtown bridges.

The City of El Paso also received a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant to consider design improvements near the Ysleta Bridge. Finally, Sun Metro recently received funding to purchase 50 zero-emission paratransit vehicles and 25 charging stations to replace older models.

Planned Pedestrian and Bicycle Connectivity Improvements in El Paso

Several planned pedestrian and bicycle improvements to border crossings in El Paso were identified through interviews with stakeholders. These include development of pedestrian and bike trails within walking distance to crossings, installation of bike stations, intersection upgrades, among other improvements.

- » **Paso Del Norte and Good Neighbor (Stanton) Bridges:** The Paso del Norte trail is a planned 63-mile pedestrian and bike trail (i.e., from Paisano Drive to Sunland Park) within walking distance of the two downtown bridges. Plans for the Alameda Corridor and North Loop include the addition of bike lanes. Paisano Drive is planned as a multimodal corridor with bus and trolley services to Santa Fe Avenue.
- » **Downtown El Paso border crossings:** The Regional Mobility Authority (RMA) plans to install bike stations at all the downtown El Paso crossings to improve connectivity for students and pedestrians by accessing the medical facilities. The RMA also has the authority to install bike stations in Mexico.
- » **Ysleta Bridge:** The City of El Paso was the recipient of a RAISE grant of \$12 million (with a \$3 million local match) to enhance connectivity and mobility for cross-border travelers between El Paso and Ciudad Juárez crossing at the Ysleta Bridge. The planned improvements will enhance the cross-border mobility experience for pedestrians through investments in intersection upgrades, crosswalks, streetlights, and landscaping. The project also includes a dedicated drop-off and pick-



up area with shade canopies and seating areas. Construction is expected to begin in 2025.

- » **Marcelino Serna Bridge:** A planned outer loop and trail by El Paso County was the only planned pedestrian/bicycle improvement mentioned by stakeholders in the vicinity of the Marcelino Serna Bridge.

Planned Airport Connectivity Improvements in El Paso

The TxDOT El Paso District is working on several highway projects that will improve connectivity to the El Paso International Airport, including the widening of SL 375, Borderland Expressway (which will increase connectivity for the east side to the airport), and the Yarborough connector to the airport.

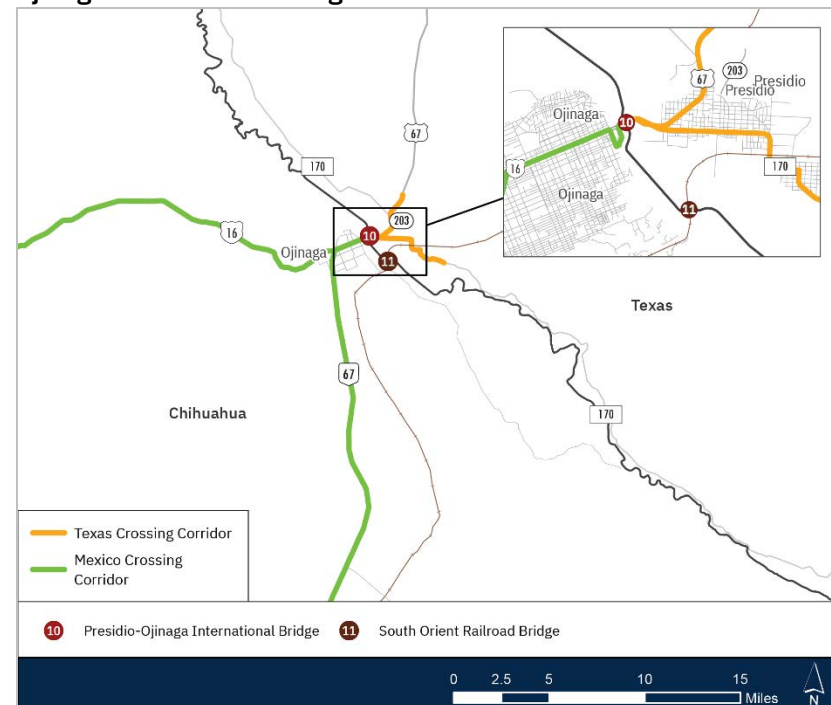
Presidio Border Crossings

Presidio has two border crossings – the Presidio-Ojinaga International Bridge which processes pedestrians, buses, POVs, and trucks, and the South Orient Railroad bridge, the only rail crossing, which was not operational as of the completion of this study (**Table 2-4**).

Highway Connectivity in Presidio - First and Last Mile

As shown in **Figure 2-13**, US 67 and FM 170 provide first and last mile connectivity to the Presidio-Ojinaga International Bridge.

Figure 2-13: US 67 and FM 170 Provide Connectivity to the Presidio-Ojinaga International Bridge



Source: Jacobs Analysis, 2025



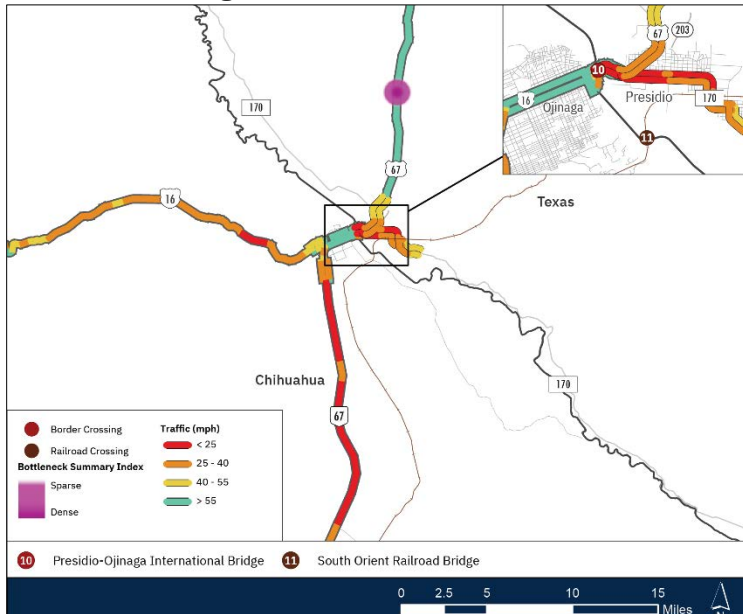
Table 2-4: Presidio Border Crossings and Modes Available

International Crossing	Modes Analyzed
10 Presidio-Ojinaga International Bridge	N/A
11 South Orient Railroad Bridge	N/A N/A N/A N/A

Source: Texas-Mexico International Border Crossings Guide 2024

Figure 2-14 visualizes the traffic speeds on the road segments serving the Presidio-Ojinaga International Bridge during the peak period. It also shows stop-and-go traffic speeds on FM 170 connecting to the Presidio-Ojinaga International Bridge, as well as slow and stop-and-go speeds on MEX-16 and MEX-67 on segments leading to Ojinaga.

Figure 2-14: Traffic Speed on Roads Serving Presidio-Ojinaga International Bridge – Peak Traffic Conditions



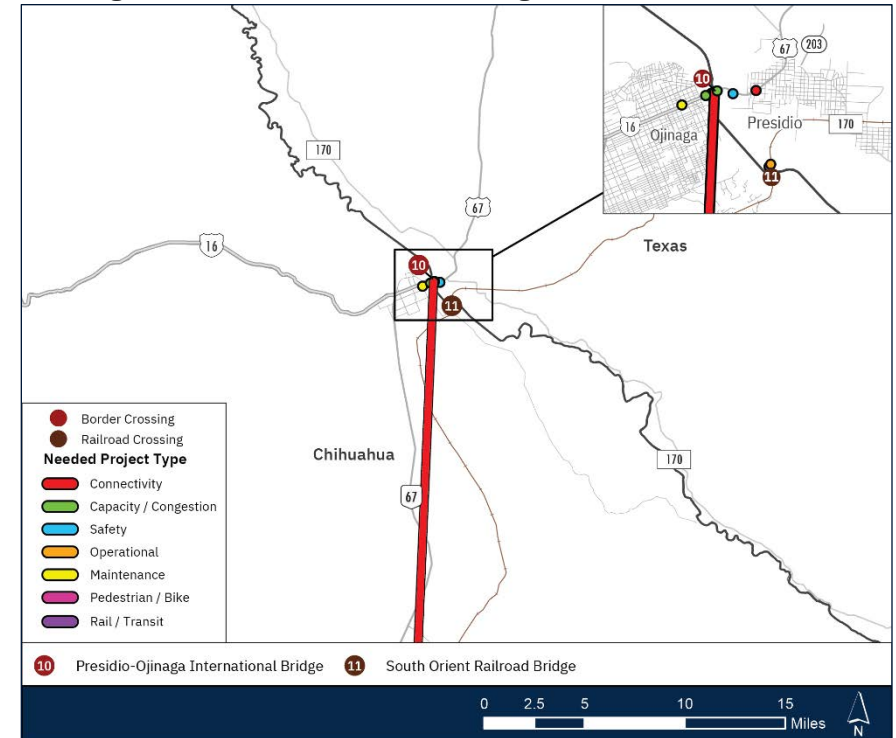
Source: Jacobs Analysis, 2025

A review of the study area did not identify any significant crash hot spots on the first and last miles connecting to the Presidio-Ojinaga International Bridge. Crash data was not readily available for Ojinaga for this study.

Highway Connectivity Needs and Challenges in Presidio

Figure 2-15 illustrates the insights obtained during the workshops and interviews with first and last mile needs and challenges categorized as connectivity, capacity/congestion, safety, operational, maintenance, and rail/transit. These needs and challenges are further discussed.

Figure 2-15: Categorized Stakeholder Input Received: Needs and Challenges at the Presidio Border Crossings



Source: Jacobs Analysis, 2025



- » Ojinaga is a growing economic hub in Mexico and stakeholders reported that improvements in cross-border mobility would positively impact trade between Mexico and Texas.
- » A significant growth in truck traffic is forecasted for this bridge (i.e., expected to double by 2045). Stakeholders shared that the current truck and car parking infrastructure is inadequate for this growth.
- » In addition, they mentioned the need for a heavy-weight corridor linking the POE to industrial parks west of US 67.
- » For inspections, stakeholders mentioned that a U.S. Department of Agriculture (USDA) facility is a priority since the current inspection facility only inspects limited products for a set number of hours a day.
- » Stakeholders also stated that oversize loads (i.e., loads higher than 14 feet or wider loads) cannot travel on US 67 because of design limitations (e.g., the roadway width is too narrow) or because of frequent stops in towns (e.g., Fort Davis). Trucking companies try to avoid roads through towns due to the risk of accidents with passenger vehicles.
- » Stakeholders advocated for investment in infrastructure to accommodate OS/OW loads as there have been incidences where trucking companies crossed heavy loads at Santa Teresa (New Mexico) instead of at Presidio.
- » Poor and insufficient road conditions in Ojinaga and Presidio have therefore led to some truck companies losing contracts.
- » Stakeholders also raised concerns about the absence of an exit booth for trucks on US 67, noting that drivers must stop on the shoulder to hand over documents to CBP, creating a safety risk.

The clearance on US 90, from where vehicles turn onto US 67 to go to the Presidio Ojinaga International Bridge, is 14 ft. The current route for OS/OW-permitted vehicles from Marfa is north on SH-17 through Fort Davis and then east/west on I-10; making the journey much longer.

- » Safety concerns were also highlighted regarding transmigrantes – businessmen who purchase used cars in the U.S. to sell in Latin America – who also stop on the shoulder to prepare their paperwork. Stakeholders emphasized the need for additional parking to accommodate transmigrantes and advocated for safety and visibility enhancements along US 67, particularly for nighttime travelers.
- » Workshop participants mentioned significant nearshoring activities in Mexico – for example in the Sonora region – with some manufacturing moving from China to Mexico. This shift in manufacturing is sparking renewed interest in crossing through Presidio.
- » Stakeholders reported that roads from Ojinaga (Mexico) to Presidio were insufficient (i.e., poor in quality and inadequate capacity) and not suitable for trucks. Stakeholders from Mexico raised concerns that MEX-16 is currently a rural Class C highway. They recommended that MEX-16 be upgraded to at least a Class B highway to accommodate truck traffic. It was reported that there was a plan to upgrade the highway, but the implementation of the plan was lagging.

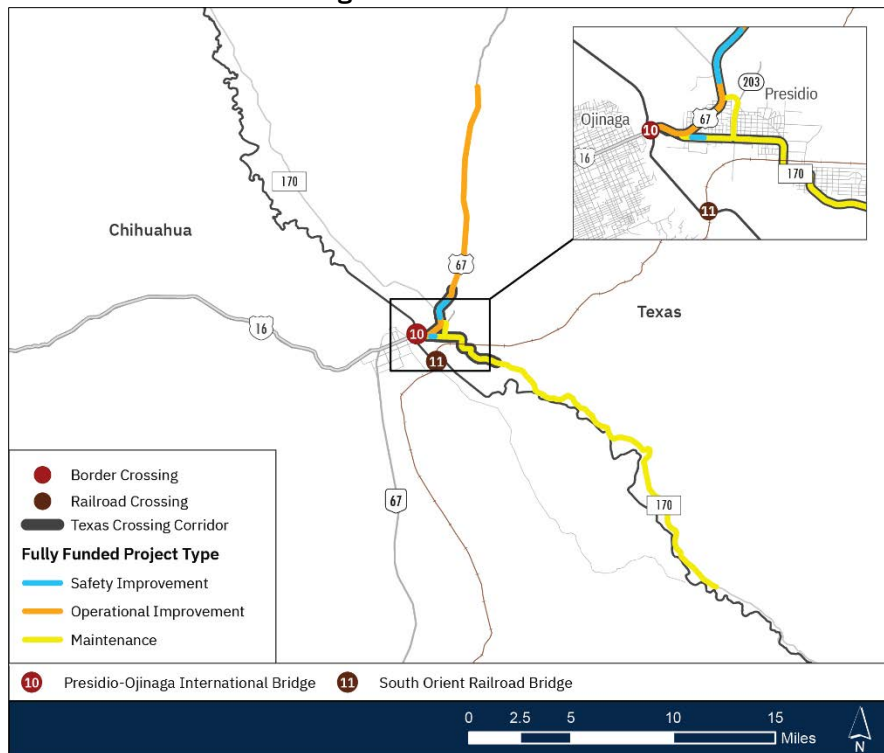


Funded Highway Improvements in Presidio

The study identified seven fully funded planned improvements on the first and last highway miles that serve the Presidio-Ojinaga International Bridge.

Figure 2-16 shows the fully funded improvements that TxDOT is implementing to address the identified needs and challenges on the first and last miles analyzed. Like the needs and challenges, the fully funded improvements are categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bicycle improvements.

Figure 2-16: Fully Funded Planned Improvements/Investments to Address Needs and Challenges in Presidio

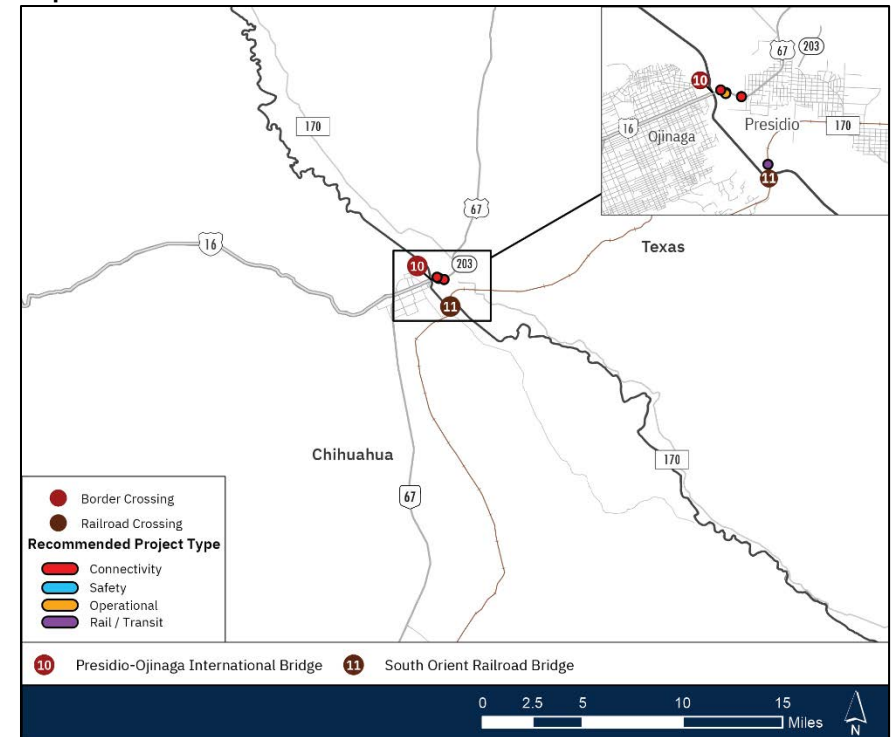


Source: TxC. Data accurate as of 18 November 2024

Planned Highway Improvements in Presidio

Stakeholders recommended several improvements to address highway/road connectivity needs/challenges to the Presidio-Ojinaga International Bridge. **Figure 2-17** showcases the proposed stakeholder improvements for the area. A stakeholder mentioned a planned highway project linking Chihuahua and Ojinaga in Mexico with Presidio. Work on this project has, however, been slow.

Figure 2-17: Categorized Stakeholder Input Received: Recommended Improvements in Presidio



Source: Jacobs Analysis, 2025



Appendix B and the [Connectivity WebApp](#) provides more detailed information on these fully and partially funded/unfunded planned investments that address needs and challenges in El Paso.

Additional POE Needs and Challenges

- » According to stakeholders, Presidio’s agricultural trade potential is limited by a lack of USDA inspectors. They mentioned that, for example, apples are grown in Cuauhtémoc for export and an estimated 8,500 farmers grow vegetables in Chihuahua that can be sold in Presidio. There is a focus towards expanding agricultural imports through Presidio, including products such as avocados and beer.
- » Other agriculture related needs expressed by stakeholders included:
 - » Despite existing infrastructure, additional staff and specialized inspectors are needed to support the processing of agricultural imports.
 - » Cold storage facilities are also needed to expedite trade, attract private investment, and address logistical needs, enabling Presidio to process more agricultural goods.
- » Workshop participants also said that the drought in Texas has led to an increase in cattle crossings through Chihuahua to Amarillo for processing. Strict inspection requirements can halt cattle crossings if issues arise, such as missing identification tags. Santa Teresa offers an alternative port for cattle crossings because it is a dry river crossing, which allows livestock to cross without water barriers. Stakeholders recommended that provisions to facilitate cattle crossing at or near Presidio be made.
- » Finally, the levee was reconstructed in Presidio following the 2008 flood, so an updated flood study is required. A workshop participant mentioned working with the International Water and Boundary

Commission (IBWC) and the Federal Emergency Management Agency (FEMA) to conduct a new flood study to update the designation of the flood zones in Presidio.

First and Last Mile Freight Rail Connectivity in Presidio

Figure 2-18 shows the freight rail network in Presidio. There have been significant investments in the rail infrastructure between Chihuahua and Alpine, including the reconstruction of the international bridge in Mexico (2018) and in Texas (2019). Additional investments were made in the rail infrastructure in 2020 and 2021 in Texas, totaling more than \$40 million between 2018 and 2021.

The South Orient Railroad bridge is scheduled to re-open in June 2025, pending the completion of a CBP facility. Ferromex will cross cars, cement, and petroleum products at the bridge once opened.

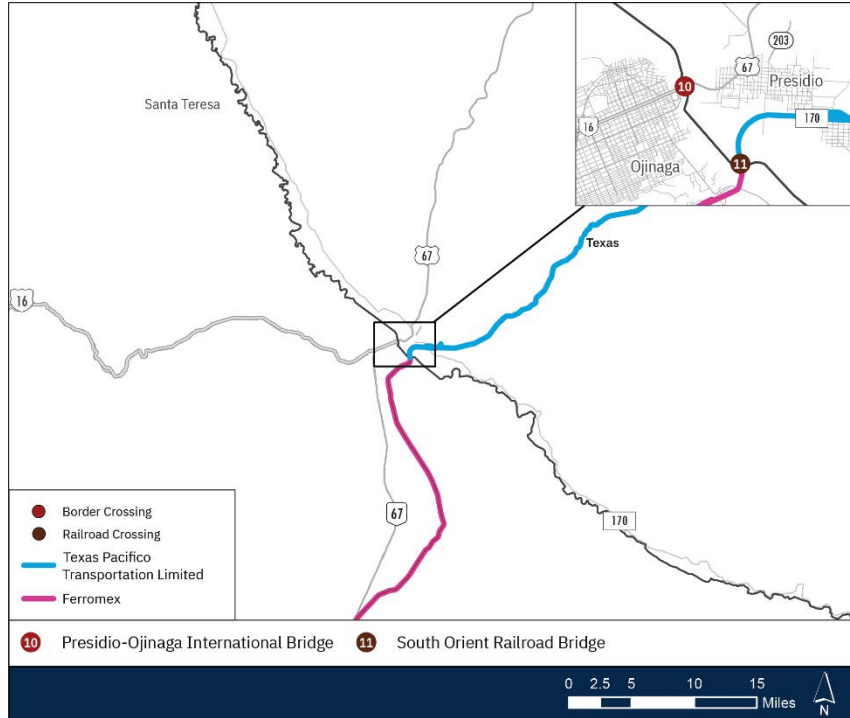
The contract for the building of the CBP facility between TxDOT and the contractor was approved in March 2024.

Freight Rail Connectivity Challenges

The South Orient Railroad bridge is currently not operational due to a fire that destroyed the wooden structure of the bridge in 2008. The South Orient Railroad Bridge is, however, expected to open in 2025 to facilitate rail traffic between Ojinaga and Dallas.



Figure 2-18: Freight Rail Network in Presidio



Source: Jacobs Analysis, 2025

Planned Freight Rail Improvements in Presidio

Although some workshop stakeholders expressed the need for expanded train weight/speed allowances (with improved infrastructure) in addition to the recent track upgrades leading to the rail bridge, the South Orient Railroad representative mentioned that the current infrastructure investment was sufficient.

Once the rail is operational and if the rail experiences capacity limitations, additional investment may be needed. Further inland in Texas, there are plans for the rehabilitation of the South Orient Railroad in Pecos and Brewster Counties to increase capacity and train safety to Fort Stockton and

improve connectivity to Alpine, which will also open the interchange with UP at Alpine.

First and Last Mile Transit Connectivity in Presidio

Presidio has no scheduled transit bus service and there are no plans for offering a fixed schedule transit service serving the Presidio-Ojinaga International Bridge. On-demand transit is available but is mostly used by the elderly and special needs users.

Two long-distance bus services with two departures and two arrivals, as well as an international bus service from Chihuahua to Dallas, and from Chihuahua to Houston, are offered. During the June stakeholder workshop, a participant mentioned that an increase in cross-border bus traffic was observed (e.g., with 10-15 buses crossing every week).

First and Last Mile Pedestrian and Bicycle Connectivity in Presidio

Pedestrian and bicycle traffic cross at the Presidio-Ojinaga International Bridge. CBP does not capture the number of international bicycle crossings at the international bridges as these may be reported as pedestrian crossings.

Pedestrian Connectivity Challenges

Stakeholders participating in the June stakeholder workshop mentioned that there was no shade for pedestrians crossing at the Presidio-Ojinaga International Bridge, which is specifically needed for school children.

Planned Improvements

A planned bicycle lane with a striped buffer on US 67 was the only planned pedestrian/bicycle improvement mentioned by stakeholders in the vicinity of the Presidio-Ojinaga International Bridge.

Central Region First and Last Mile

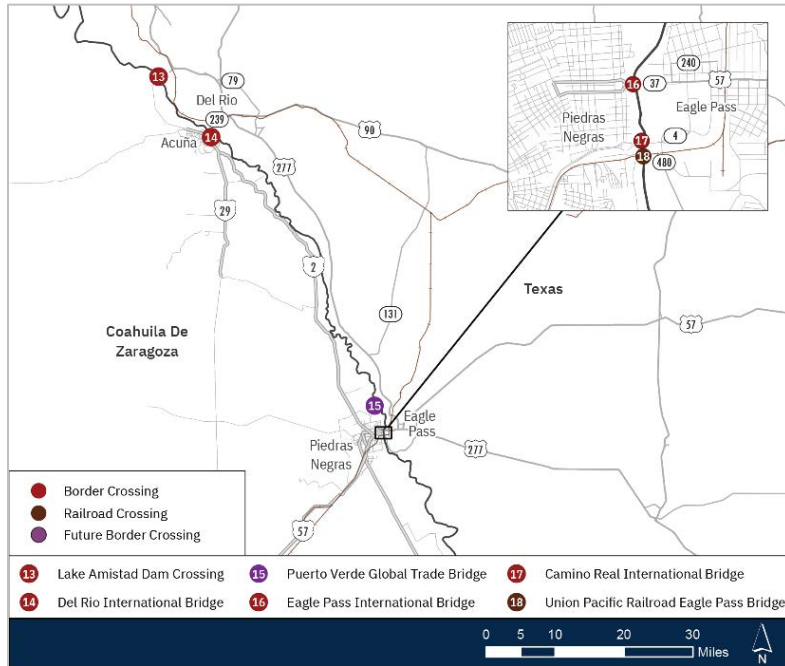
The Central Region first and last mile encompasses 10 border crossings located at Del Rio, Eagle Pass and Laredo ports of entry.



Del Rio/Eagle Pass Border Crossings

As shown in **Figure 2-19** and **Table 2-5**, there are five border crossings in Del Rio and Eagle Pass, of which one is a rail crossing. Puerto Verde – a future international rail and highway crossing – is also being developed.

Figure 2-19: Del Rio and Eagle Pass Border Crossings



Source: Jacobs Analysis, 2025

The POEs in Del Rio and Eagle Pass account for 6% of all northbound truck traffic and 36.6% of all northbound rail containers crossing from Mexico into Texas in 2024.⁶

⁶ [BTS Border Crossing/Entry Data](#)

Table 2-5: Del Rio and Eagle Pass Border Crossings and Modes Processed

International Crossing	Modes Processed
13 Lake Amistad Dam Crossing	N/A Car N/A N/A N/A
14 Del Rio International Bridge	Truck Car Walker Bus N/A
15 Puerto Verde Global Trade Bridge (future)	N/A N/A N/A N/A N/A
16 Eagle Pass International Bridge	N/A Car Walker N/A N/A
17 Camino Real International Bridge	Truck Car Walker Bus N/A
18 UP Eagle Pass Railroad Bridge	N/A N/A N/A N/A Rail

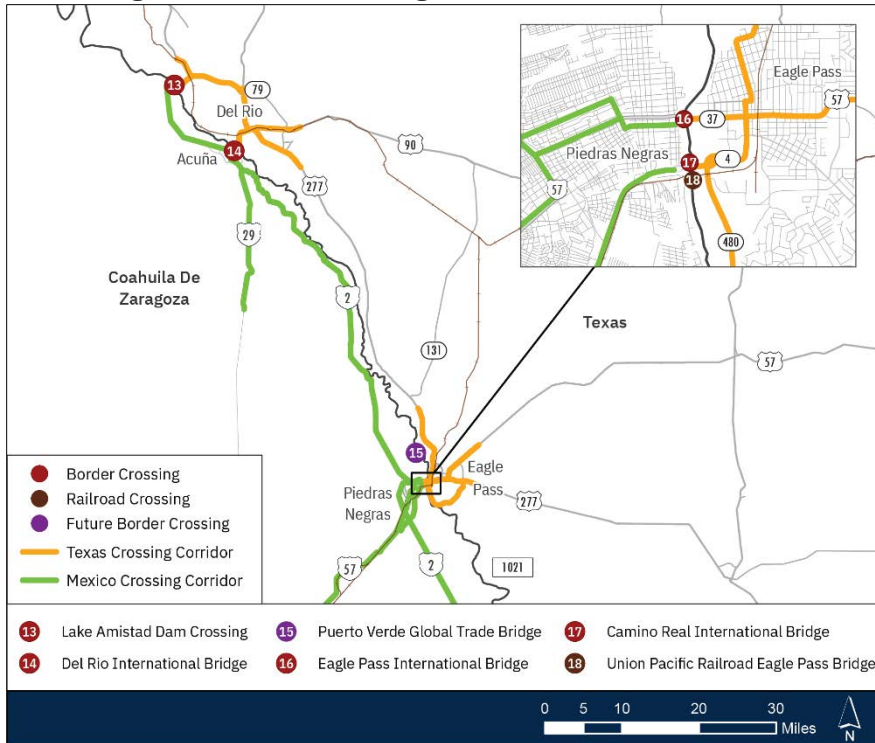
Source: Texas-Mexico International Border Crossings Guide 2024.

First and Last Mile Highway Connectivity in Del Rio and Eagle Pass Border Crossing Areas

The study identified corridors that connect the international border crossings to major industrial areas, intermodal facilities, or other major corridors in the Del Rio and Eagle Pass border crossing areas.



Figure 2-20: First and Last Mile Highway Corridors Analyzed in the Del Rio and Eagle Pass Border Crossing Areas



Source: Jacobs Analysis, 2025

Highway Connectivity Challenges in the Del Rio and Eagle Pass Border Crossing Areas

The following table summarizes the highway needs and challenges pertaining to the first and last miles serving each of the bridges in the Del Rio and Eagle Pass border crossing areas. It is notable that all bridges – including the Lake Amistad Crossing – experience stop-and-go traffic on the first and last miles to and from the bridges (i.e., both northbound and southbound).

Table 2-6: First and Last Mile Highway Needs and Challenges in the Del Rio and Eagle Pass Border Crossing Areas

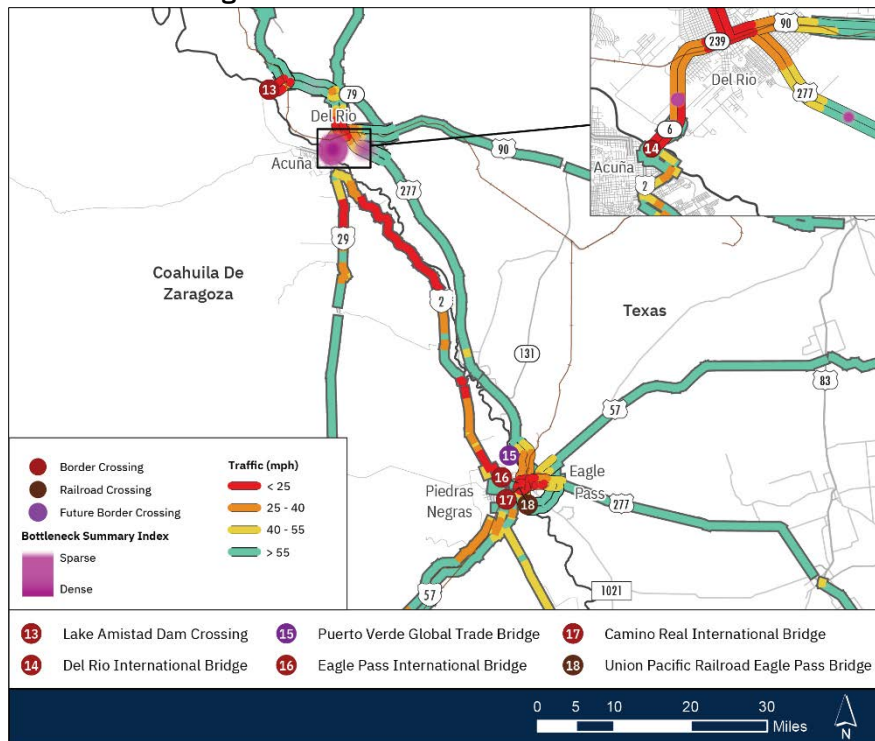
First and Last Mile Highway Needs and Challenges	Lake Amistad Crossing	Del Rio International Bridge	Eagle Pass International Bridge	Camino Real International
	13	14	16	17
Stop and Go Traffic (north/south)	✓	✓	✓	✓
Crash Hotspot on Road(s) Serving Bridge (Texas)	✓	✓	✓	✓
Crash Hotspot on Road(s) Serving Bridge (Mexico)	N/A	N/A	✓	✓
Narrow Local Roads Serving Bridge	N/A	✓	N/A	N/A
High Pedestrian Activity Near Bridge	N/A		✓	✓
Poor Pavement Condition	N/A	✓	N/A	N/A
Bottlenecks on Major Road(s) Serving Bridge	N/A	✓	N/A	N/A
Land Use Impacts (Commercial Activity)	N/A	N/A	✓	✓
Highway Capacity Issues (e.g., high traffic volumes, high truck traffic volumes)	N/A	✓	✓	✓

Source: Jacobs Analysis, 2025



Figure 2-21 shows the stop-and-go traffic speeds on the road segments serving the bridges in the Del Rio and Eagle Pass border crossing areas during the peak period. It should be noted that the stop-and-go traffic on the Texas side may be attributed to the limited number of lanes open at the international crossings and the associated wait times for vehicles – both POVs and CMVs – queuing on the first and last transportation miles to cross the international bridges. It also shows that MEX-2 and MEX-29 experience stop-and-go and slow traffic speeds along long segments of the corridors connecting to the international bridges.

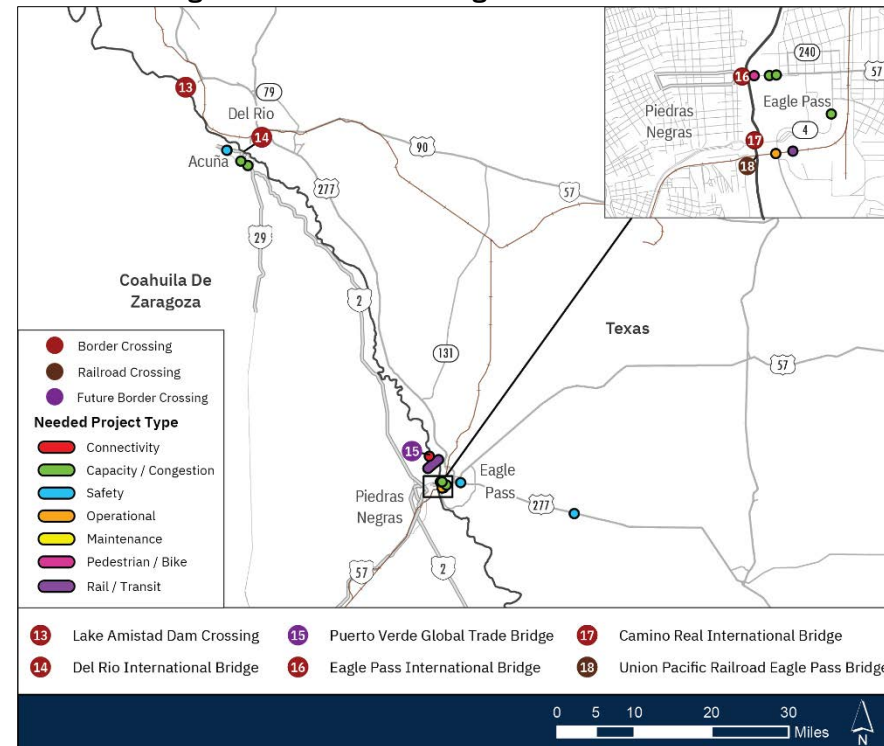
Figure 2-21: Traffic Speed on Roads Serving the Del Rio and Eagle Pass International Bridges – Peak Traffic Conditions



Source: Jacobs Analysis, 2025

Figure 2-22 shows insights obtained during the stakeholder interviews, workshops, and the post workshop interviews. Needs and challenges were categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bicycles.

Figure 2-22: Stakeholder Input Received: Needs and Challenges in the Del Rio and Eagle Pass Border Crossing Areas



Source: Jacobs Analysis, 2025

Specific needs and challenges pertaining to each international bridge are discussed in subsequent sections.

- » **Lake Amistad Dam Crossing:** SH 349 that connects the Lake Amistad Dam Crossing to US 90 experiences stop-and-go traffic in both directions (i.e., northbound and southbound). Stakeholders also



reported that limestone sinkholes have damaged the dam on the Mexican side. The U.S. Army Corps of Engineers has therefore declared the dam as potentially unsafe.

- » **Del Rio International Bridge:** Stakeholders stated that Del Rio is geographically better situated to connect the interior of Mexico to Canada and that it takes a shorter time for trucks to cross at Del Rio compared to Laredo. A lack of infrastructure, however, results in logistics companies preferring Laredo. In addition, State Spur (SS) 239 and US 377 cannot compete with IH-35 due to existing conditions. SS 239 is a narrow single-lane road in each direction with poor pavement condition. Stop-and-go traffic is experienced, resulting in a bottleneck at the Del Rio International Bridge. Stakeholders also mentioned that an increase in commercial traffic between Eagle Pass and Del Rio is making US 277 unsafe. The Del Rio International Bridge narrows to two lanes, which results in traffic backing up in both Del Rio and Ciudad Acuña. Delays of an hour or two can occur. In Mexico, the town of Zaragoza lacks infrastructure and has become a bottleneck to traffic flow. MEX-29 traverses through Zaragoza and connects to Ciudad Acuña. There are no alternative routes to MEX-29 connecting to Ciudad Acuña.
- » **Eagle Pass International Bridge/ Camino Real International Bridge:** The Eagle Pass International Bridge is anticipated to be at 218% capacity by 2050. The Camino Real International Bridge is expected to be at 132% capacity by 2050. The capacity of these two bridges is expected to be insufficient to meet demand in the next 10 to 29 years even with the opening of the new Puerto Verde Trade Bridge. Even now, stop-and-go traffic is experienced on the connectors to the bridges because of high commercial activity, signalized intersections, and high pedestrian activity. Crash hotspots have been observed on US 57 segments leading to the two downtown Eagle Pass bridges.

Between 2017 and 2022, eight crashes on US 57 involved a pedestrian or bicyclist. Stakeholders expressed concern about the traffic on US 57 from Eagle Pass to San Antonio.

Funded Highway Improvements in the Del Rio and Eagle Pass Border Crossing Areas

The study identified 28 fully funded planned improvements to enhance connectivity on the first and last highway miles that serve the international bridges in the Del Rio and Eagle Pass border crossing areas as shown in **Figure 2-23**. Like needs and challenges, the fully funded improvements and investments are categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bicycle improvements.

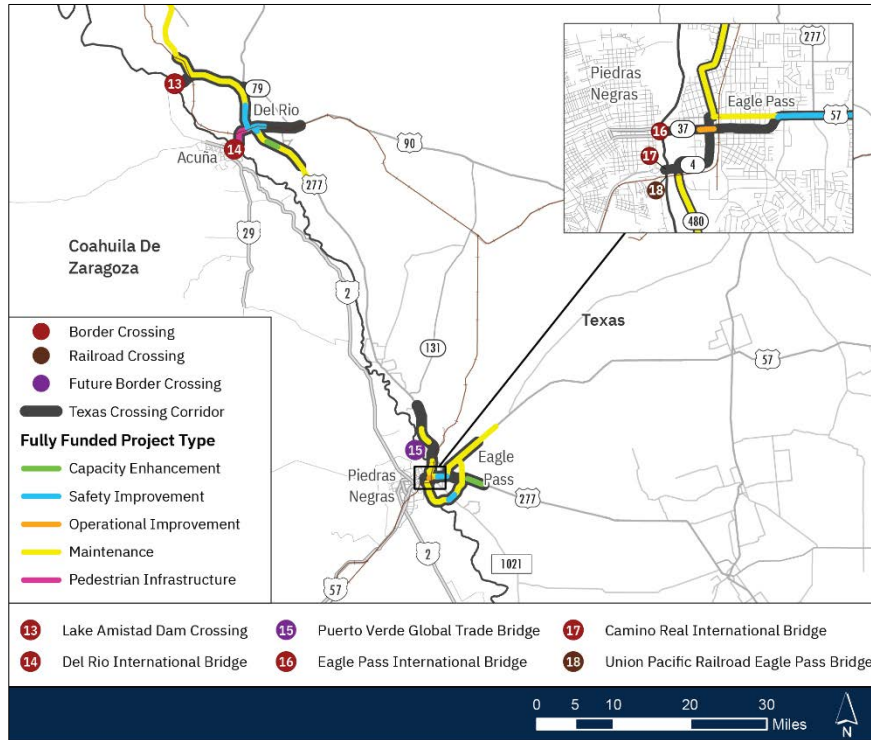
Planned Highway Improvements in the Del Rio and Eagle Pass Border Crossing Areas

In addition to the planned fully funded investments, TxDOT is also working on several initiatives that will alleviate connectivity challenges on the first and last mile segments identified (**Figure 2-24**). New highways that will improve connectivity to the international bridges are also being considered.

Appendix B and the [Connectivity WebApp](#) provides more detailed information on these fully and partially funded/unfunded planned investments that address needs and challenges in El Paso.

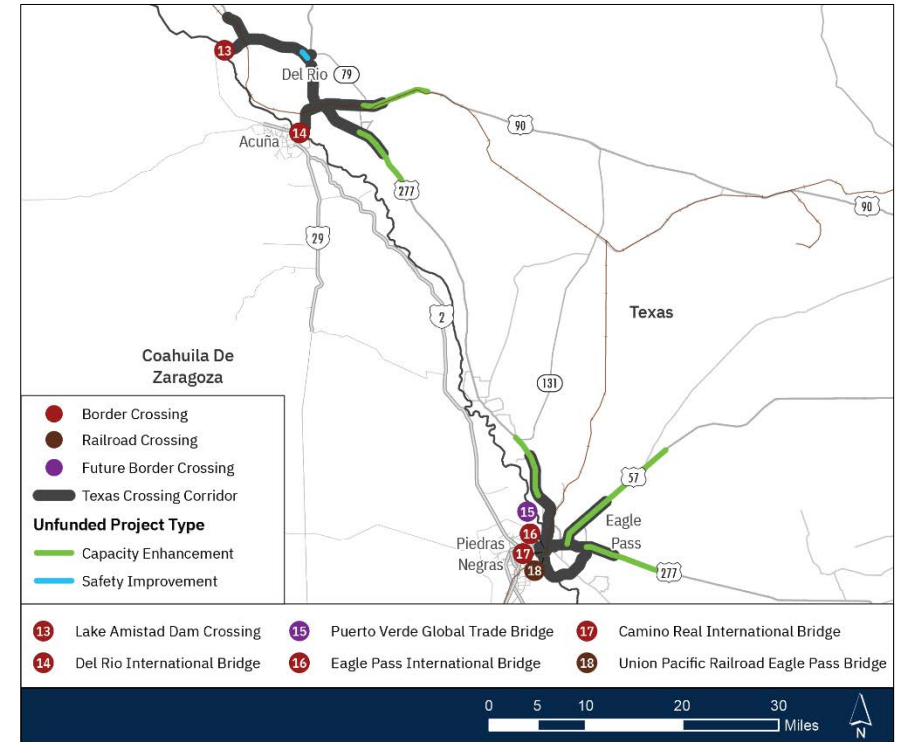


Figure 2-23: Fully Funded Planned Improvements/Investments to Address Needs and Challenges in Del Rio and Eagle Pass



Source: TxC. Data accurate as of 18 November 2024

Figure 2-24: Partially Funded/Unfunded Planned Improvements/Investments to Address Needs and Challenges in Del Rio and Eagle Pass



Source: Jacobs Analysis, 2025

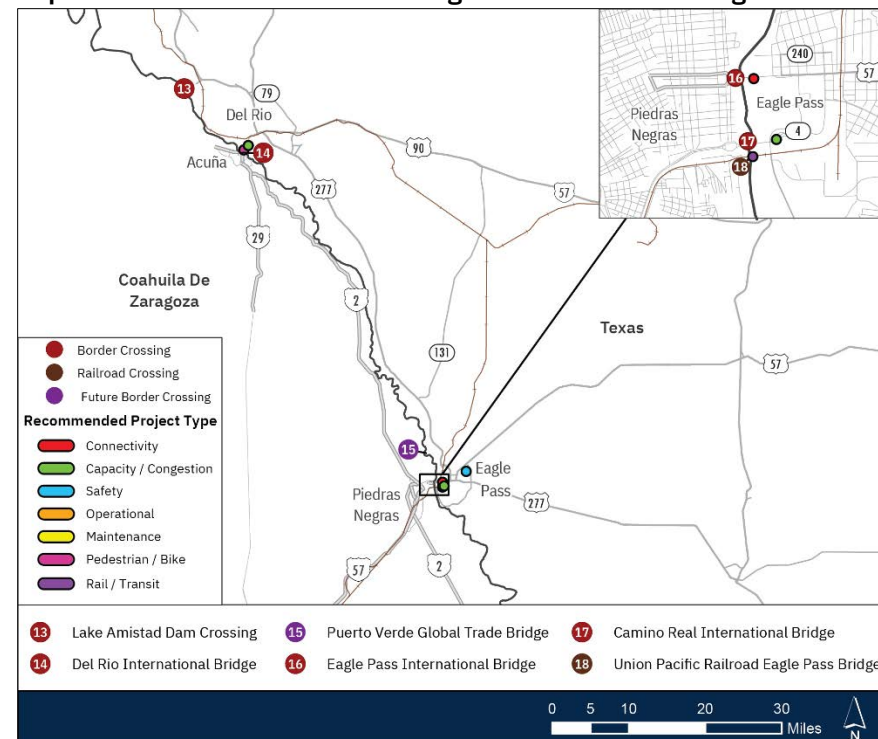


Additional Stakeholder Findings for the Del Rio and Eagle Pass Border Crossing Areas

In addition to the planned highway improvements, stakeholders recommended improvements to address identified highway/road connectivity needs and challenges in the Del Rio and Eagle Pass border crossing areas (**Figure 2-25**), including:

- » The complete reconstruction of the Lake Amistad Dam.
- » A new international bridge (Acuña II International Bridge).
- » The six-lane expansion of the Camino Real International Bridge (i.e., two CMV lanes and four POV lanes).
- » The implementation of the Paisano Program to allow 24-hour operations at the Eagle Pass POEs.
- » A potential industrial zone between US 90 and US 277 (by Gibbs St.) in the vicinity of the proposed location for the second international bridge in Del Rio.
- » A proposed industrial Park at SH 480 and FM 1021 in Eagle Pass.
- » An industrial park with 50,000 employees in Ciudad Acuña (Mexico) and investment to create additional connections to Del Rio.
- » Improvements to US 57 were a high priority where stakeholders expressed particular concern about the lack of a median on US 57 when traffic travels at 80 mph. Stakeholders also mentioned an ongoing study for a connection from Eagle Pass to I-35 via US 57.
- » Widening of US 90 connecting Del Rio to San Antonio; specifically, the segment from Del Rio to Uvalde. Stakeholders mentioned the need for infrastructure investments to increase connectivity for manufacturers.

Figure 2-25: Categorized Stakeholder Input Received: Recommended Improvements in the Del Rio and Eagle Pass Border Crossing Areas



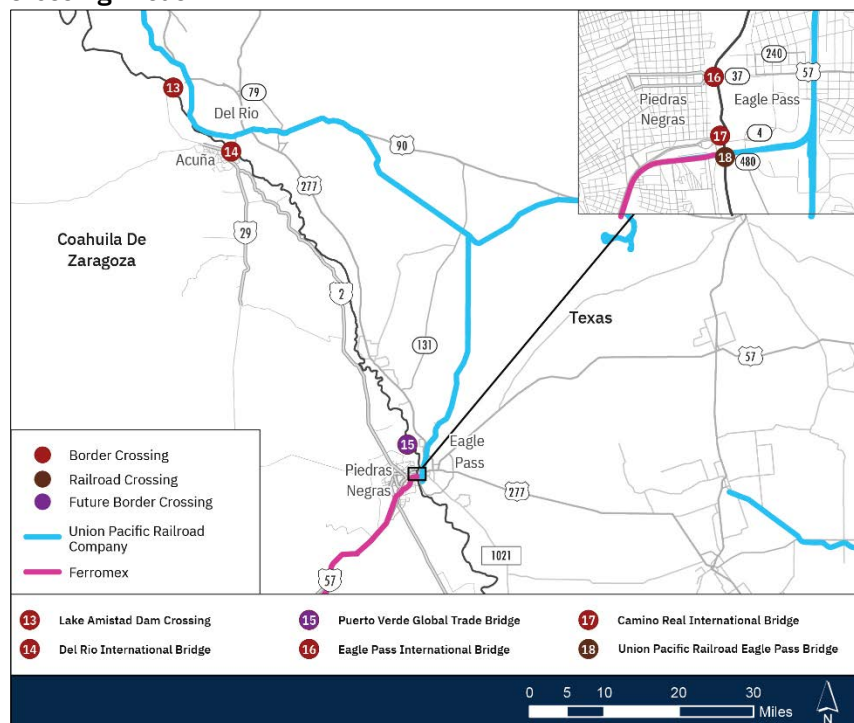
Source: Jacobs Analysis, 2025



First and Last Mile Freight Rail Connectivity in the Del Rio and Eagle Pass Border Crossing Areas

Figure 2-26 shows the freight rail network in the Del Rio and Eagle Pass border crossing areas. There are no rail spurs in Eagle Pass and no short line railroads operate in Eagle Pass.

Figure 2-26: Freight Rail Network in the Del Rio and Eagle Pass Border Crossing Areas



Source: Jacobs Analysis, 2025

Freight Rail Connectivity Challenges and Proposed Improvements in the Del Rio and Eagle Pass Border Crossing Areas

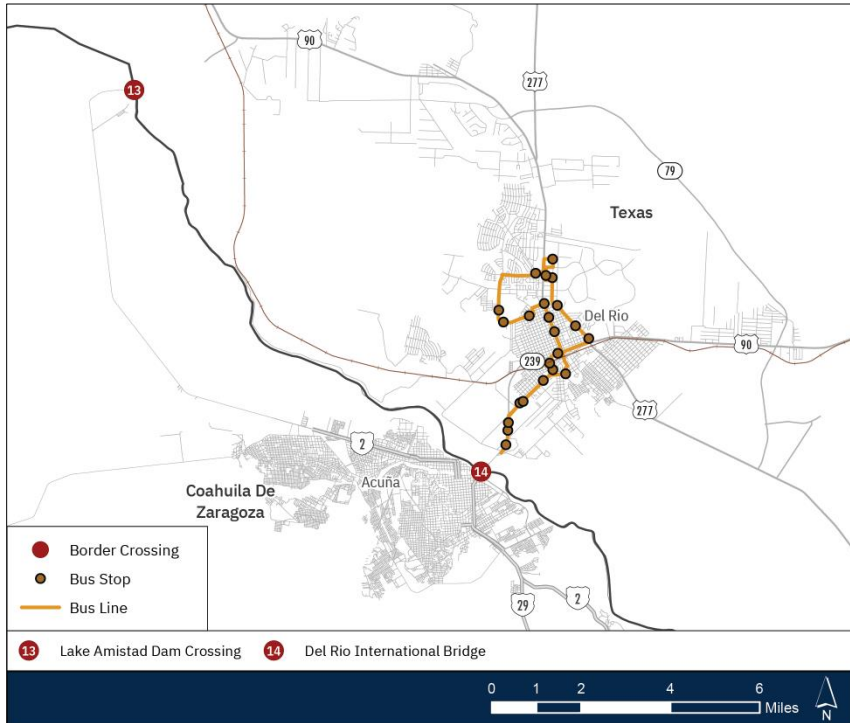
- » Stakeholders mentioned congestion between the BNSF and UP sidings at Eagle Pass and a need for CBP border security staffing at Eagle Pass.
- » Stakeholders also stated the need for investments in the rail track given slow train speeds and limited capacity due to a lack of infrastructure. However, in a meeting with UP, the Class I railroad, made it clear that there are no rail infrastructure capacity issues on the Texas-Mexico border and that the Class I railroads are committed to addressing any capacity issues as they arise.
- » Stakeholders mentioned that trains create bottlenecks at at-grade crossings a few times per day in Eagle Pass. This was specifically raised as a concern at night because of the high volumes of traffic and high speeds. Similarly, crew changes required for northbound trains from Mexico block the at-grade rail crossings in Piedras Negras.
- » Finally, stakeholders expressed concern about potential congestion due to an increase in at-grade crossings that will result from the second rail bridge being developed as part of the Puerto Verde Global Trade Bridge project. FM 1589, providing connectivity to Puerto Verde, was also not designed for truck traffic. The presidential permit for Puerto Verde focuses initially on a rail bridge, but a commercial truck bridge is planned. Puerto Verde representatives emphasized the importance of SL 480 for connecting to US 57 and US 277, and for avoiding urban areas. The expansion of US 57 to a four-lane divided highway and the upgrade of US 277 to an interstate highway (as part of the future I-27 commercial corridor) was regarded as important to accommodate increasing cross-border traffic.



First and Last Mile Transit Connectivity in the Del Rio and Eagle Pass Border Crossing Areas

Only one fixed bus route is available within the Del Rio city limit (Figure 2-27). In addition, the city provides curb-to-curb on-demand transportation services in Val Verde County.

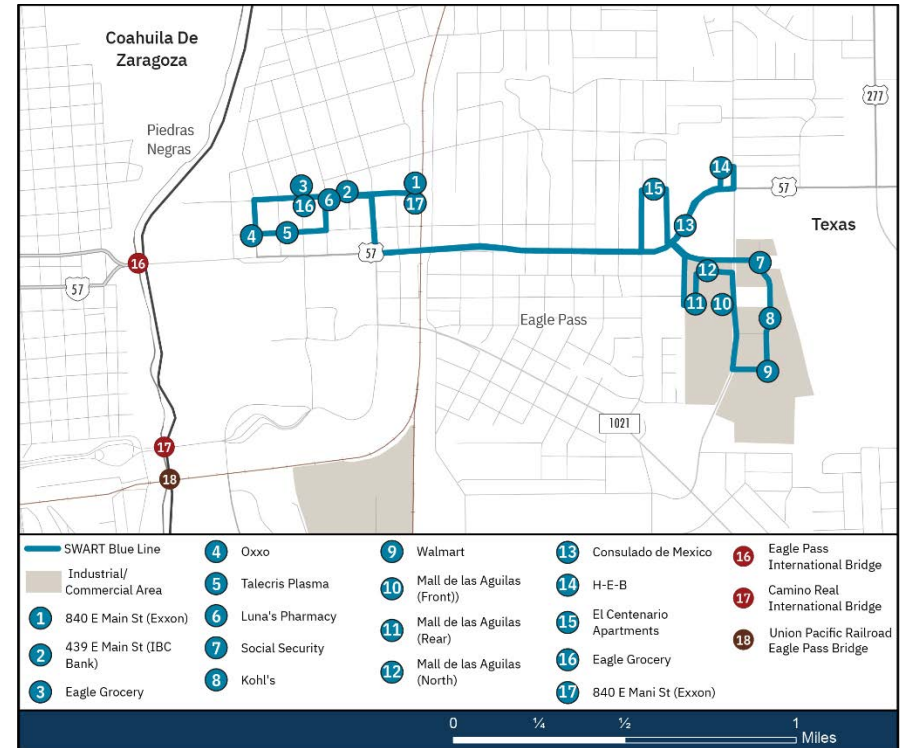
Figure 2-27: Transit Route in Del Rio



Source: Jacobs Analysis, 2025

In Eagle Pass, transit service is provided by Southwest Area Regional Transit District (SWART). SWART operates two fixed routes in Eagle Pass, implemented in 2021 (Figure 2-28 and Figure 2-29).

Figure 2-28: Transit Route in Eagle Pass (Blue Line)

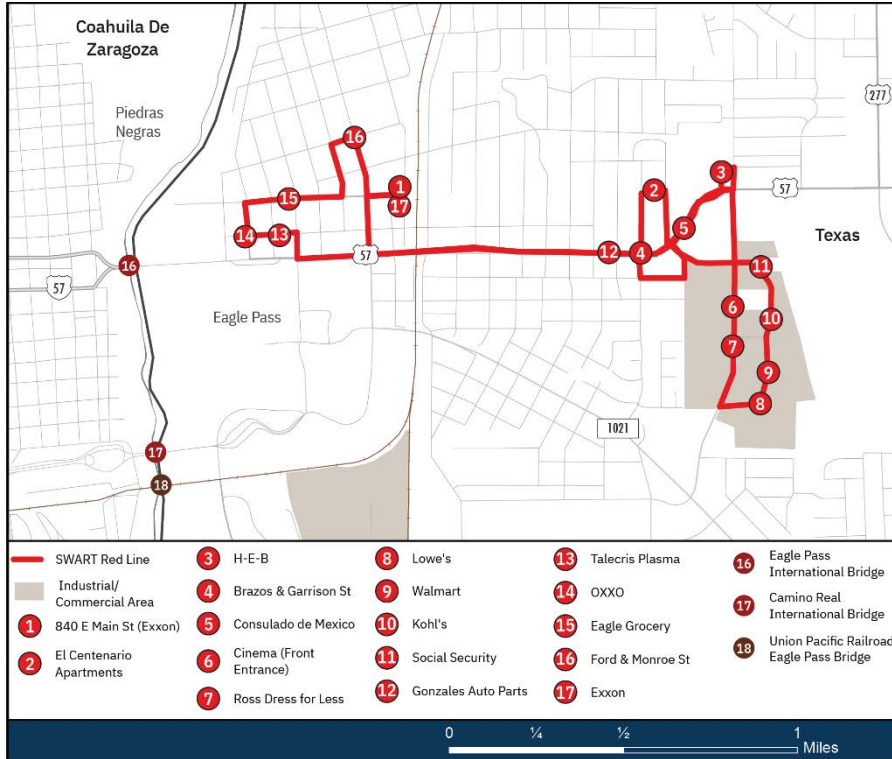


Source: Southwest Area Regional Transit District (SWART) route, <https://paseoswart.org>

Approximately 75 to 80% of the fixed-route service users in Eagle Pass are cross-border travelers that use the bus to access the blood bank, Walmart, H-E-B, and medical facilities. The border closure during the pandemic reduced SWART daily ridership from 85% to about 50%. Ridership on the fixed routes increased significantly since the border opened in late 2022 – specifically during the holiday season.



Figure 2-29: Transit Route in Eagle Pass (Red Line)



Source: Southwest Area Regional Transit District (SWART) route, <https://paseoswart.org>

Transit Connectivity Challenges

Table 2-7 summarizes the transit connectivity needs and challenges to the international bridges identified in the Del Rio and Eagle Pass border crossing areas. There is currently no scheduled transit service to the Lake Amistad Crossing. Specific transit needs and challenges pertaining to the international bridges are provided in the rest of this section. The insights were obtained during the stakeholder interviews, workshops, and the post-workshop interviews.

Table 2-7: Transit Needs and Challenge in the Del Rio and Eagle Pass Border Crossing Areas

	Lake Amistad Crossing	Del Rio International Bridge	Eagle Pass International Bridge	Camino Real International
First and Last Mile Highway Needs and Challenges	13	14	16	17
No Scheduled Transit Service to Bridge	✓	N/A	N/A	N/A
Inadequate Sidewalks (e.g., not continuous sidewalks, poor condition, deteriorating, narrow 4 feet wide sidewalks)	✓	N/A	✓	✓
At-grade Rail Crossings Impacting Transit Services	N/A	N/A	✓	✓

Source: Jacobs Analysis, 2025

Public transit service in Eagle Pass is challenged by the need for better infrastructure, additional funding, additional support services, technology improvements, and expertise to support public transportation. Despite recent investments, the demand for transit exceeds the available resources.

The Eagle Pass MPO came about in 2024 when the urban area's population exceeded 50,000 people. The Eagle Pass MPO is the 24th MPO in Texas and will – in collaboration with TxDOT – seek federal funding for transportation projects in the MPO region.

SWART highlighted the challenges in securing property for a multimodal facility to accommodate various transportation services (e.g., Greyhound buses, taxis, Mexican buses, Transportation Network Companies (TNCs), such as Uber or Lyft, and non-emergency medical transportation) in Eagle Pass. These range from delays due to soil contamination at the initial proposed site, to conforming with new federal urbanized funding after identifying a new site. SWART highlighted that Eagle Pass's growth has also resulted in accessibility issues, with inadequate sidewalks and no shelters or benches at bus stops in downtown Eagle Pass. SWART's request for federal funding to address the inadequate sidewalks has been repeatedly denied.

SWART also explained the funding challenges, particularly the lack of local match funding, with minimal contributions from some of the counties. The funding challenge is aggravated by the fact that it is not only residents who use transit but also a significant number of cross-border travelers. The current funding structure does not account for Mexican residents' use of the transit services, even though cross-border travelers comprise most of the ridership.

SWART also raised the issue of trains impacting and causing significant traffic delays in downtown Eagle Pass that also impact public transit services. Trains stop downtown every day and during the holiday periods, traffic gets back up beyond downtown. Buses often need to be re-routed because of the trains, which are more costly in terms of fuel and time.

Finally, SWART also discussed the challenges associated with a lack of internet infrastructure in the area. This causes delays in communication with the drivers and dispatchers, but also affects the security systems on the buses, fare and payment systems, and drivers' tablets. SWART highlighted the difficulty of offering virtual or digital payment options in converting pesos for cross-border travelers (e.g., the mobile apps for scheduling rides or refilling passes do not accommodate pesos or allow SWART to draw down funds in cross-border travelers' accounts daily).

Planned Transit Improvements

SWART is transitioning the demand response transit system for students from Mexico attending schools in Eagle Pass into a fixed route system to streamline operations (i.e., reduce dispatchers' workload) and offer morning and afternoon services.

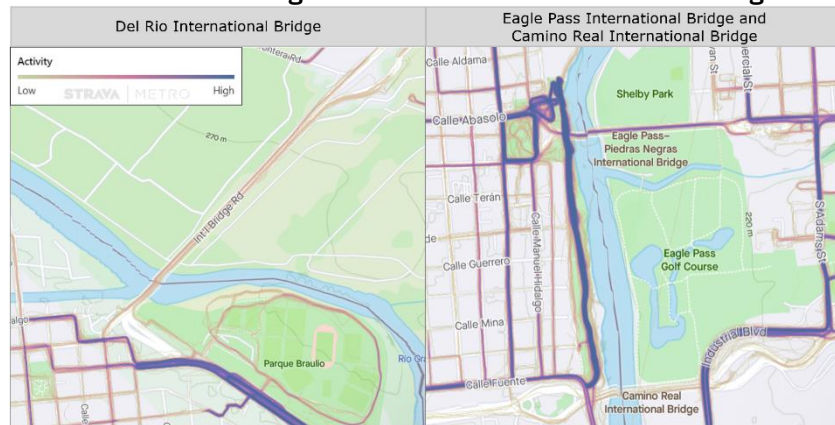
SWART recommended better coordination between different state agencies and local communities, such as Health and Human Services, TxDOT, Veterans Affairs, and education-related agencies. These agencies often operate in fragmented ways, and adhere to different regulations, some of which are federal. This lack of coordination hinders the ability to implement seamless public transit services that could benefit from shared resources like joint insurance, fuel contracts, and compatible scheduling software. It was recommended that this coordination be driven at the state level, potentially through legislative action, to ensure that agencies can work together more effectively; ultimately benefiting the communities they serve.



First and Last Mile Pedestrian and Bicycle Connectivity in the Del Rio and Eagle Pass Border Crossing Areas

Pedestrian and bicycle traffic is allowed to cross at all the border crossings in the Del Rio and Eagle Pass border crossing areas except for the Lake Amistad Dam Crossing. Neither pedestrians nor bicyclists are allowed to cross Lake Amistad Dam Crossing. CBP does not capture the number of bicycle crossings across the international bridges. **Figure 2-30** shows the routes with high bicycle activity in the vicinity of the Del Rio International Bridge, the Eagle Pass International Bridge, and the Camino Real International Bridge.

Figure 2-30: Strava Bicycle Trips at Del Rio International Bridge, Eagle Pass International Bridge and Camino Real International Bridge



Source: Screenshot of Strava Metro Heatmap (2024). Accessed June 27, 2024 (metrovew.strava.com)

Pedestrian Connectivity Challenges in the Del Rio and Eagle Pass Border Crossing Areas

The viability of walking and bicycling as a cross-border travel mode is a function of development patterns and available infrastructure once the border is crossed. **Table 2-8** summarizes pedestrian and bicycle conditions at the international bridges in the Del Rio and Eagle Pass border crossing

areas, respectively, as well as the destinations in terms of land use and amenities on the Texas and Mexico side.

Table 2-8: Pedestrian and Bicycle Infrastructure Conditions at Del Rio/Eagle Pass International Bridges

Lake Amistad Dam Crossing

- » Pedestrian and bike crossings are not allowed.
- » No existing infrastructure to support pedestrian and bicycle movement to and from the border crossing in Texas and Mexico.
- » Very rural area and roadways do not have sidewalks

Del Rio International Bridge

- » Small fee to walk or bike across bridge on sidewalk.
- » Limited infrastructure to accommodate walking on the Texas-side. No space for bicycles or scooters, and that is greatly needed. There is a sidewalk on SS 239 from the overpass to the Del Rio International Bridge, but there is no sidewalk after the overpass.
- » On the Mexico-side, Ciudad Acuña's Zona Centro, is very urban with narrow streets and no bike lanes.

Eagle Pass International Bridge

- » Pedestrians can walk and bicyclists can cross on shaded sidewalks.
- » Small fee to walk or bike across bridge on sidewalk

Camino Real International Bridge

- » Sidewalk on bridge for pedestrians and cyclists to walk.

Source: Jacobs Analysis, 2025

Stakeholders also mentioned that the Eagle Pass International Bridge and the Camino Real International Bridge are becoming popular for pedestrians, and cross-border travelers using E-scooters, but that the four-foot sidewalk is inadequate to accommodate the mix of pedestrians, bicyclists, and E-scooters. Finally, SWART mentioned that all the fixed-route buses serving Maverick County are equipped with bike racks, but most people walk. Eagle Pass, in general, lacks bicycle infrastructure.

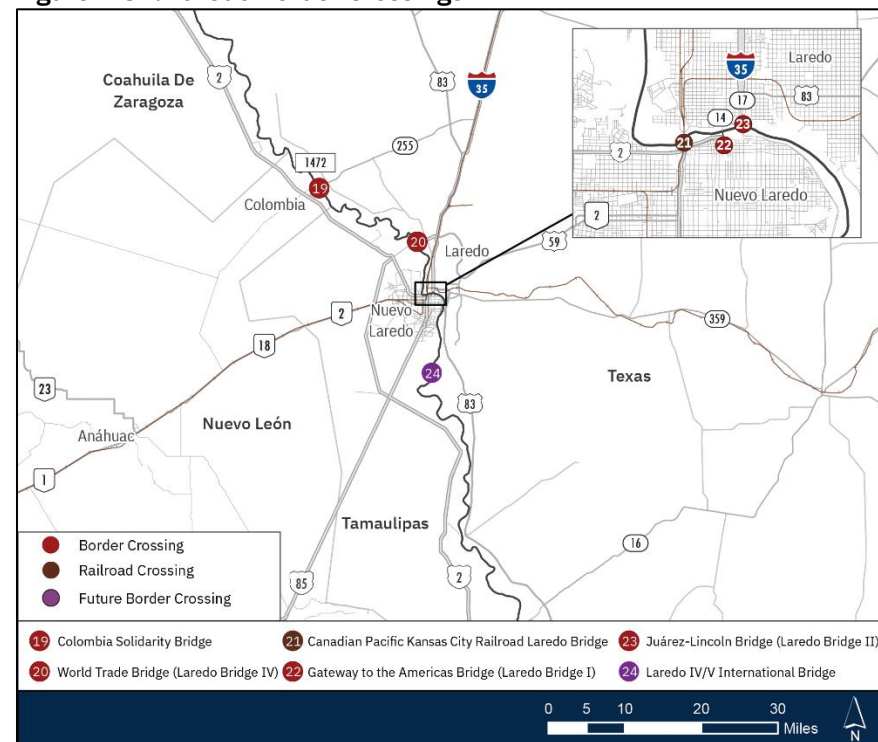
Planned Pedestrian and Bicycle Improvements at the Del Rio/Eagle Pass International Bridges

Stakeholders did not identify any additional planned improvements to accommodate pedestrians and cyclists on the corridors serving the international bridges in Del Rio and Eagle Pass.

Laredo Border Crossings

As shown in **Figure 2-31** Laredo has five border crossings, of which one is a rail crossing. In addition, a presidential permit was approved in 2024 for the construction of the future Laredo 4/5 International Bridge. In 2024, Port Laredo was the busiest port in the U.S., processing more than \$331.2 billion in trade.⁷

Figure 2-31: Laredo Border Crossings



Source: Jacobs Analysis, 2025

The World Trade Bridge (Laredo Bridge IV) in Laredo exclusively processes CMVs and is the largest border crossing (in terms of the value of U.S.,

⁷ Bureau of Transportation Statistics (BTS) TransBorder Freight program



Mexico, and Canada trade processed) in North America. The POEs in Laredo account for 54.7% of all northbound truck traffic and 42.2% of all northbound rail containers crossing from Mexico into Texas in 2024.⁸ **Table 2-9** summarizes the crossings and the modes they process.

Table 2-9: Laredo Border Crossings and Modes Processed

International Crossing		Modes Processed				
19	Colombia Solidarity Bridge					N/A
20	World Trade Bridge (Laredo Bridge IV)		N/A	N/A	N/A	N/A
21	Canadian Pacific Kansas City Limited Railway Laredo Railroad Bridge	N/A	N/A	N/A	N/A	
22	Gateway to the Americas Bridge (Laredo Bridge I)	N/A			N/A	N/A
23	Juárez-Lincoln Bridge (Laredo Bridge II)	N/A		N/A		N/A
24	Laredo IV/V International Bridge (future)	N/A	N/A	N/A	N/A	N/A

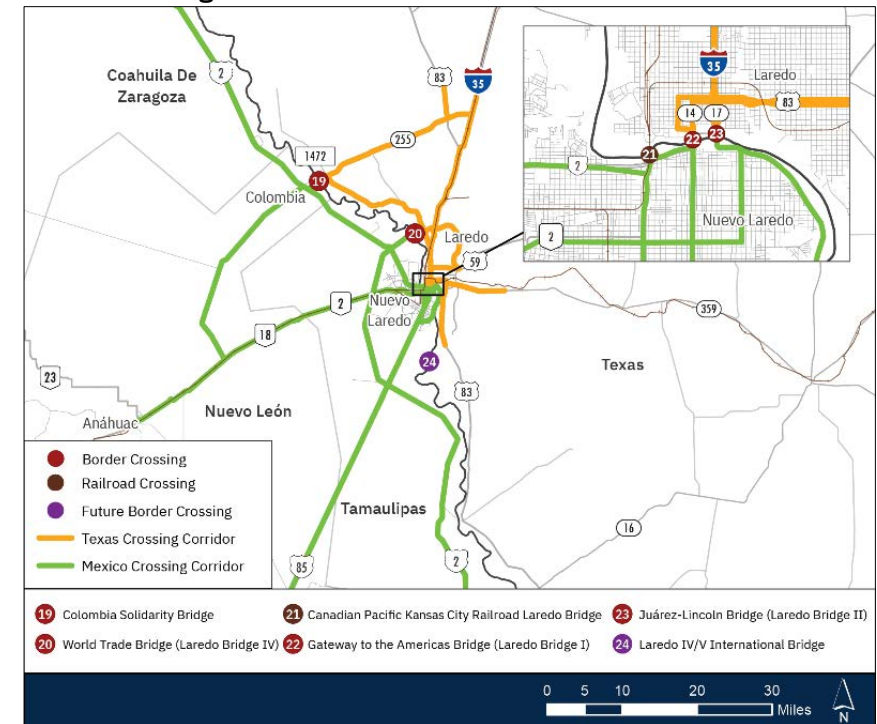
Source: Texas-Mexico International Border Crossings Guide 2024

First and Last Mile Highway Connectivity in the Laredo Border Crossings Area

The study identified the key corridors that connect the international border crossing to major industrial areas, intermodal facilities, or other major corridors that provide region-to-region connectivity. In some cases, there were only two corridors (e.g., Mines Road and SH 255 that link the Colombia

Solidarity Bridge to the major industrial areas in Laredo and I-35), but in other instances, several key corridors provide connectivity between the border crossings and industrial, intermodal facilities, and other major corridors. These corridors tend to be in the higher functional classification groups (e.g., interstates and U.S. highways) and are intuitively strategic links or connections. **Figure 2-32** shows the first and last mile highway corridors analyzed in the Laredo Border Crossing Area.

Figure 2-32: First and Last Mile Highway Corridors Analyzed the Laredo Border Crossings Area



Source: Jacobs Analysis, 2025

⁸ [BTS Border Crossing/Entry Data](#)



Table 2-10 summarizes the highway needs and challenges pertaining to the first and last highway miles serving each of the international bridges in the Laredo border crossings area. All the international bridges experience highway capacity issues and stop and go traffic on the first and last miles to the international bridge. Additional information for each bridge is provided in the section, **Laredo Border Crossings Profiles – First and Last Mile Needs and Challenges**.

Figure 2-33 shows the stop-and-go traffic speeds on the road segments serving the bridges in the Laredo border crossings area during the peak period. All the bridges in the Laredo border crossings area experience stop-and-go traffic speeds during the peak period. It should be noted that the stop-and-go traffic on the Texas side may be attributable to the number of lanes open at the international crossings and the associated wait times for vehicles – both POVs and CMVs – queuing on the first and last highway/road miles to cross the international bridges. Stakeholders recommended that augmenting POE staffing will prevent POE bottlenecks and traffic queuing on roads providing access to the international bridges.

Figure 2-33 also shows that MEX-2 and MEX-85 experience moderate to slow traffic speeds in the vicinity of the international bridges. Stop-and-go traffic is experienced on MEX-1 during the peak period in Nuevo León where the corridor splits to serve the Colombia Solidarity Bridge. Stakeholders also mentioned that at the Gateway to the Americas Bridge (Laredo Bridge I), there are four lanes on the Texas side, but only two lanes on the Mexican side. This leads to bottlenecks.

An analysis of crash hot spots on the road segments serving the international crossings in the Laredo border crossings area found a high density of crash hot spots evident on Mines Road, I-35 and US 59/SL 20, US 359, and US 83. Crash data was not available for Nuevo León.

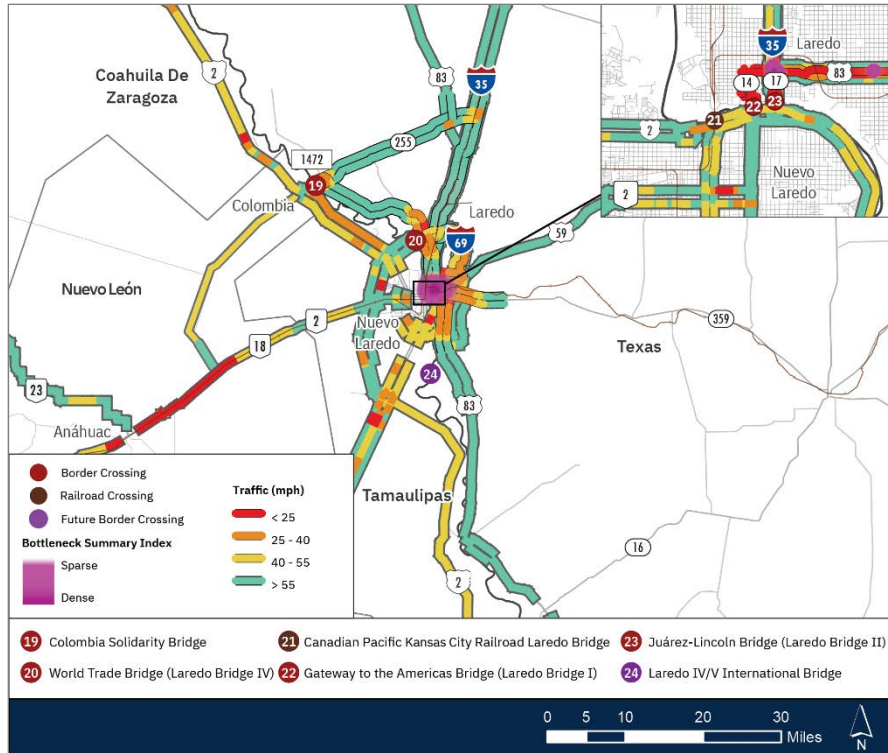
Table 2-10: First and Last Mile Highway Needs and Challenges in the Laredo Border Crossings Area

First and Last Mile Highway Needs and Challenges	Colombia Solidarity Bridge	World Trade Bridge (Laredo Bridge IV)	Gateway to the Americas Bridge (Laredo Bridge I)	Juárez-Lincoln Bridge (Laredo Bridge II)
	19	20	22	23
Stop and Go Traffic (North/South)	✓	✓	✓	✓
Crash Hotspot on Road(s) Serving Bridge (Texas)	✓	✓	✓	✓
Crash Hotspot on Road(s) Serving Bridge (Mexico)	N/A	N/A	✓	✓
High Pedestrian Activity Near Bridge	N/A	N/A	✓	✓
Bottlenecks on Major Road(s) Serving Bridge	N/A	✓	N/A	✓
Land Use Impacts (Commercial Activity, Historic Downtown, Residential Neighborhoods)	N/A	✓	✓	✓
Highway Capacity Issues (e.g., high traffic volumes, high truck traffic volumes)	✓	✓	✓	✓

Source: Jacobs Analysis, 2025



Figure 2-33: Traffic Speed on Roads Serving Laredo Border Crossings – Peak Traffic Conditions

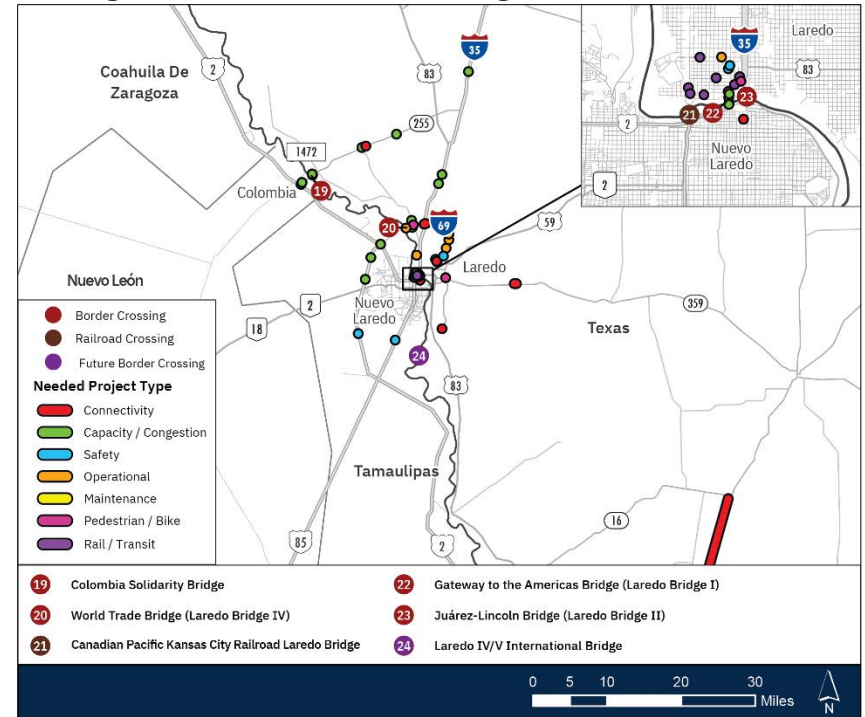


Source: Jacobs Analysis, 2025

Pedestrian and bicycle traffic are allowed to cross at the Colombia Solidarity Bridge and Gateway to the Americas in the Laredo border crossings area. Additional information regarding pedestrian and bicycle crossing challenges and needs for these bridges is provided in the section, **Laredo Border Crossings Profiles – First and Last Mile Needs and Challenges**.

Figure 2-34 shows insights obtained during the stakeholder interviews, workshops, and the post workshop interviews. The needs/challenges were categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bicycles. Specific needs and challenges pertaining to each international bridge are discussed next.

Figure 2-34: Stakeholder Identified Highway Connectivity Needs and Challenges in the Laredo Border Crossings Area



Source: Jacobs Analysis, 2025

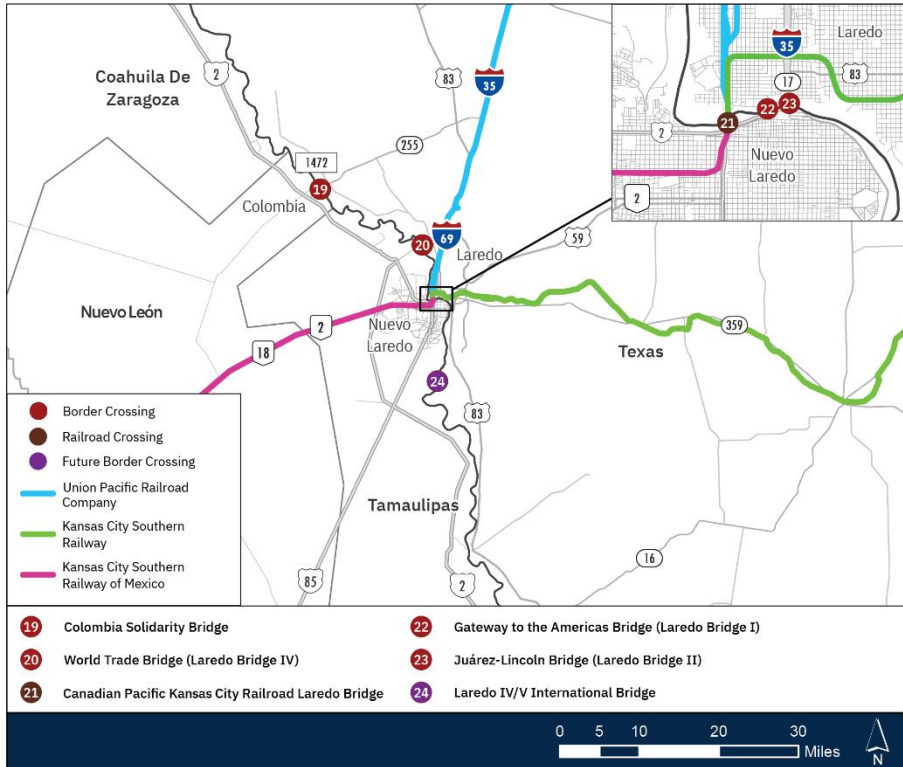
Additional information on the characteristics and performance indicators for each of the first and last mile connections in Laredo and Nuevo Laredo can be found in Appendix B.



First and Last Mile Rail Connectivity in the Laredo Border Crossings Area

Figure shows the freight rail network in the Laredo border crossings area. The CPKC Laredo Railroad Bridge is owned by CPKC but is being used by both CPKC and UP.

Figure 2-35: Freight Rail Connectivity Needs and Challenges in Laredo



Source: Jacobs Analysis, 2025

Northbound rail container crossings at Laredo increased by 62.3% between 2010 and 2023.

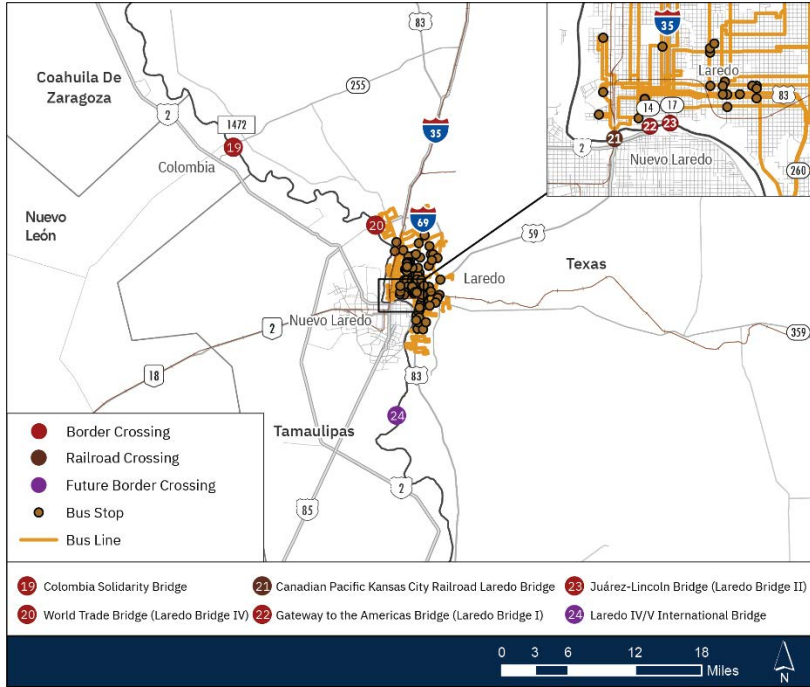
- » Stakeholders mentioned the negative impacts of the 14 at-grade crossings in downtown Laredo on mobility and safety.
- » Concerns included the impediments imposed by the at-grade crossings to access the Gateway to the Americas Bridge (Laredo Bridge I) and the Juárez-Lincoln Bridge (Laredo Bridge II). Specifically, trains block the city streets thereby preventing traffic from crossing the rail track.
- » Additionally, due to the requirement of trains needing to sound their horns at every intersection, there is a severe noise issue. Stakeholders were concerned that the new CPKC rail bridge – a \$100 million investment in a second main track within the existing right-of-way of the Laredo rail bridge - will increase the number of train crossings at Laredo and make the current issues worse.
- » One stakeholder also mentioned that low-income communities live between the UP railyard and the Rio Grande River in Laredo. Trains blocking the city streets have a higher impact in this part of downtown Laredo.

First and Last Mile Transit Connectivity in the Laredo Border Crossings Area

El Metro is the transit provider in Laredo and Webb County Community Action Agency provides fixed routes and on-demand services in the rural areas of Webb County. They do not provide service to the Colombia Solidarity Bridge. The transit provider operates 47 buses, 15 demand-response/paratransit vehicles, and one trolley. An employee mentioned that El Metro has found it challenging to bring transit ridership back to pre-pandemic levels. The employee also mentioned that Nuevo Laredo wants to duplicate the El Metro transit service in Mexico. There is a desire to connect the two systems in the future.



Figure 2-36: Transit Routes in the Laredo Border Crossings Area



Source: Jacobs Analysis, 2025

Funding challenges and budget constraints will be a major impediment to implementing and connecting the two transit systems. Finally, stakeholders recommended investing in transit to alleviate traffic congestion, lack of parking, and safety concerns in downtown Laredo. Figure shows the current transit routes operated by El Metro in Laredo.

Table 2-11 summarizes the transit connectivity needs and challenges to the international bridges identified in the Laredo border crossings area. There is currently no scheduled transit service to the Colombia Solidarity Bridge in Texas. Specific transit needs and challenges pertaining to the international bridges in the Laredo border crossings area are provided in the rest of this

section. These insights were obtained during the stakeholder interviews, workshops, and the post workshop interviews.

Table 2-11: Transit Needs and Challenges in Laredo

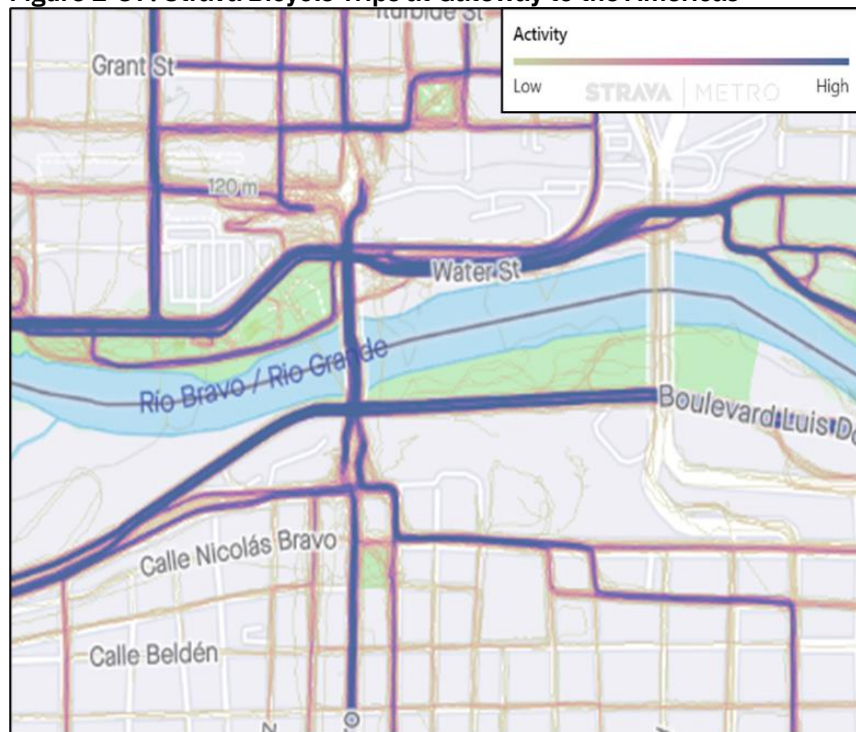
First and Last Mile Highway Needs and Challenges	Colombia Solidarity Bridge	World Trade Bridge (Laredo Bridge IV)	Gateway to the Americas Bridge (Laredo Bridge I)	Juárez-Lincoln Bridge (Laredo Bridge II)
	19	20	22	23
No Scheduled Transit Service to Bridge	✓	N/A	N/A	N/A
Inadequate Service	✓	N/A	✓	✓
Land Use Impacts (e.g., Bridge in Historic Downtown)	N/A	N/A	✓	✓
Congestion on Road Serving Bridge Impacts Bus Service Reliability	N/A	✓	N/A	N/A
Trains Blocking At-Grade Crossings Delay Buses and/ Results in Costly Re-Routes	N/A	✓	✓	✓

Source: Jacobs Analysis, 2025

First and Last Mile Pedestrian and Bicycle Connectivity in the Laredo Border Crossings Area

Pedestrian and bicycle traffic are allowed to cross at the Colombia Solidarity Bridge and Gateway to the Americas in the Laredo border crossings area. CBP does not capture the bicycle crossings at the international bridges. However, using Strava, routes with high bicycle activity serving Gateway to the Americas can be identified as shown in **Figure 2-37**.

Figure 2-37: Strava Bicycle Trips at Gateway to the Americas



Source: Screenshot of Strava Metro Heatmap (2024). Accessed June 27, 2024 (metroview.strava.com)

First and Last Mile Airport Connectivity in the Laredo Border Crossings Area

The Laredo International Airport and Quetzalcóatl International Airport are the airports in Laredo and Nuevo Laredo, respectively. Stakeholders mentioned safety concerns at the intersection of Bustamente Street (that provides freight access to the Laredo International Airport) and Airport Drive, as well as safety concerns on SL 20 that provides passenger access to the airport. A planned overpass has been identified in the MPO's Transportation Improvement Program (TIP) to address the safety concerns on SL 20. Additional information for each bridge is provided in the section, **Laredo Border Crossings Profiles – First and Last Mile Needs and Challenges**.

Laredo Border Crossings Profiles – First and Last Mile Needs and Challenges

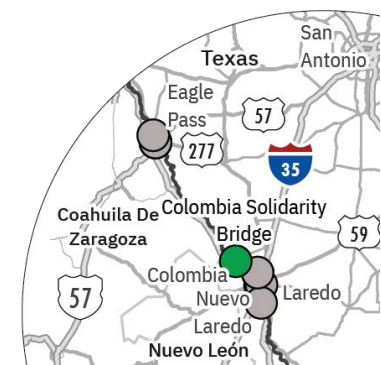
Colombia Solidarity Bridge

Highway Connectivity Needs and Challenges

- » The Colombia Solidarity Bridge processes hazardous materials and due to a high volume of CMVs, needs a separate lane for POV traffic.
- » Stop-and-go traffic on SH 255 occurs during the peak period in the vicinity of the bridge.
- » Stakeholders mentioned that it is difficult to access I-35 after 5pm due to severe congestion. Major congestion issues are observed at Mile Marker 8 on I-35.
- » Congestion is also observed at an abandoned checkpoint in Salinas, Nuevo Laredo, on the toll road to the Colombia Solidarity Bridge. At this checkpoint, all traffic, including CMVs, are funneled into a single lane through the abandoned checkpoint, causing a bottleneck.
- » At the time of writing this report, ongoing construction on MEX-1 was mentioned to be causing congestion because of detours. Stakeholders mentioned that the toll road that is currently under construction and will link to the Colombia Solidarity Bridge and SH 255, will result in 30% more traffic.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » The rural location of the Colombia Solidarity Bridge limits the number of pedestrian and bicycle crossings at the Bridge.



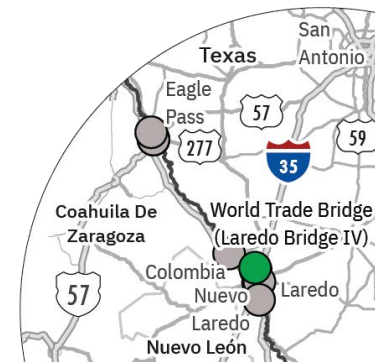
World Trade Bridge (Laredo Bridge IV)

Highway Connectivity Needs and Challenges

- » The World Trade Bridge (Laredo Bridge IV) is connected to I-35 via I-69 (West) and to multiple distribution centers located in the vicinity of the bridge via Mines Road and along I-35 via I-69 (West).
- » Stop and go traffic is experienced on the connectors to the Bridge due to high truck traffic volumes in the area.
- » Residential developments along Mines Road result in conflicts with truck traffic that use the bridge. This has resulted in mobility and safety issues on the highways and roads leading to the Bridge.
- » Several highways serving the Bridge have high crash segments.
- » Given the expansion planned for the World Trade Bridge (Laredo Bridge IV), stakeholders expressed concern that Mines Road will not be able to handle the increased truck traffic. Additionally, due to the residential and industrial development west of the bridge, it cannot expand there. The World Trade Bridge expansion includes two northbound Free and Secure Trade for CMVs (FAST) lanes and six southbound CMV lanes.

Transit Connectivity Needs and Challenges

- » El Metro Route 17 which operates along Mines Road is the most direct bus route to the World Trade Bridge (Laredo Bridge IV). There are several El Metro bus stops near the bridge.
- » Congestion on Mines Road, however, impacts bus service reliability.
- » Stakeholders also mentioned that current land use development in Laredo is not conducive to transit service, which limits transit service.



Gateway to the Americas and Juárez-Lincoln Bridge (Laredo Bridge II)

Highway Connectivity Needs and Challenges

- » Stop-and-go traffic on the connectors leading to the two downtown bridges results from high traffic volumes, signalized intersections, and a high-level of pedestrian activity around Gateway to the Americas Bridge (Laredo Bridge I).
- » I-35 (one of the most congested highways in Texas) serves both downtown bridges. Bottlenecks are experienced on I-35 linking to the Juárez-Lincoln Bridge (Laredo Bridge II) and at the exits from I-35 to the roads leading to Gateway to the Americas.
- » Similarly, crash hot spots are observed along all the connectors to the downtown Laredo bridges, including along I-35, US 83, US 59/SL 20, and SH 359.
- » The Juárez Lincoln Bridge is forecasted to have more than three million POV crossings per year by 2050.

Rail Connectivity Needs and Challenges

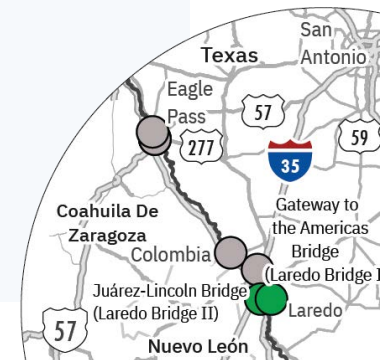
- » Stakeholders mentioned the negative impacts of the 14 at-grade crossings in downtown Laredo on mobility and safety. Concerns included the impediments imposed by the at-grade crossings to access the Gateway to the Americas Bridge (Laredo Bridge I) and the Juárez-Lincoln Bridge (Laredo Bridge II). Specifically, trains block the city streets thereby preventing traffic from crossing the rail track.

Transit Connectivity Needs and Challenges

- » Stakeholders mentioned that there is a general concern for the safety of Mexican bus riders. Trains blocking at-grade rail crossings in downtown Laredo delay buses and result in costly re-routes.
- » El Metro is also facing funding challenges to perform studies, maintenance, and operations.
- » Cross-border pedestrians prefer to walk the six blocks to the Transit Center in downtown Laredo as opposed to using the bus that serves Gateways to the Americas.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Stakeholders mentioned that the route from Gateway to the Americas to the Transit Center in downtown Laredo is steep and the
- » Infrastructure is not Americans with Disabilities Act (ADA) compliant.
- » Pedestrians crossing Convent Avenue (signalized intersection) result in traffic being backed up. Convent Avenue – providing access to Gateway to the Americas – has a dedicated bike lane.
- » Bicyclists from Nuevo Laredo cross into Laredo, board an El Metro bus and go to the warehouses on Mines Road, which lacks bicycle infrastructure.

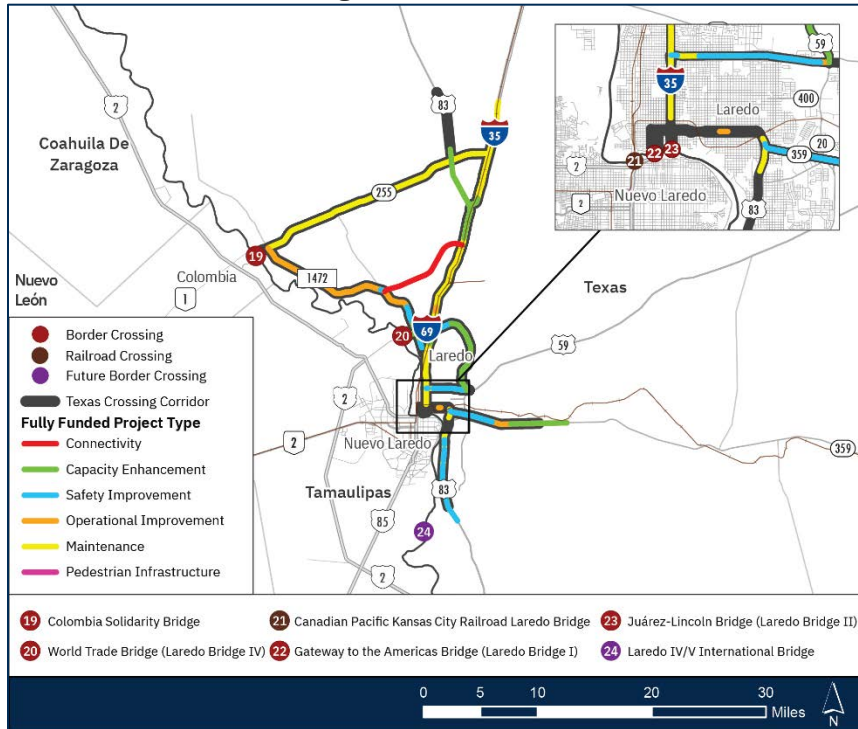


First and Last Mile Connectivity Improvements in the Laredo Border Crossings Area

Funded Highway Improvements in the Laredo Border Crossings Area

The study identified 86 fully funded planned improvements to enhance connectivity on the first and last highway miles that serve the international bridges in the Laredo border crossings area. **Figure 2-38** shows the fully funded improvements/investments that TxDOT is implementing to address the identified needs and challenges pertaining to the first and last miles analyzed.

Figure 2-38: Fully Funded Planned Improvements/Investments to Address Needs and Challenges



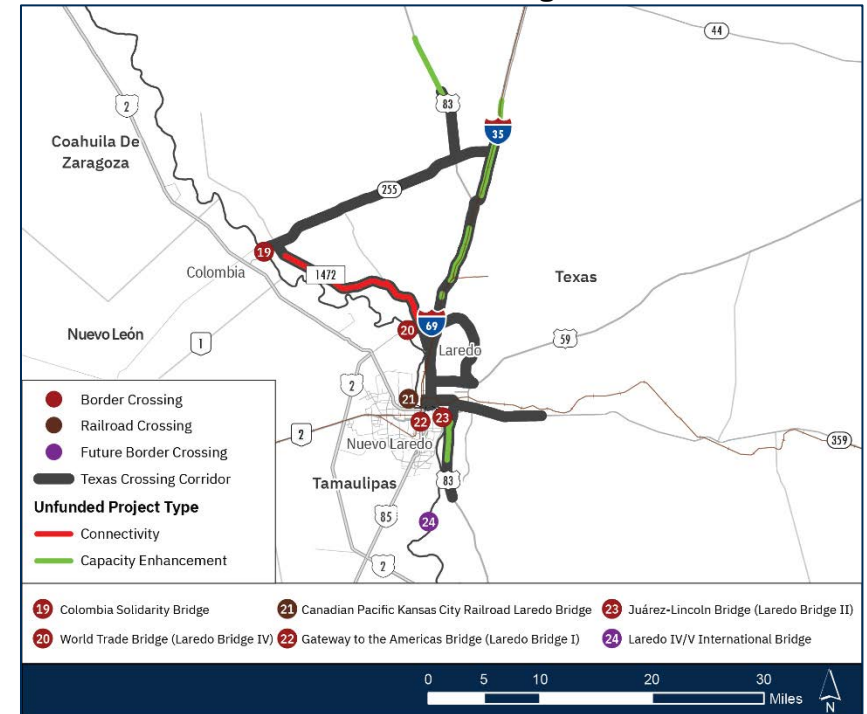
Source: TxC. Data accurate as of 18 November 2024

The figure shows that many of these planned improvements aim to address safety – TxDOT’s number one priority – by reducing accidents and improving the flow of traffic.

Planned Highway Improvements in the Laredo Border Crossings Area

As shown in **Figure 2-39**, TxDOT is also working on several initiatives that will alleviate connectivity challenges on the first and last mile segments identified, and or new highways that will improve connectivity to the international bridges.

Figure 2-39: Partially Funded/Unfunded Planned Improvements and Investments to Address Needs and Challenges

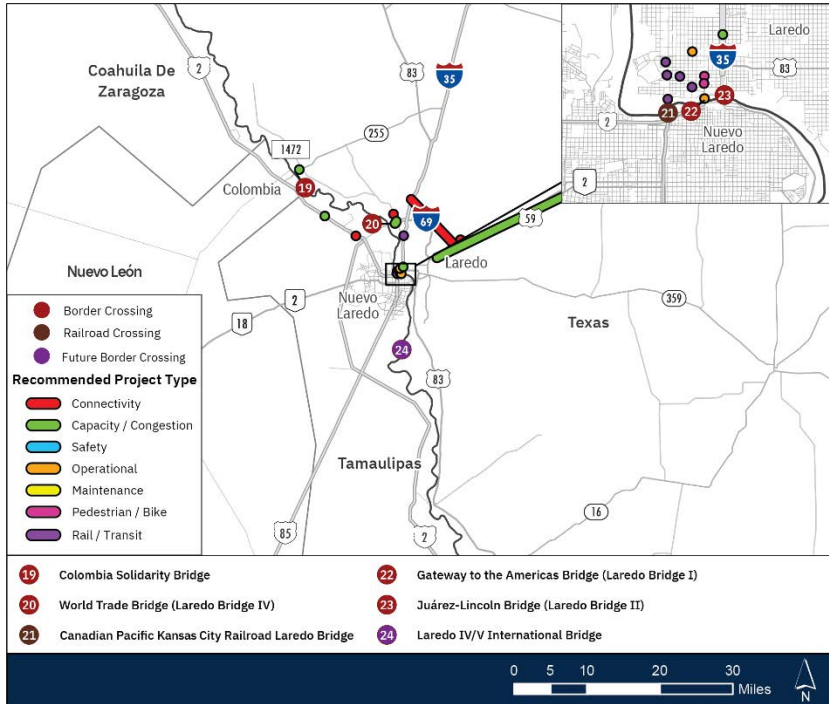


Source: Jacobs Analysis, 2025



Stakeholders also recommended improvements to address identified highway/road connectivity needs and challenges in the Laredo border crossings area. **Figure 2-40** summarizes the insights obtained during the stakeholder interviews, workshops, and the post workshop interviews.

Figure 2-40: Categorized Stakeholder Input Received: Recommended Improvements in the Laredo Border Crossings Area



Source: Jacobs Analysis, 2025

- » Stakeholders recommended that TxDOT expand the two-lane SH 255 that connects to the Colombia Solidarity Bridge to accommodate the projected future demand because of the opening of the toll road in Mexico that link to the Colombia Solidarity Bridge. As mentioned earlier, a 30% increase in traffic is expected because of the opening of

the toll road. Stakeholders also called for additional access roads linking the Colombia Solidarity Bridge to I-35.

- » The expansion of Mines Road is regarded as a priority in Laredo. The City of Laredo received a \$2 million grant to upgrade traffic signals along Mines Road. The city, however, needs to upgrade and standardize signals and upgrade the Traffic Management Center. Stakeholders recommended the implementation of smart technology.
- » Stakeholders also stated the need for the Laredo Outer Loop given that the presidential permit for the future Laredo 4/5 International Bridge has been issued. Stakeholders stated the need for the Laredo Outer Loop to accommodate the projected number of crossings at the Laredo 4/5 International Bridge upon opening.
- » Gateway to the Americas has Secure Electronic Network for Travelers Rapid Inspection (SENTRI) lanes only, and stakeholders recommended that these should be extended to process motorcycles. A planned road, connecting MEX-2 and MEX-85 (from Radial to Periférico Sur Poniente) is under construction in Mexico. Upon completion, this connector may alleviate some connectivity issues.

Planned Freight Rail Improvements in the Laredo Border Crossings Area

The operational and policy findings listed by the Class I Railroads that were included earlier in the report are relevant to address connectivity challenges and increase the capacity of cross-border rail in Laredo.

- » Specific to the Laredo border crossing area and to prevent trains from blocking city streets, UP emphasized the benefits of having international crews cross trains at the border. Currently, every train that crosses into Mexico or comes from Mexico must stop in the middle of the bridge and change crews, reducing efficiency. International crews would add capacity and increase the speed of cross-border rail movements. The process of implementing international crews is long since it requires coordination and approval from two countries and two labor unions. However, CPCK has been making progress in implementing international crews in Laredo.
- » The City of Laredo has received a Consolidated Rail Infrastructure and Safety Improvements (CRISI) program grant to study at-grade crossing upgrades in Laredo. Stakeholders mentioned the need for a plan to relieve congestion in downtown Laredo by investing in grade separations (e.g., overpasses, and underpasses).

Planned Transit Improvements in the Laredo Border Crossings Area

Stakeholders identified only one transit-related improvement in Laredo: a micro-transit study to assess the feasibility of providing micro-transit services. The Shared-Use Mobility Center (SUMC) defines micro-transit as “services with flexible routes and schedules and on-demand availability that use vehicles larger than personal autos but smaller than transit buses — generally vans or cutaways carrying up to 20 passengers.”⁹

⁹ [Texas Rural Microtransit Guidebook](#)

Planned Pedestrian and Bicycle Improvements in the Laredo Border Crossings Area

A planned trail, the Rio Vega Bike Trail, will connect River Bend to Zacate Creek and provide an alternative to Mines Road for bicyclists. This planned trail will be built in the next ten years. Stakeholders also mentioned a planned improvement to expand sidewalks on roads in the vicinity of Gateway of the Americas.

Planned Airport Improvements in the Laredo Border Crossings Area

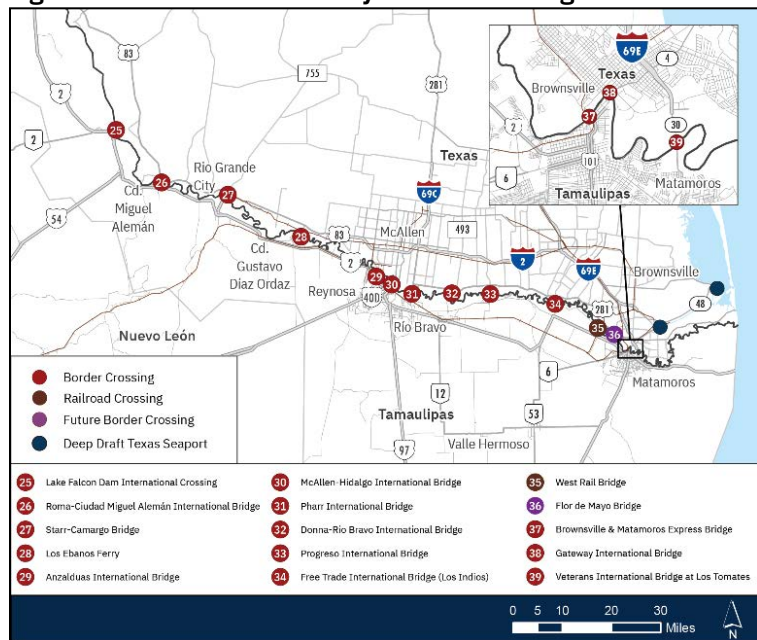
A planned overpass has been identified in the MPO’s Transportation Improvement Program (TIP) to address the safety concerns on SL 20 leading to the Laredo International Airport.



South Region First and Last Mile

The South Region (also referred to as the Rio Grande Valley) encompasses 14 existing border crossings located at the Roma, Rio Grande City, Hidalgo, Pharr, Progreso, and Brownsville ports of entry. As shown in **Figure 2-41** and summarized in **Table 2-12**, of the 14 border crossings, one is a rail crossing, and one is a ferry crossing used by pedestrians and POVs. The Anzalduas International Bridge processes southbound empty CMVs currently. The POEs in this border crossings area account for 21.1% of all northbound truck traffic and 9.2% of all northbound rail containers crossing from Mexico into Texas in 2024.¹⁰

Figure 2-41: Rio Grande Valley Border Crossings



Source: Jacobs Analysis, 2025

Table 2-12: Rio Grande Valley Crossings and Modes Available

International Crossing	Modes Analyzed
25 Lake Falcon Dam International Crossing	N/A 🚗 N/A N/A N/A
26 Roma-Ciudad Miguel Alemán International Bridge	🚛 🚗 🚶 🚌 N/A
27 Starr-Camargo Bridge	🚛 🚗 🚶 N/A N/A
28 Los Ebanos Ferry	N/A 🚗 🚶 N/A N/A
29 Anzalduas International Bridge	N/A 🚗 N/A 🚌 N/A
30 McAllen-Hidalgo International Bridge	N/A 🚗 🚶 🚌 N/A
31 Pharr International Bridge	🚛 🚗 N/A 🚌 N/A
32 Donna-Rio Bravo International Bridge	N/A 🚗 🚶 N/A N/A
33 Progreso International Bridge	🚛 🚗 🚶 🚌 N/A
34 Free Trade International Bridge (Los Indios)	🚛 🚗 🚶 🚌 N/A
35 West Rail Bridge	N/A N/A N/A N/A 🚂
36 Flor de Mayo Bridge (future)	N/A N/A N/A N/A N/A
37 Brownsville & Matamoros Express Bridge	N/A 🚗 🚶 N/A N/A
38 Gateway International Bridge	N/A 🚗 🚶 🚌 N/A
39 Veterans International Bridge at Los Tomates	🚛 🚗 🚶 🚌 N/A

Source: Jacobs Analysis, 2025

¹⁰BTS Border Crossing/Entry Data



First and Last Mile Highway Connectivity in the Rio Grande Valley

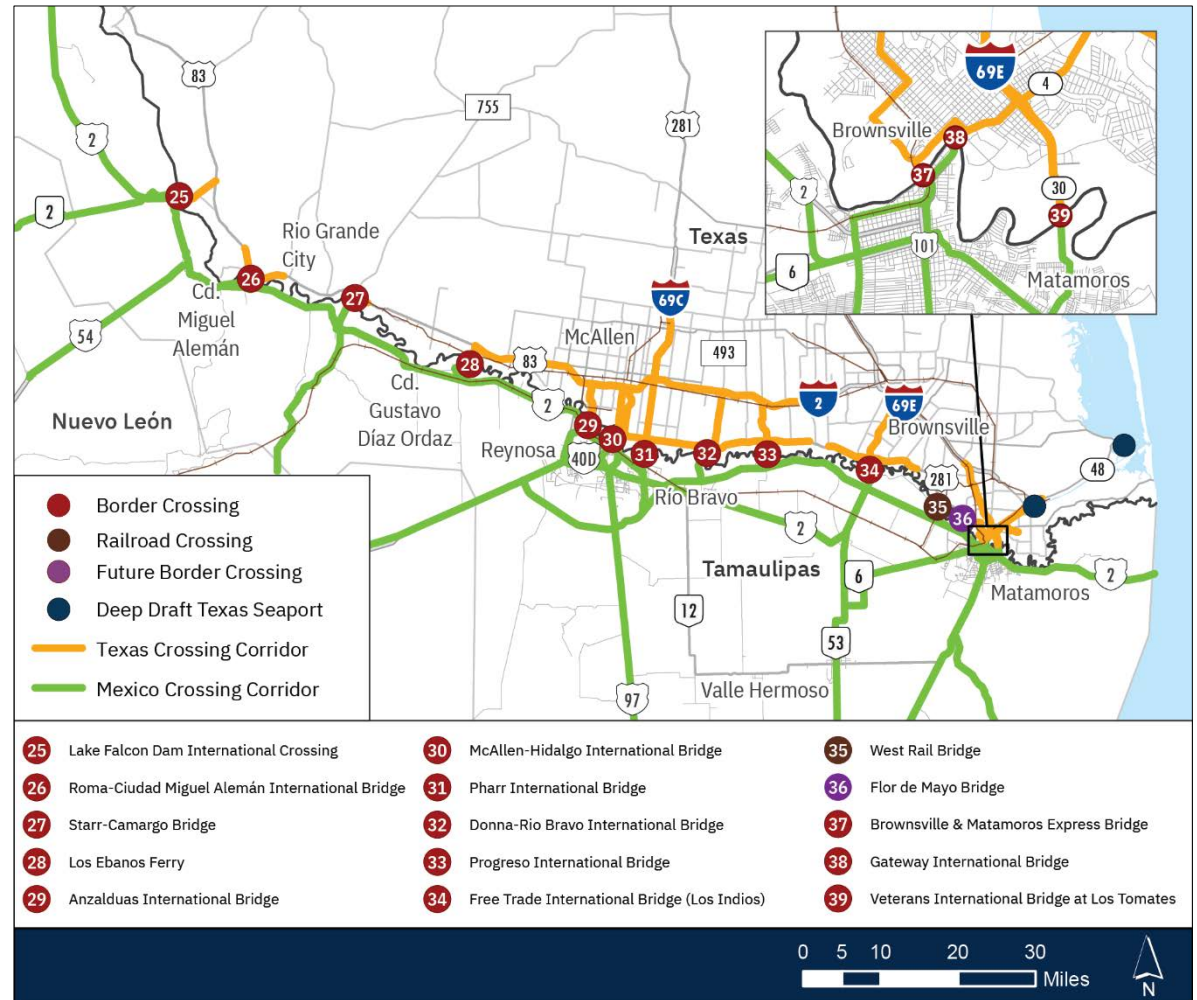
The study identified key corridors that connect the international border crossings to major industrial areas, intermodal facilities, or other major corridors that provide region-to-region connectivity. In some cases, there was only one such corridor (e.g., FM 2098 that links the Lake Falcon Dam International Crossing to US 83), but in other instances several key corridors provide connectivity between the border crossing and industrial areas, intermodal facilities, and other major corridors.

These corridors tend to be in the higher functional classification groups (e.g., interstates and U.S. highways) and are intuitively strategic links or connections. **Figure 2-42** shows the first and last mile highway corridors analyzed in the Rio Grande Valley.

Appendix B provides the key highway corridors and performance indicators serving each international border crossing in the Rio Grande Valley.

Table 2-13 summarizes the highway needs and challenges pertaining to the first and last highway/road miles serving each of the international bridges in the Rio Grande Valley. Of note is the number of bridges in the Rio Grande Valley that experience bottlenecks on major roads/corridors serving the bridges and highway capacity issues.

Figure 2-42: First and Last Mile Highway Corridors Analyzed in the Rio Grande Valley



Source: Jacobs Analysis, 2025



Stop-and-go traffic on the first and last highway/road miles is also observed at 10 of the international bridges in the Rio Grande Valley. No immediate highway-related issues were identified at the Lake Falcon Dam International Crossing, which only processes POVs. Additionally, the Los Ebanos Ferry, the only ferry crossing on the Texas-Mexico border, only crosses a modest number of pedestrians and POVs.

Table 2-13 First and Last Mile Highway Needs and Challenges in the Rio Grande Valley

First and Last Mile Highway Needs and Challenges	Roma-Ciudad Miguel Alemán International	Starr-Camargo Bridge	Anzalduas International Bridge	McAllen-Hidalgo International Bridge	Pharr International Bridge	Donna-Rio Bravo International Bridge	Progreso International Bridge	Free Trade International Bridge (Los Indios)	Brownsville & Matamoros Express	Gateway International Bridge	Veterans International Bridge at Los Tomates
	26	27	29	30	31	32	33	34	37	38	39
Narrow Local Roads Serving Bridge	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stop and Go Traffic (North/South)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Crash Hotspot on Road(s) Serving Bridge (Texas)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Crash Hotspot on Road(s) Serving Bridge (Mexico)	N/A	N/A	N/A	✓	✓	✓	✓	✓	✓	✓	✓
Poor Pavement Condition	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottlenecks on Major Road(s) Serving Bridge	✓	✓	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A	N/A
Land Use Impacts (e.g., Commercial/ Business Activity)	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	N/A	✓	N/A
High Need Segment (Freight Connectivity)	N/A	✓	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A	N/A
Geometric Challenges (e.g., Complex Interchange, STOP Sign Controlled Intersections)	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	N/A	N/A
Highway Capacity Issues (e.g., High Traffic Volumes, High Truck Traffic Volumes)	✓	✓	N/A	N/A	✓	N/A	✓	N/A	N/A	✓	✓
Operational Issues (e.g., Longer Processing Times, Staffing Shortages, Time restrictions)	N/A	N/A	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A

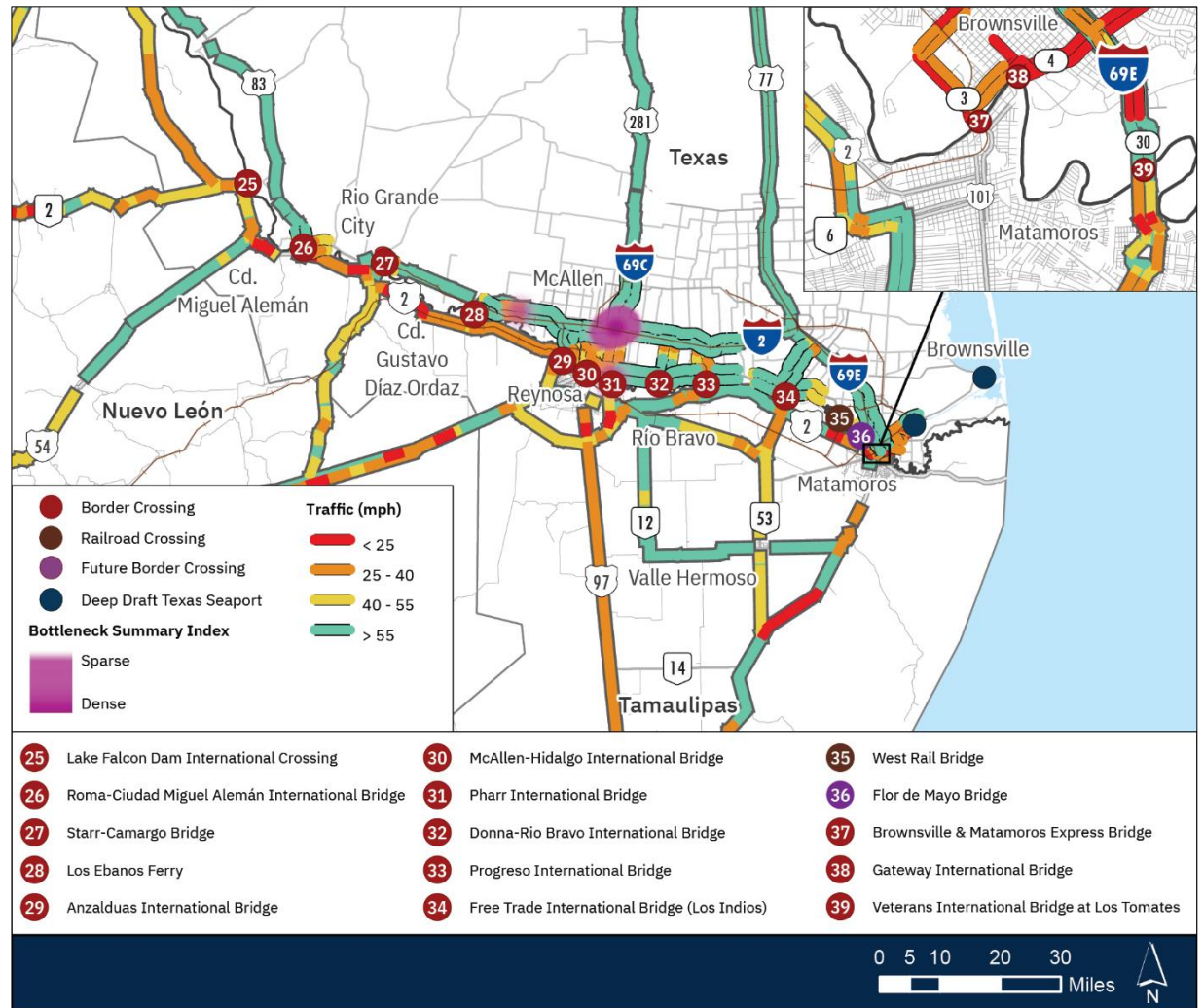
Source: Jacobs Analysis, 2025



Figure 2-43 visualizes the stop-and-go traffic speeds on the road segments serving the bridges in the Rio Grande Valley region during the peak period. All the connectors to the bridges in the Rio Grande region experience stop and go traffic speeds during the peak period. This may be attributable to the number of lanes open at the international crossings and the associated wait times for vehicles – both POVs and CMVs – queuing on the first and last transportation legs to cross the international bridges. Stakeholders recommended that augmenting POE staffing will prevent bottlenecks and queuing of traffic on roads providing access to the international bridges.

On the Mexican side, it shows that MEX-2 (for example between Reynosa and around Ciudad Mier), MEX-97, MEX-40, and MEX-101 experience stop and go to slow traffic speed on corridor segments leading to the international bridges. Appendix B provides the key highway corridors and performance indicators serving each international border crossing in the Rio Grande Valley including crash hot spots on the road segments serving the international crossings in the Rio Grande Valley, in Matamoros and on MEX-4D and MEX-2 in Reynosa.

Figure 2-43: Traffic Speed on Roads Serving Rio Grande Valley Crossings- Peak Traffic Conditions



Source: Jacobs Analysis, 2025

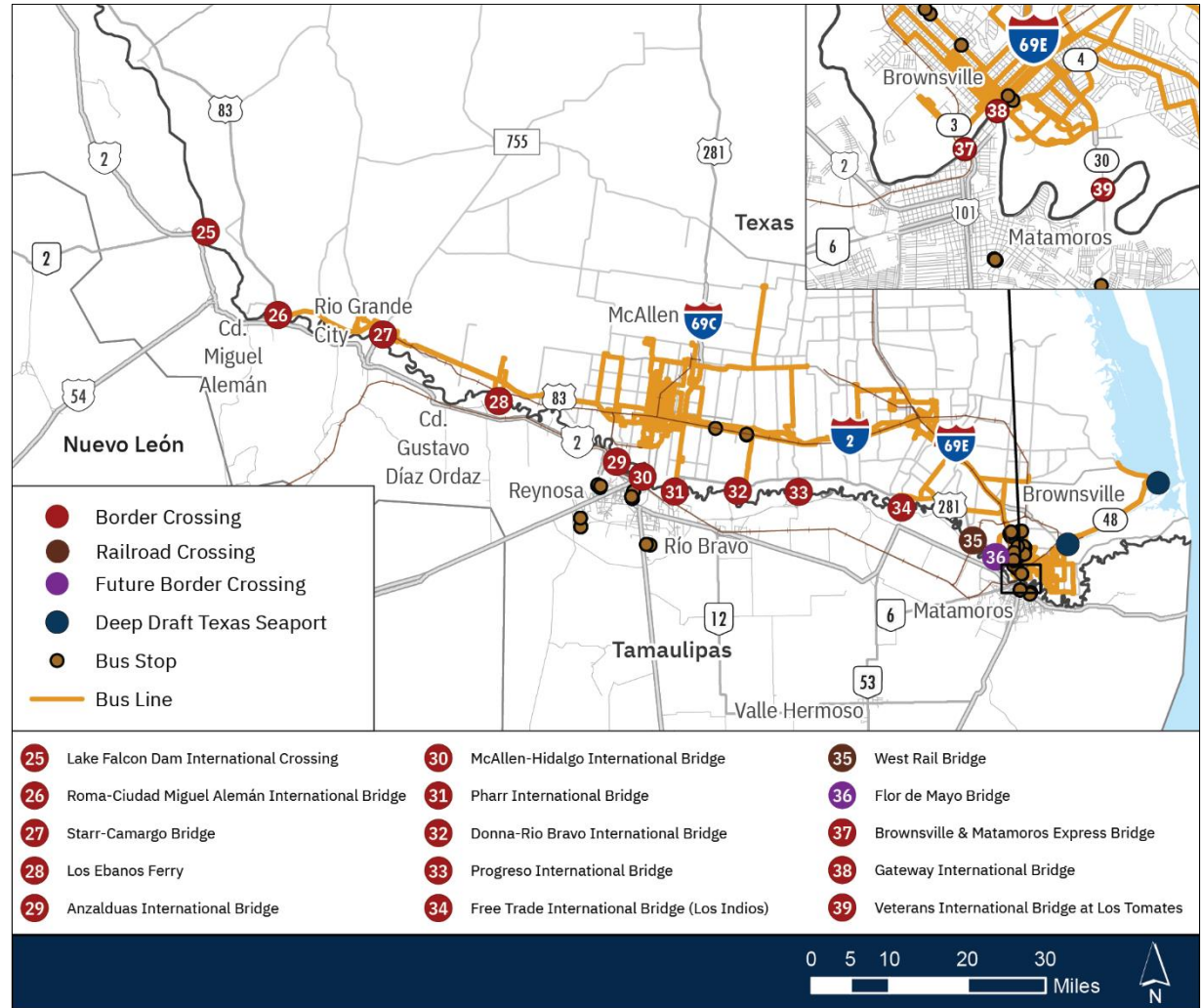


First and Last Mile Transit Connectivity in the Rio Grande Valley

Valley Metro and the City of Brownsville are the transit providers in the Rio Grande Valley region, providing fixed route and on-demand services. Students present the largest share of transit users in the Rio Grande Valley. **Figure 2-44** shows the current transit routes operated by Valley Metro and the City of Brownsville in the Rio Grande Valley region. Currently, there are no scheduled U.S. cross-border transit services in the Rio Grande Valley. The cross-border transit service, called *Círculo Rojo* that operated in Matamoros/Brownsville, was abandoned in the 1970s. According to stakeholders, U.S. transit bus drivers do not want to work in Mexico. Long-distance coaches are the only passenger services provided across the border.

Additional information on transit connectivity challenges and needs for each crossing are provided in the section **Rio Grande Valley Border Crossings Profiles – First and Last Mile Needs and Challenges**.

Figure 2-44: Valley Metro and City of Brownsville Transit Routes



Source: Jacobs Analysis, 2025



Table 2-14 summarizes the transit connectivity needs and challenges to the international bridges identified in the Rio Grande Valley region. There is currently no scheduled transit service to many of the international bridges in the region. A representative of Valley Metro said that there is a need to improve Valley Metro’s transit service frequency, but funding constraints currently prevent the agency from increasing the frequency of transit services. Finally, stakeholders mentioned that the lack of cross-border passenger rail between Monterrey (Mexico) and San Antonio (Texas) presents a connectivity gap. Specific transit needs and challenges pertaining to the international bridges in the Lower Rio Grande Valley region are provided in the rest of this section. These insights were obtained during the stakeholder interviews, workshops, and the post workshop interviews.

Table 2-14: First and Last Mile Highway Needs and Challenges in the Rio Grande Valley

First and Last Mile Highway Needs and Challenges	Roma-Ciudad Miguel Alemán International Bridge	Starr-Camargo Bridge	Los Ebanos Ferry	Anzalduas International Bridge	McAllen-Hidalgo International Bridge	Pharr International Bridge	Donna-Rio Bravo International Bridge	Progreso International Bridge	Free Trade International Bridge (Los Indios)	Brownsville & Matamoros Express Bridge	Gateway International Bridge	Veterans International Bridge at Los Tomates
	26	27	28	29	30	31	32	33	34	37	38	39
No Scheduled Transit Service to Bridge (within 0.5 miles of bridge)	N/A	N/A	✓	✓	✓	✓	N/A	✓	✓	N/A	N/A	✓
Inadequate Transit Access (e.g., > 30-minute walk to bus stop)	N/A	N/A	N/A	✓	✓	✓	N/A	✓	N/A	N/A	N/A	✓
Inadequate Service Frequency	✓	✓	N/A	N/A	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A
Land Use Impacts (e.g., bridge in Historic Downtown, congestion due to bridge location)	N/A	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓	✓	N/A
Transit Inaccessible Location (e.g., bridge too far for pedestrians to walk to from nearest transit stop, bridge too far from denser areas to support service)	N/A	N/A	✓	✓	✓	✓	N/A	✓	✓	N/A	N/A	N/A

Source: Jacobs Analysis, 2025



Rio Grande Valley Border Crossings Profiles – First and Last Mile Needs and Challenges

The following insights were noted during the stakeholder interviews, workshops, and the post workshop interviews. Specific needs and challenges pertaining to each international bridge are discussed subsequently. Pedestrian and bicycle traffic cross at nine international bridges in the Rio Grande Valley Region.

- » There is an overall lack of truck parking between Brownsville/Pharr and Laredo, which contributes to congestion and impacts emergency services. Stakeholders mentioned that there are opportunities to conduct parking master plan studies in Mexico.
- » There are concerns in Brownsville over hazmat cargo being transported across the border. Stakeholders were concerned about the safety of the community, as drivers must park and wait for papers to be processed. Stakeholders also mentioned that trucks and OS vehicles often face longer delays since there are no alternative routes, or they cannot deviate from assigned routes/crossings.
- » There is a need for improved communication between U.S. and Mexico authorities to improve safety, efficiency, and coordination of active projects. This includes improving staffing of the international bridges.

Lake Falcon Dam International Crossing

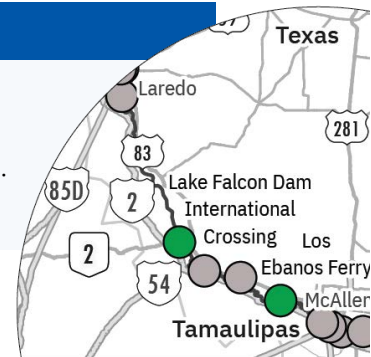
Highway Connectivity Needs and Challenges

- » The Lake Falcon Dam International Crossing is the only international crossing in Zapata County. The crossing serves a modest number of northbound POV crossings daily (e.g., only 327 daily northbound POV crossings in 2022).
- » Stakeholders mentioned that Zapata County suffers from a lack of connectivity. No Mexican trucks with Mexican plates can cross Zapata County to go to, for example, Hidalgo because Zapata County has not been included in the commercial zone. House Resolution (HR) 6240 has been introduced to expand the commercial zone to include Zapata County.

Los Ebanos Ferry

Transit Connectivity Needs and Challenges

- » Currently, there is no scheduled transit service to the ferry. Transit service to the ferry was suspended during the COVID-19 pandemic. On-demand service is available but needs to be scheduled 24 hours in advance.



Roma-Ciudad Miguel Alemán International Bridge

Highway Connectivity Needs and Challenges

- » Two bottlenecks are observed on US 83 leading to the Roma-Ciudad Miguel Alemán International Bridge.
- » Stop-and-go traffic on SH 200, which directly connects to the international bridge, can be attributed to high traffic volumes (including truck traffic) or because CBP staffing creates a bottleneck.
- » Crash hotspots are also observed on US 83 near the bridge which may be attributed to high traffic volumes turning from US 83 onto local streets.
- » Stakeholders also shared that road surface conditions are poor in the area, several local, narrow roads lead to the international bridge, and there is a general lack of truck parking in Roma.

Transit Connectivity Needs and Challenges

- » Valley Metro’s Greenline Roma route provides transit service to a terminal near the Roma-Ciudad Miguel Alemán International Bridge. The service is mainly used by pedestrians, mostly students, who cross the bridge.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Stakeholders emphasized that the narrow local roads with no continuous sidewalks are a mobility barrier for pedestrians crossing this bridge.

Starr-Camargo Bridge

Highway Connectivity Needs and Challenges

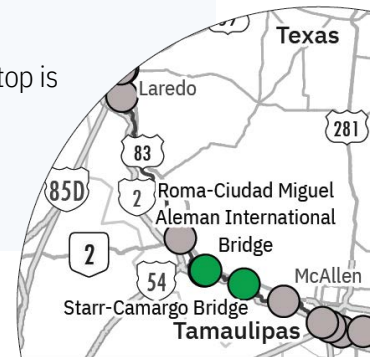
- » Southbound traffic on US 83 is stop and go. A bottleneck is observed at the intersection of US 83 and FM 755 in the vicinity of the bridge. US 83 and FM 755 is considered “high needs” segments for freight connectivity.¹¹ Crash hotspots are also observed on US 83 near the bridge.

Transit Connectivity Needs and Challenges

- » No transit service is available to the bridge. Valley Metro’s Rio Grande City East route provides bus service near the bridge (e.g., bus stop is approximately 0.5 miles away from the bridge). There is a need for additional funding to increase the service frequency.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Pedestrian access to the Starr-Camargo Bridge is considered good but the sidewalks on the bridge are narrow.



¹¹ [Rio Grande Valley Freight and Trade Transportation Plan](#)



Anzalduas International Bridge

Highway Connectivity Needs and Challenges

- » Stop-and-go traffic is experienced southbound on Anzalduas highway.
- » Crash hotspots are also identified on Anzalduas Highway leading to the bridge.
- » I-69C via a controlled access facility presents a gap in the International Bridge Trade Corridor (IBTC) System.
- » Stakeholders mentioned that significant investments have been made in Mexico to improve the highways between Monterrey and Anzalduas.

Transit Connectivity Needs and Challenges

- » There is no transit service to this bridge. The nearest access to a transit stop is more than 7 miles away on the Valley Metro Mission-McAllen bus route.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Anzalduas Highway (SH 396) provides access to the Anzalduas International Bridge. The highway is a four-lane divided highway and not considered pedestrian or bicycle friendly.

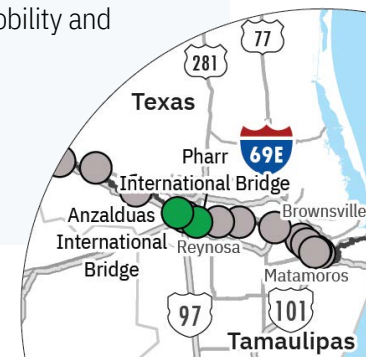
Pharr International Bridge

Highway Connectivity Needs and Challenges

- » This bridge serves the highest volume of truck traffic in the region.
- » Many bottlenecks are observed on roads leading to the bridge (e.g., the intersection of US 281 and South Cage Boulevard).
- » Furthermore, US 281 has high crash segments on the eastern side of the intersection.
- » Several roadway segments leading to the bridge, specifically US 281, have been designated as ‘High Need’ and ‘Medium Need’ for mobility and reliability improvements and freight connectivity opportunities.¹²

Transit Connectivity Needs and Challenges

- » No transit service is available to the Pharr International Bridge. Valley Metro operates a bus route along Military Highway (2.7 miles from the bridge). There is a need for additional funding to increase transit service frequency.



¹² Rio Grande Valley Freight and Trade Transportation Plan



McAllen-Hidalgo International Bridge

Highway Connectivity Needs and Challenges

- » Congestion and stop-and-go traffic are experienced on South International Boulevard connecting to the McAllen-Hidalgo International Bridge. Stakeholders raised the concern that a lack of CBP staff is creating traffic operational issues on highways connecting to the bridge.
- » High crash segments are also observed on roads serving the bridge in Reynosa, Mexico.
- » No commercial traffic crosses at the McAllen-Hidalgo International Bridge because the current infrastructure cannot support truck traffic.
- » Stakeholders also expressed a need for infrastructure investment in MEX-40 (Reynosa).

Transit Connectivity Needs and Challenges

- » The nearest Valley Metro bus stop is Central Station, which is approximately nine miles from the McAllen-Hidalgo International Bridge.
- » A private company provides transit services using 17-seater buses from Mexico across the McAllen Hidalgo Bridge to the McAllen transit terminal (a 30-minute ride). From the McAllen transit terminal, passengers can access Valley Metro.

Pedestrian and Bicycle Connectivity Needs and Challenges

Stakeholders pointed to a lack of sidewalk infrastructure and mentioned that existing bicycle facilities leading to the McAllen-Hidalgo International Bridge were inadequate in meeting current active transportation demand.

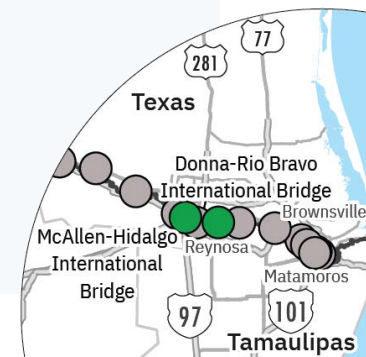
Donna-Rio Bravo International Bridge

Highway Connectivity Needs and Challenges

- » Stop-and-go traffic is observed on International Boulevard (FM 493) connecting to the bridge and slow traffic is experienced at the intersection of International Boulevard (FM 493) and US 281.
- » Crashes are also observed at this location.

Transit Connectivity Needs and Challenges

- » Valley Metro (Route 32) provides bus service to the Donna-Rio Bravo International Bridge. In addition, Rio Bravo operates a shuttle service for medical patients between Harlingen/McAllen and Reynosa (in Tamaulipas).



Donna-Rio Bravo International Bridge

Pedestrian and Bicycle Connectivity Needs and Challenges

No pedestrian traffic crosses at the Donna-Rio Bravo International Bridge, potentially due to a lack of pedestrian facilities on the bridge and the bridge's relatively rural location.

Progreso International Bridge

Highway Connectivity Needs and Challenges

- » Southbound stop-and-go traffic to the Progreso International Bridge and slow northbound traffic from the bridge to Progreso on South International Boulevard (FM 1015) are observed. High crash segments along South International Boulevard (FM 1015) are also observed. The segment of US 281 intersecting with South International Boulevard (FM 1015) has been identified as a 'High Need' segment for freight connectivity.¹³

Transit Connectivity Needs and Challenges

- » There is a need for transit service to the Progreso International Bridge so pedestrians can access medical services, fill prescriptions, and buy groceries. Valley Metro operates two bus routes approximately 1.7 miles from the Bridge: Route 31 (Business 83) and Route 12 (La Villa/Edcouch/Elsa/Edinburg/ Weslaco). There is a need for additional funding to increase transit service frequency.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » The Progreso International Bridge has more pedestrian crossings than POV crossings. Cross-border travelers park their vehicles in designated parking spaces at the bridge and cross into Mexico as pedestrians to access medical services (i.e., medical tourism). Most of these trips are day trips with fewer trips during the evening hours. There is a general notion that the bridge – which is privately owned – is safe. However, there are safety concerns for pedestrians that prevent them from walking on South International Boulevard (a high-speed facility). Specifically, sidewalks to the bridge are not well developed or maintained.



¹³ [Rio Grande Valley Freight and Trade Transportation Plan](#)



Free Trade International Bridge (Los Indios)

Highway Connectivity Needs and Challenges

- » Stop-and-go traffic is observed on FM 509 to and from the Free Trade International Bridge (Los Indios).
- » Crashes are also observed at the intersection of US 281 and FM 509.
- » There are relatively fewer truck crossings at the Free Trade International Bridge. Stakeholders attributed the comparatively fewer truck crossings to a lack of investment in industrial parks in Mexico, fewer industrial parks in Texas, and better access to commercial activity and infrastructure near the Pharr International Bridge.
- » Stakeholders also deemed the default routes for permitted truck traffic unsafe for OS trucks.

Transit Connectivity Needs and Challenges

- » There has been no transit service to the Free Trade International Bridge (Los Indios) since 2011 when the service was discontinued.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Comparatively fewer pedestrians cross at the Free Trade International Bridge, because of its rural location and the long length of the bridge. Additionally, sidewalks are not continuous.

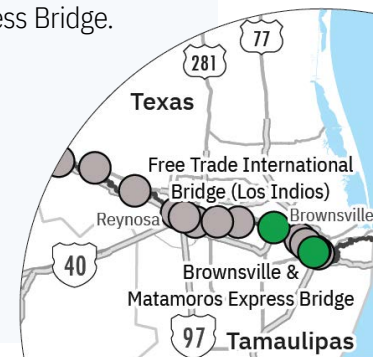
Brownsville Matamoros Express Bridge

Highway Connectivity Needs and Challenges

- » Northbound and southbound stop-and-go traffic is experienced on Mexico Boulevard connecting to the Brownsville Matamoros Express Bridge.
- » An increase in southbound inspections has caused delays and a reduction in traffic crossing from Brownsville to Matamoros.
- » Stakeholders also expressed a need for infrastructure investment in MEX-101 (Matamoros).

Transit Connectivity Needs and Challenges

- » Route 14 provides a direct service to the Brownsville Matamoros Express Bridge and has a bus stop at the Bridge. The Brownsville Transit terminal is a 12-minute bus ride away from the Bridge.



Brownsville Matamoros Express Bridge

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Stakeholders mentioned a lack of wayfinding signage and service infrastructure (e.g., loading and unloading areas) for pedestrians crossing at the Brownsville Matamoros Express Bridge. Furthermore, sidewalk conditions on Sam Perl Boulevard leading to the bridge are deteriorating.

Gateway International Bridge

Highway Connectivity Needs and Challenges

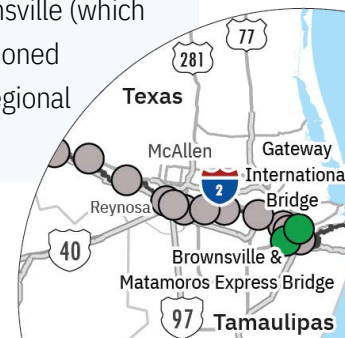
- » Stop-and-go traffic is observed on International Boulevard (SH 4) to and from Gateway International Bridge. Construction on SH 4 has resulted in long lines for southbound vehicles crossing at the bridge since there is not enough space to accommodate queues.
- » Crashes on the corridor segments connecting to the bridge in Mexico can be attributed to the proximity of the bridge to downtown and the high density of activity centers in Mexico.

Transit Connectivity Needs and Challenges

- » The Brownsville Transit terminal is three blocks away from the Gateway International Bridge.
- » Several bus routes have transit stops at the terminal and inter-city bus services, such as Greyhound and Omnibus, can also be accessed here.

Pedestrian and Bicycle Connectivity Needs and Challenges

- » The Gateway International Bridge serves a high volume of pedestrian crossings, because of the bridge's location near downtown Brownsville (which has good access to retail and commercial activity). Demand currently exceeds the capacity designed for the bridge. Stakeholders mentioned severe limitations concerning sidewalk construction, a lack of wayfinding signage and service infrastructure, as well as the need for a regional pedestrian/bicycle trail network.



Veterans International Bridge at Los Tomates

Highway Connectivity Needs and Challenges

- » High traffic volumes and stop-and-go traffic are observed on IH-69E to and from Veterans International Bridge at Los Tomates.
- » Stakeholders mentioned that delays can be attributed to only one lane often being open to process both POVs and CMVs.
- » Several roadway segments leading to the bridge, specifically I-69E and SH 4, have been designated as ‘High Need’ and ‘Medium Need’ for mobility and reliability improvements.¹⁴

Transit Connectivity Needs and Challenges

- » B-Metro’s nearest bus stop on Route 14 (Scorpion Connector) is approximately 30 minutes’ walking distance from the Veterans International Bridge (Los Tomates).

Pedestrian and Bicycle Connectivity Needs and Challenges

- » Most cross-border travelers cross the Veterans International Bridge by POV. Other travel modes include walking, bicycling or electric scooters to cross the bridge, but the number of cross-border travelers that use these modes is relatively modest.
- » Electric scooters weave among the POV traffic. Stakeholders mentioned a lack of sidewalks and pedestrian/bicycle routes/trails that provide access to the bridge.
- » Stakeholders also mentioned that congestion needs to be reduced to facilitate pedestrians walking from the bridge to the University of Texas Rio Grande Valley.



¹⁴ [Rio Grande Valley Freight and Trade Transportation Plan](#)



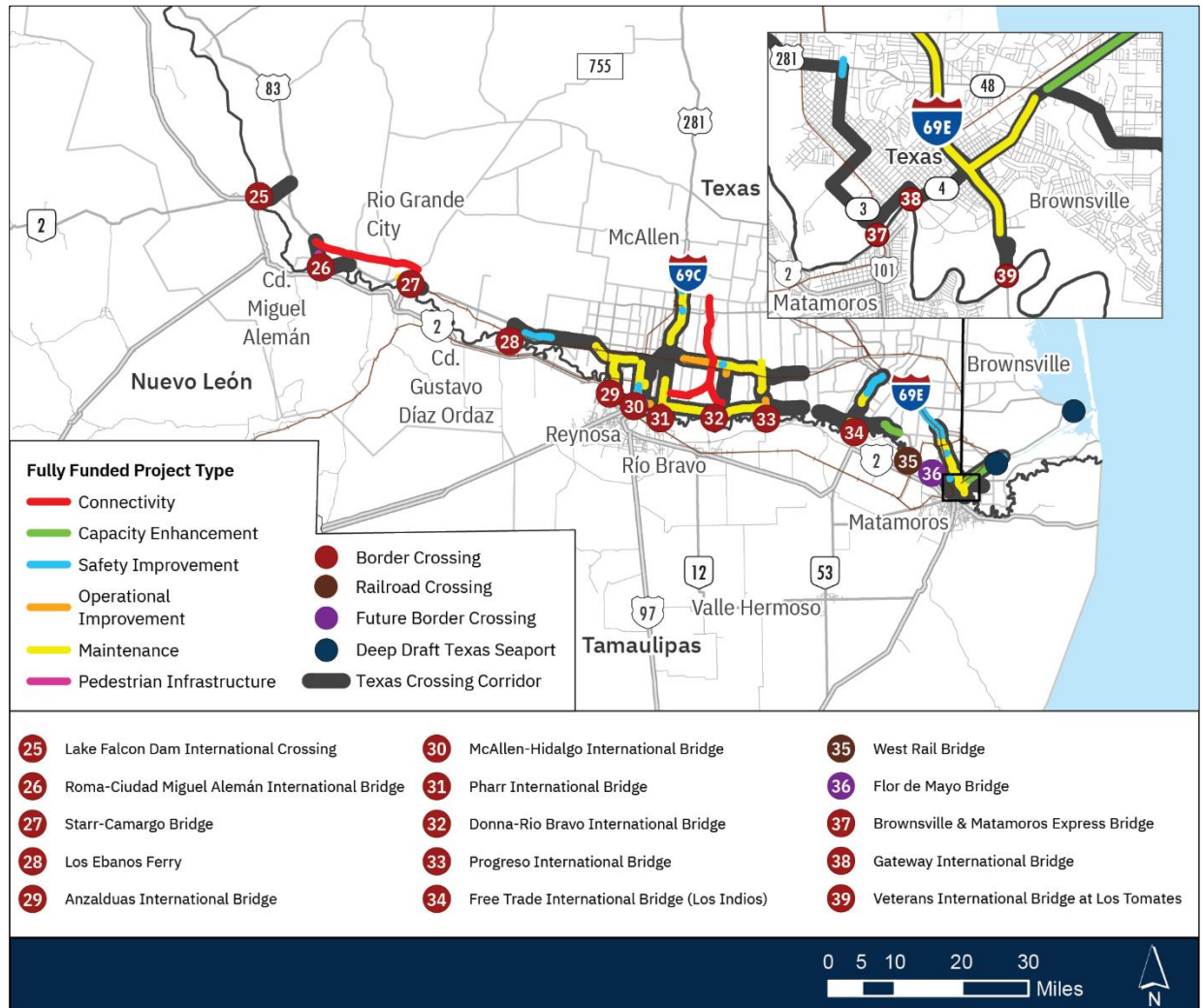
Funded Highway Improvements in the Rio Grande Valley

The study identified 79 fully funded planned improvements on the first and last highway miles that serve the international bridges in the Rio Grande Valley region. **Figure 2-45** visualizes the fully funded improvements/investments that TxDOT is implementing to address the identified needs and challenges pertaining to the first and last miles analyzed. Like the needs/challenges, the fully funded improvements/investments are categorized as connectivity, capacity/congestion, safety, operational, maintenance, and pedestrian/bicycle improvements. **Figure 2-45** shows that many of these planned improvements aim to address safety – TxDOT’s number one priority – by reducing accidents and improving the flow of traffic.

Appendix B and the [Connectivity WebApp](#) provide more detailed information on these fully funded planned investments.

Appendix B and the [Connectivity WebApp](#) provides more detailed information on these fully planned investments.

Figure 2-45: Fully Funded Planned Improvements/Investments to Address Needs and Challenges in the Rio Grande Valley



Source: Jacobs Analysis, 2025

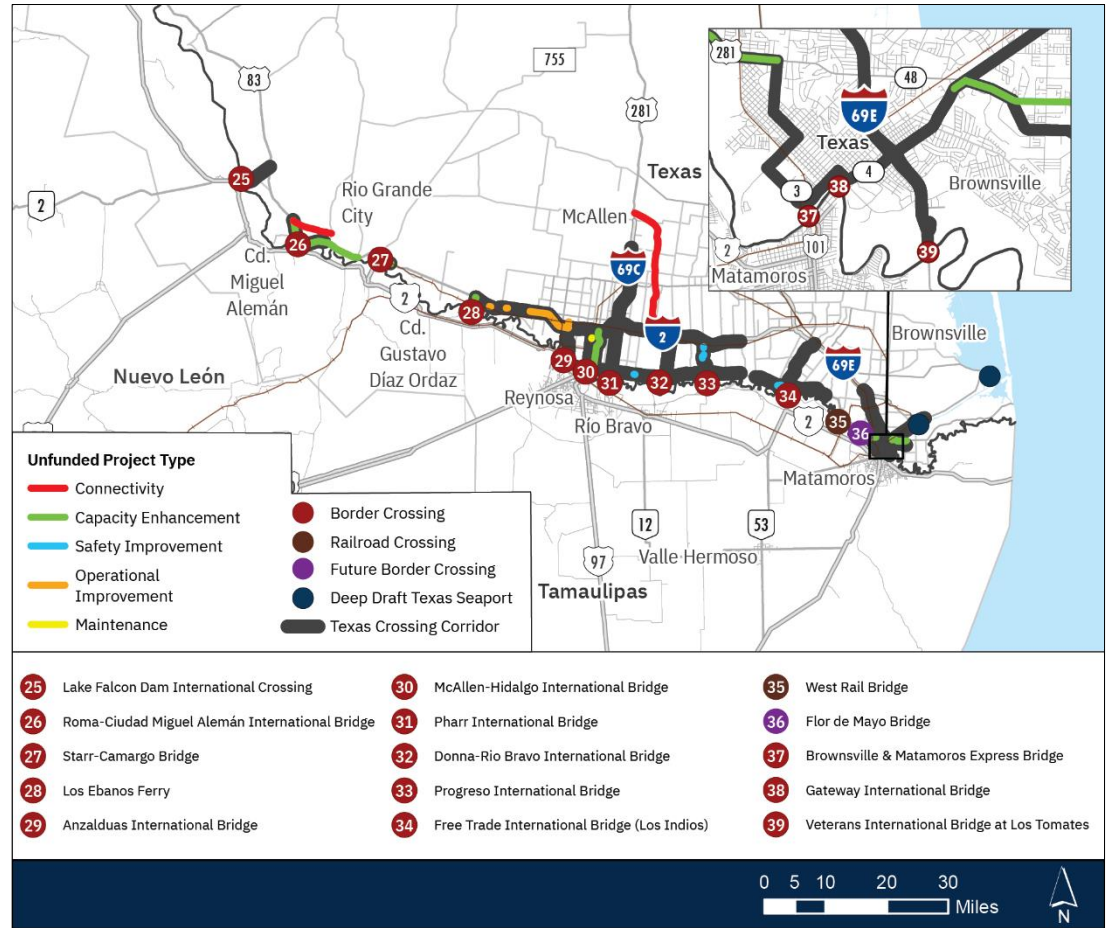


Planned Highway Improvements in the Rio Grande Valley

In addition to the planned fully funded investments highlighted in the previous section, TxDOT is also working on several initiatives that will alleviate connectivity challenges on the first and last mile segments identified, and or new highways that will improve connectivity to the international bridges. **Figure 2-46** shows the planned investments that are currently partially funded or unfunded.

Appendix B and the [Connectivity WebApp](#) provides more detailed information on these fully planned investments.

Figure 2-46: Partially Funded/Unfunded Planned Improvements/Investments to Address Needs and Challenges in the Rio Grande Valley



Source: Jacobs Analysis, 2025



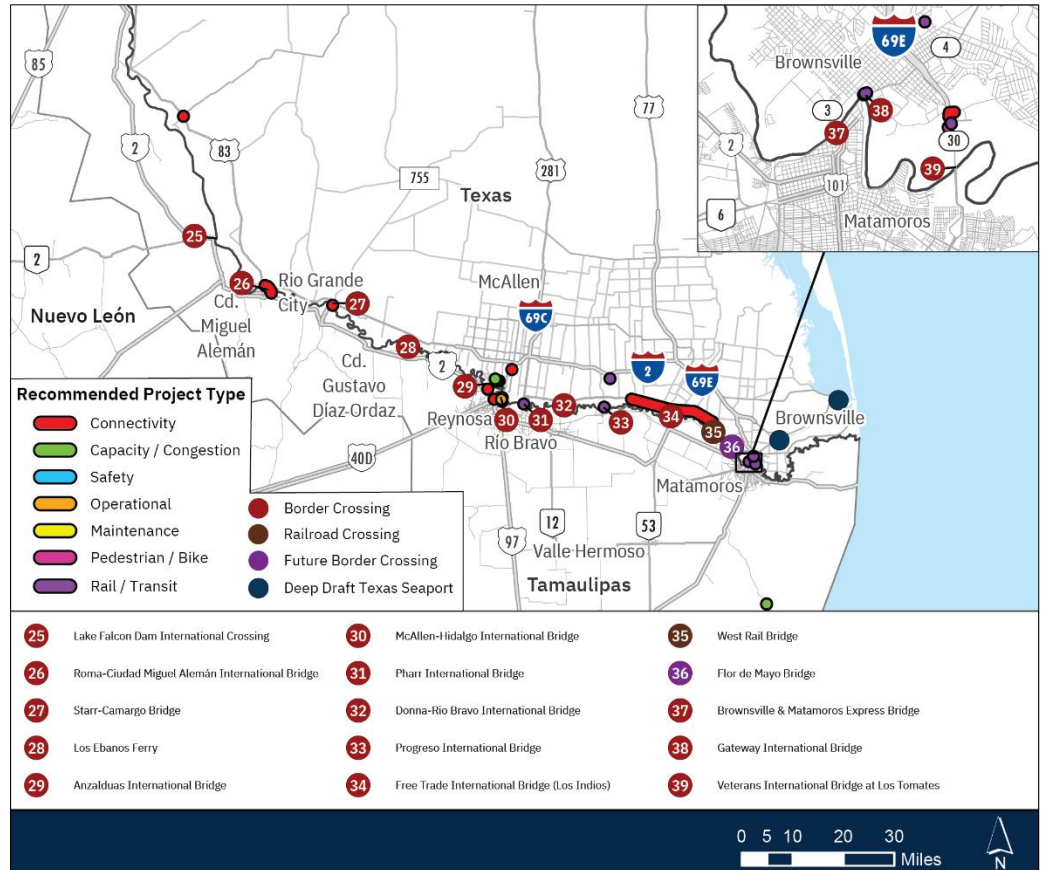
Stakeholder Proposed Highway Improvements in the Rio Grande Valley

Stakeholders also recommended several improvements to address identified highway/road connectivity needs and challenges in the Rio Grande Valley region. **Figure 2-47** and [Connectivity WebApp](#) provide a visual of the insights obtained during the stakeholder interviews, workshops, and post-workshop interviews.

In general, stakeholders recommended:

- » Adding more CMV only lanes to increase the capacity of existing border crossings to process CMVs.
- » Prioritizing the IBTC project to provide east-west connectivity between the McAllen-Hidalgo International Bridge, Pharr International Bridge, and Anzalduas International Bridge.
- » Prioritizing the planned East Loop International Trade Corridor that will serve as an OW corridor for trucks traveling to and from Mexico, crossing at the Veterans International Bridge at Los Tomates, and either originating from or destined for the Port of Brownsville. The planned East Loop International Trade Corridor will reduce congestion on I-69E and SH 48.

Figure 2-47: Categorized Stakeholder Input Received: Recommended Improvements to Address Needs and Challenges in the Rio Grande Valley



Source: Jacobs Analysis, 2025



Specific findings from stakeholders pertaining to each international bridge are in the following list.

Roma-Ciudad Miguel Alemán International Bridge:

- » Collaboration between Roma and Rio Grande City to improve the efficiency of bridge operations. According to stakeholders, the Texas Transportation Commission approved nearly \$1.7 million in a low-interest loan to Starr County for the restoration of the Roma-Ciudad Miguel Alemán International Suspension Bridge.

Starr-Camargo Bridge:

- » The U.S. Senate passed a bill in mid-2023 to expand the Starr-Camargo Bridge and improve the efficiency of commercial traffic. Stakeholders stated that the bridge is in a strategic location (i.e., the shortest route from Monterrey to the U.S. is through the Starr-Camargo Bridge) and fully utilizing its capacity and improving its connectivity would be beneficial to the U.S.

Anzalduas International Bridge:

- » Construction of commercial facilities to expand and modernize the Anzalduas International Bridge began in 2023. The construction of commercial facilities will aid truck inspections and improve efficiency while easing truck traffic at the nearby Pharr International Bridge.
- » Stakeholders recommended improving access roads to the Anzalduas International Bridge to facilitate the Bridge's commercial processing capacity (cargo).
- » Stakeholders mentioned that minor upgrades/investments (e.g., \$100 to \$115 million) are needed to enhance connectivity to the Anzalduas bridge. The Bridge Board has submitted a proposal for consideration to TxDOT to provide the Anzalduas bridge with connectivity to a controlled access facility three miles north of the bridge to I-2, to close the gap between the bridge and the interstate system.

McAllen-Hidalgo International Bridge:

- » This McAllen-Hidalgo International Bridge is in downtown Hidalgo. Stakeholders stated that the Bridge would greatly benefit from improved connectivity to I-2.
- » Improved communication between the U.S. and Mexican authorities would also improve the traffic flow at this bridge and reduce delays.

Pharr International Bridge:

- » The Pharr International Bridge expansion project will build a new three-mile span with four lanes (twin bridge) next to the existing bridge to add capacity for trucks.
- » Stakeholders recommended adding truck parking due to the high truck crossing volume at the bridge.

Donna-Rio Bravo International Bridge:

- » Partial funding has been secured for two northbound commercial lanes at this bridge. The total amount needed is \$100 million.

Progreso International Bridge:

- » Stakeholders recommended improving and expanding the Progreso POE for processing greater cargo traffic.

Free Trade International Bridge (Los Indios):

- » Stakeholders recommended improving and expanding the Los Indios POE for processing greater cargo traffic.
- » Cameron County is currently seeking funding to build industrial parks closer to the bridge to improve commercial activity. Infrastructure improvements to enhance efficiency and binational collaboration in 2023 included: new workspaces on the U.S. side, a new motorized gate, automated controls, and a perimeter security fence on the Mexico side. CBP's Donation Acceptance Program provided funding for the infrastructure improvements.



Brownsville Matamoros Express Bridge:

- » A Multimodal Corridor Project at an estimated cost of \$8.9 million is planned for Sam Perl Boulevard - a major access street for the bridge. The project includes improving transit amenities, safety improvements, crosswalks, landscaping, bioswales, and a raised center median.

Gateway International Bridge:

- » Stakeholders mentioned a planned \$130 million replacement of the entire Gateway International Bridge structure to increase capacity for vehicle and pedestrian traffic. The funding is expected to come from the 2021 Bipartisan Infrastructure Law. Additionally, there is a multimodal corridor proposed for International Boulevard.

Veterans International Bridge at Los Tomates:

- » There is a proposal to add four POV primary lanes, eight additional inspection bays, and a new head house at the POE.

First and Last Mile Airport Connectivity in the Rio Grande Valley

There are four airports in the Rio Grande Valley region in Texas: McAllen International Airport, South Texas International Airport, Harlingen Airport, and Brownsville South Padre Island International Airport. The Brownsville South Padre Island International Airport expansion project will allow the airport to accommodate cargo planes to serve SpaceX. The McAllen airport is not served by rail, but has good roadway connectivity to the international bridges, especially the McAllen-Hidalgo International Bridge due to its central location. Metro McAllen provides transit services to McAllen International Airport from its Central terminal. The McAllen International Airport is not a major freight airport but does handle specialty cargo that is delivered to Mexico by truck.

Airport Connectivity Challenges in the Rio Grande Valley

Stakeholders mentioned that there are long delays for trucks, as well as for POVs traveling from Mexico to the airports in the Rio Grande Valley Region, due to ongoing infrastructure projects in Mexico. For example, for people living in Reynosa, the hour-long drive to the Anzalduas International Bridge, plus the waiting time to cross the bridge, and the need to arrive early at the U.S. airport results in very long journeys. Furthermore, the City of McAllen mentioned that the Reynosa International Airport in Mexico is a competitor to the McAllen International Airport. Several Texas residents travel to Reynosa rather than McAllen to reach Mexican destinations to save on international taxes on their air tickets.

First and Last Mile Rail Connectivity in the Rio Grande Valley

Figure 2-48 shows the freight rail network in the Rio Grande Valley region. Three Short Line Railroads operate in the region: the Border Pacific Railroad, the Brownsville and Rio Grande International Railroad, and the Rio Valley Switching Company.

Freight Rail Connectivity Challenges

The West Rail Relocation project resulted in the building of the first international rail bridge in a hundred years. The Brownsville West Railroad Bridge opened in August 2015. Stakeholders only reported two needs to improve connectivity regarding the West Rail: the need to improve connectivity from the new rail yard north of US 83 to the Port of Brownsville, and investment to alleviate at-grade rail crossings. The connectivity challenge between the new rail yard and the Port of Brownsville could not be verified.



Planned Rail Improvements in the Rio Grande Valley

The operational and policy considerations listed by the Class I Railroads that were included earlier in the report are relevant to address connectivity challenges and increase the capacity of cross-border rail in the Rio Grande Valley region. One stakeholder mentioned a need for multimodal connectivity and rail infrastructure that can accommodate new traffic and connections with UP and BNSF. The stakeholder did not elaborate.

The Rio Valley Switching Company (RVSC) received a CRISI grant to help fund the completion of track-related improvements and upgrades to bridges along RVSC's rail network.

Figure 2-48: Freight Rail Network in the Rio Grande Valley



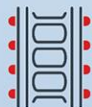
Source: Jacobs Analysis, 2025



3



Port-to-Port Connectivity



Introduction

Border crossings may be shut down due to infrastructure or technological failures, inclement weather, natural disasters, staffing shortages, political situations, or security concerns. Ensuring robust connectivity between border crossings is vital for maintaining continuous, resilient movement of people and goods.

The 2021 Texas-Mexico Border Transportation Master Plan (BTMP) recommended conducting regional connectivity studies to “assess connectivity issues and challenges between existing border crossings” and “from border crossings to Texas and Mexico seaports.” In response, TxDOT initiated this study to:

- » Evaluate redundancy in cross-border networks (i.e., how traffic can be diverted during a closure to minimize disruptions).
- » Identify potential infrastructure needs on corridors linking border crossings and seaports.

This chapter examines the scale and suitability of the infrastructure connecting border crossings, as well as linkages to maritime ports in Texas and Mexico, ultimately providing insights into how these connections can better support local and regional movement of people and goods.

Crossing-to-Crossing Connectivity Analysis

With the implementation of the NAFTA, the relationship between the U.S./Texas’s and Mexico’s industries evolved from buyers and sellers of raw materials to sophisticated and integrated binational supply chain partners. Industries started capitalizing on their competitive advantage so that intermediate products cross the border several times to add value while lowering overall production costs. With these new opportunities, U.S. merchandise trade with Mexico increased 699% and Texas merchandise trade with Mexico increased 738% between 1994 and 2023.

Trade with Mexico is anticipated to grow given more stringent rules of origin for goods (such as automotive parts) prescribed by the USMCA, several major shifts in the U.S. and Mexico’s domestic policy, and the post-COVID regionalization of supply chains that have accelerated nearshoring trends. It is therefore important to understand the impact of any natural or human-made disruptions to the border crossing process. In particular, the ability to maintain efficient connectivity between border crossings is essential. When one crossing is disrupted, whether by natural disasters, infrastructure failures or geopolitical issues, neighboring crossings must be able to absorb the redirected traffic.

Strong crossing-to-crossing connectivity enhances resilience, minimizes delays, and ensures that cross-border supply chains remain uninterrupted and globally competitive.

Bridge Closures and Alternative Crossings

According to CBP Laredo, bridge closures are infrequent occurrences and may be attributed to decisions by the Texas Governor/TxDPS or in some cases for unspecified reasons at the Mexican side of the border. In the event the Automated Commercial Environment Secure Data Portal (ACE Portal) going offline, CBP will continue operations using physical documentation, allowing a “conditional release” with a bond, and the broker paying the duties within 30 days. Shipments may, however, need to be held nearby (within city limits) for inspection by other agencies (e.g., such as the Federal Drug Administration). CBP expects a basic manifest cover page (e-manifest), otherwise the carrier is moved to the back of the line. In the event of a bridge closure, a carrier can divert and enter at any port by getting their broker to complete a “Report of Diversion” (CBP Form 26).



Alternative Crossing Analysis

The study conducted two analyses in relation to potential alternative crossings in the event of a closure:

- » An estimate of the local population served by one or more adjacent crossings that can be reached from either side of the border within a 30-minute drive time, and
- » Identification of existing infrastructure and travel times to alternative crossings which process the same modes of transport.

Additional information on methodology used for each of the analyses is provided in Appendix C.

West Region Alternative Crossing Analysis

The West Region of the Border Region Connectivity Plan covers an important segment of the U.S.–Mexico border, focusing on two primary crossing areas: El Paso and Presidio. This region includes crossings in El Paso, Santa Teresa, Ysleta, Tornillo, and Presidio.

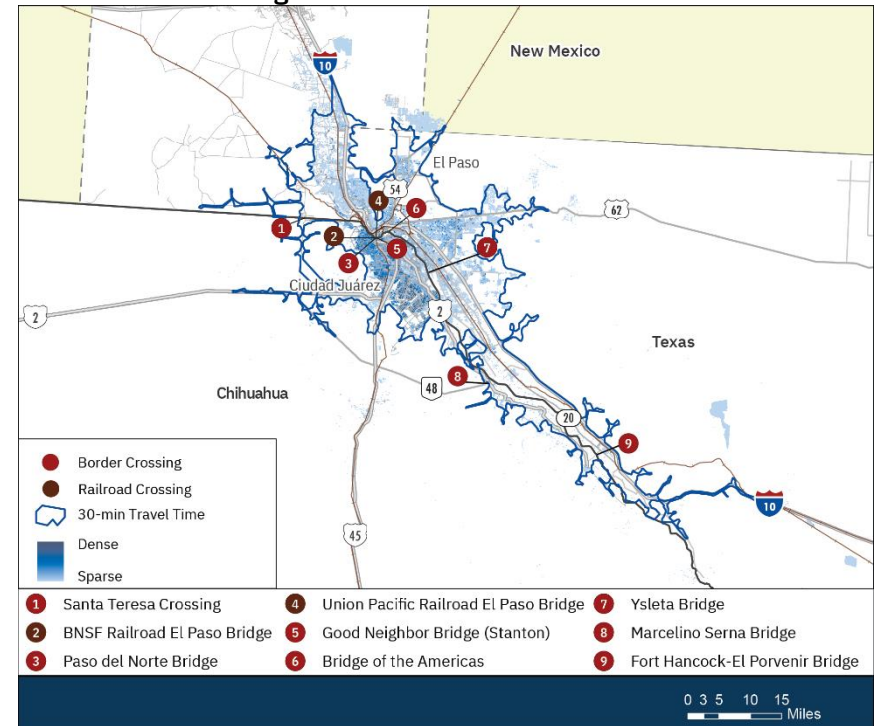
Santa Teresa and El Paso Alternative Crossing Analysis

There are seven crossings in the El Paso analysis. Functionally, the crossings in this could be considered as:

- » Urban connections which serve most of the population: Paso del Norte, Good Neighbor, Bridge of the Americas, and Ysleta. The Paso del Norte and Good Neighbor bridges could largely be considered a single crossing due to their proximity and downtown to downtown functionality.
- » Minor local crossings such as Marcelino Serna and Fort Hancock El Porvenir.
- » The crossing at Santa Teresa (New Mexico).

Figure 3-2 shows the population density map within a 30-minute drive of the international crossings.

Figure 3-2: Population Density Within 30 Minute Drive from International Crossings



Source: Jacobs Analysis, 2025



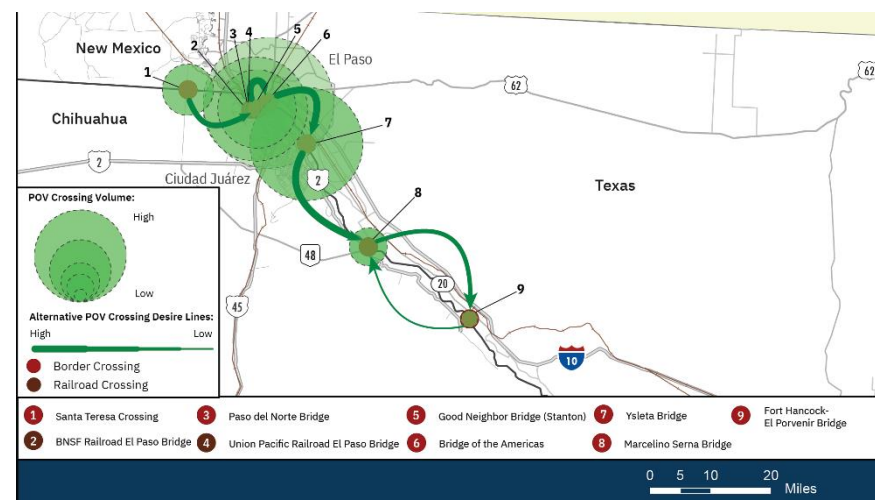
Table 3-1 summarizes simulation results of disrupted POVs crossings, their alternative crossings, and the connecting roads to those crossings. **Figure 3-3** shows that the urban connections between Paso del Norte and Good Neighbor (Stanton) Bridge are a network of small urban roads, which are subject to local traffic management during a closure event on one of the two bridges.

Table 3-1: Privately Owned Vehicle (POV) Alternative Crossing Analysis: Connecting Roads

	Crossing	POV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
1	Santa Teresa	Paso del Norte Bridge	NM 136	Carr. Anapra-San Jerónimo, Blvd Ing Bernardo Norzagaray
3	Paso del Norte Bridge	Bridge of the Americas	Delta Dr	Av. de Las Americas, C. Ing. David Herrera Jordán
4	Good Neighbor Bridge	Paso del Norte Bridge	Local Downtown Roads	Local Downtown Roads
6	Bridge of the Americas	Ysleta Bridge	SL 375	Blvd. Cuatro Siglos
7	Ysleta Bridge	Marcelino Serna Bridge	I-10	MEX-2
8	Marcelino Serna Bridge	Fort Hancock-El Porvenir Bridge	I-10	MEX-2
9	Fort Hancock-El Porvenir Bridge	Marcelino Serna Bridge	I-10	MEX-2

In comparison, Bridge of the Americas, Ysleta Bridge, and Santa Teresa are connected to a more strategic road network with clearer diversion options.

Figure 3-3: Alternative Crossing Analysis for POVs at the Santa Teresa and El Paso Border Crossings



Source: Jacobs Analysis, 2025

Northbound traffic on MEX-2 or MEX-45D was found to have several high-capacity orbital options at both sides of the border depending on the specific closure. MEX-45D and MEX-2 create a reliable outer ring between Santa Teresa and the Marcelino Serna Bridge.



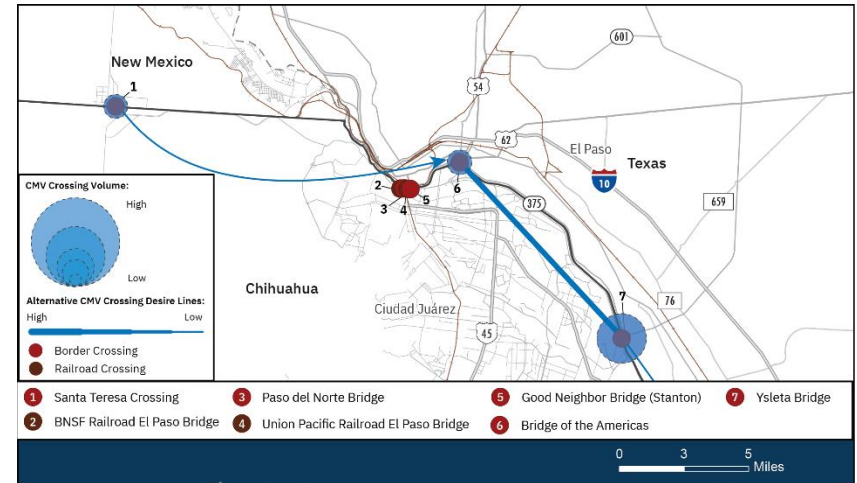
Similarly, for commercial vehicles, the Bridge of the Americas was found to be the closest alternative to Santa Teresa (**Table 3-2** and **Figure 3-4**). Congestion, however, is observed on multiple sections of I-10. Alternative roadways include the high-capacity SL 375 (six-lane) and Blvd. Cuatro Siglos (four-lane) at both sides of the border between Ysleta Bridge and Bridge of the Americas which are the main regional CMV crossings.

Table 3-2: Commercial Motor Vehicle (CMV) Alternative Crossing Analysis: Connecting Roads

	Crossing	CMV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
1	Santa Teresa	Bridge of the Americas	NM 136, I-10	Carr. Anapra-San Jerónimo, Blvd Ing Bernardo Norzagaray
6	Bridge of the Americas	Ysleta Bridge	SL 375	Blvd. Cuatro Siglos
7	Ysleta Bridge	Bridge of the Americas	SL 375	Blvd. Cuatro Siglos

Source: Jacobs Analysis, 2025

Figure 3-4: Alternative Crossing Analysis for CMVs at the Santa Teresa and El Paso Border Crossings



Source: Jacobs Analysis, 2025

Local Population Catchment

The local population is well served by the four urban international crossings, which is reflected in the high 30-minute population catchment scores across the region. The population catchment score measures how well the alternative crossing serves the population that is served by the closed crossing. The lowest population catchment score of 89% is at Fort Hancock-El Porvenir Bridge, which means that 89% of the demand could be served by the adjacent crossing. Also, this closure only impacts on about 10,000 people.



Table 3-3: El Paso Population Catchment Scores (High is better)

Population of crossing captured by an alternative crossing- Millions of people (% covered by alternative)		Santa Teresa	Paso del Norte Bridge	Good Neighbor Bridge	Bridge of the Americas	Ysleta Bridge	Marcelina Serna Bridge	Fort Hancock-El Porvenir Bridge
		1	3	4	6	7	8	9
Santa Teresa	1	0.88	0.87 (99%)	0.86 (97%)	0.85 (96%)	0.81 (91%)	N/A	N/A
Paso del Norte Bridge	3	0.87 (39%)	2.23	1.83 (82%)	2.19 (98%)	2.16 (97%)	0.1 (4%)	0 (0%)
Good Neighbor Bridge	4	0.86 (46%)	1.83 (98%)	1.86	1.85 (99%)	1.8 (97%)	0.06 (3%)	N/A
Bridge of the Americas	6	0.85 (38%)	2.19 (98%)	1.85 (83%)	2.24	2.19 (98%)	0.09 (4%)	0 (0%)
Ysleta Bridge	7	0.81 (35%)	2.16 (95%)	1.8 (79%)	2.19 (96%)	2.29	0.13 (5%)	0 (0%)
Marcelino Serna Bridge	8	N/A	0.1 (72%)	0.06 (41%)	0.09 (70%)	0.13 (92%)	0.14	0.01 (7%)
Fort Hancock-El Porvenir Bridge	9	N/A	0 (0%)	N/A	0 (0%)	0 (31%)	0.01 (89%)	0.01

Source: Jacobs Analysis, 2025



Diversion Routes, Wait Times, and Volumes

For each of the international crossings, a qualitative assessment was made regarding the most viable potential alternative international crossing in the event of closure. The process involved:

- » Identifying the nearest alternative that can process either POVs/buses or CMVs.
- » Identifying the potential routes and the current characteristics of key stretches of the route (in terms of number of lanes and whether a divided or undivided highway).
- » Identifying the total number of processing lanes for POVs/buses and CMVs and the typical average wait times throughout the day.

For the Santa Teresa and El Paso border crossings, the following observations were made should a closure occur, and a diversion be warranted:

- » Ysleta Bridge carries more than triple the truck volume of Santa Teresa or Bridge of the Americas and has delays of up to 45 minutes despite typically opening all eight of its standard/FAST commercial processing lanes. In the event of closure at Ysleta Bridge, the border processing delays at the nine alternative processing lanes (six at Bridge of the Americas and three at Santa Teresa) pose a greater risk to CMV crossing times than the delays on the interconnecting infrastructure.
- » Investments in border processing facilities would provide greater value towards travel time resiliency than highway improvements.
- » Additional land is being purchased around the Santa Teresa Crossing for expansion of the processing facilities, and the New Mexico Department of Transportation (NMDOT) is undertaking a feasibility study of overpasses over two junctions on NM 136, and a potential

connection from NM 136 to I-10. The planned expansion would also increase Bridge of the Americas processing lanes to up to 34 (POV).

- » The introduction of CMV processing at the Marcelino Serna Bridge, combined with the El Paso Outer Loop would help increase resiliency for commercial traffic, though carriers have expressed security concerns in the region to the south-east of Ciudad Juárez. There are also no warehouses, yards or truck maintenance facilities in the Tornillo area, which reduces the attractiveness of the crossing.
- » I-10 to the south-east of El Paso is planned to be widened in Spring of 2025. SH 20 parallel to that stretch of I-10 is a two-lane configuration and is insufficient to handle demand when I-10 is impacted. A feasibility study is underway for the corridor west of SH 20 between the Ysleta and Marcelino Serna Bridges.
- » MEX-2 between Marcelino Serna and Fort Hancock-El Porvenir is only a two-lane connection, though daily border volumes are less than 1,000/day, which can easily be accommodated on this road during a closure event. There is a view that much of MEX-2 would benefit from improved maintenance and the addition of a shoulder.



Case Study: Traffic Diversion during Bridge of the Americas Closure (September 9, 2023, to October 10, 2023)

The Bridge of the Americas is open 24 hours every day for POV traffic, and from Monday to Friday for cargo. The major roadways to the bridge are I-10 North, US 54, US 62, and I-10 East. An origin-destination analysis of the bridge found that on a typical day, most origins for truck traffic going southbound are from industrial areas along I-10 East, between El Paso and Ysleta. These areas have several large manufacturing, warehousing, and logistics companies, surrounded by retail stores. For northbound truck traffic from Mexico, most destinations are along I-10 East, with some destinations along I-10 West in New Mexico. StreetLight Data showed that a significant share of the truck traffic has a destination near the Bridge.

The bridge was closed for cargo processing from September 9, 2023, to October 10, 2023, due to an increase in migrant crossings. Traffic was diverted to the Ysleta Bridge, Marcelino Serna Bridge, and the Santa Teresa Crossing in New Mexico. StreetLight Data analysis did not show many trucks diverting to the Marcelino Serna Bridge. Instead, most trucks diverted to the Ysleta Bridge and Santa Teresa Crossing. However, differences in the preference of routes for southbound and northbound traffic during the Bridge closure were observed (**Figure 3-5 to Figure 3-6**).

Figure 3-5: Southbound Truck Traffic – 2023 Typical Truck Flows

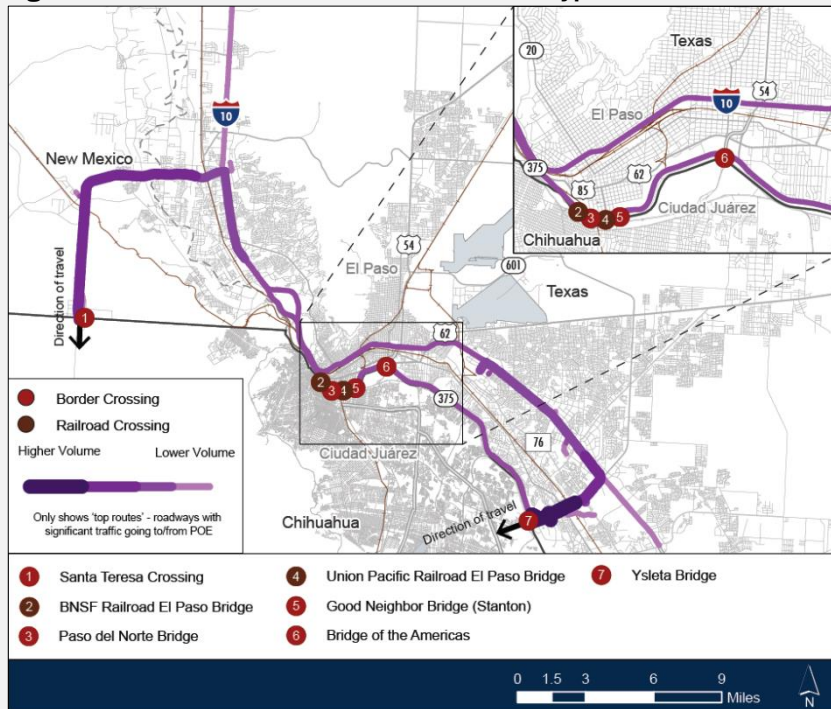
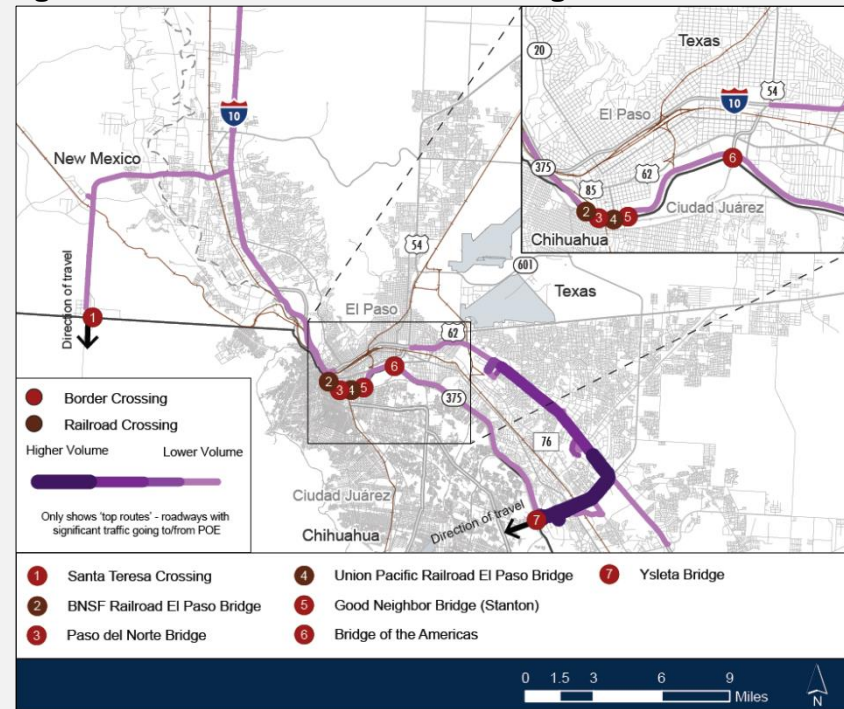


Figure 3-6: Southbound Truck Traffic – During Closure



Source: Jacobs Analysis, 2025



Case Study: Traffic Diversion during Bridge of the Americas Closure (September 9, 2023, to October 10, 2023)

For southbound traffic, a comparison with a typical traffic day shows that during the closure period, truck traffic to the Ysleta Bridge was significantly higher than to the Santa Teresa Crossing, pointing towards the preference for using the Ysleta Bridge for southbound trips. Since a higher percentage of the trips originated along I-10 East, it may mean that it was closer to drive to the Ysleta Bridge to enter Mexico during the closure.

However, for northbound truck traffic, the pattern was the opposite during the closure. **Figure 3-7** and **Figure 3-8** show the northbound truck traffic during a typical day in 2023 and during the closure, respectively. Northbound trips crossing at the Santa Teresa Crossing were higher than at the Ysleta Bridge prior to the closure, but the share of northbound trips crossing at the Santa Teresa Crossing increased further during the closure, though overall traffic reduced during that period.

Figure 3-7: Northbound Truck Traffic – 2023 Typical Truck Flows

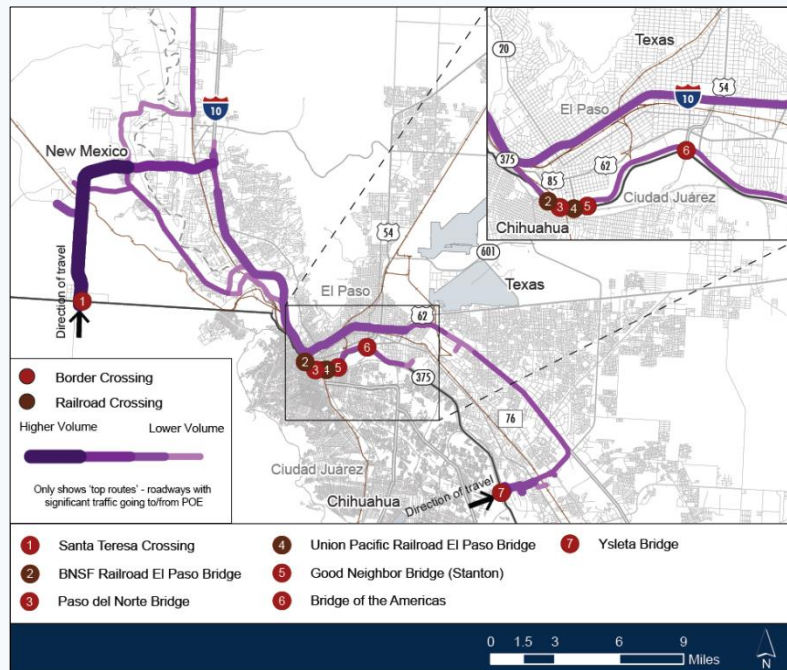
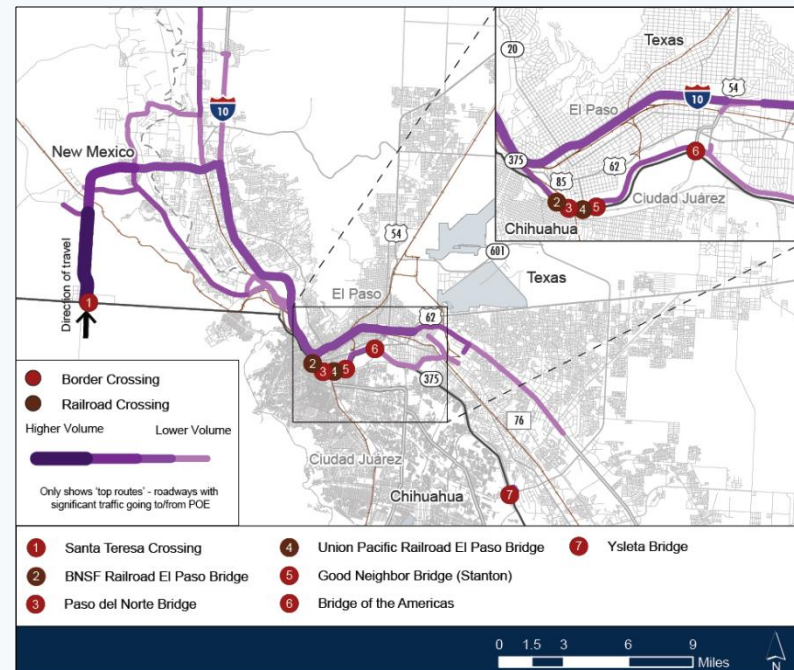


Figure 3-8: Northbound Truck Traffic – During Closure



Source: Jacobs Analysis, 2025



Case Study: Traffic Diversion during Bridge of the Americas Closure (September 9, 2023, to October 10, 2023)

In summary, the following patterns were observed during the 2023 Bridge of the Americas closure:

- » Southbound truck traffic largely used the Ysleta Bridge to cross into Mexico, possibly due to the proximity of the truck trips’ origins along I-10 East.
- » Northbound truck traffic largely used Santa Teresa to cross. This could be due to the higher traffic volume and longer wait times at the Ysleta Bridge or due to safer/less congested northbound routes to Santa Teresa, and subsequently to I-10 from NM 178.

Presidio Alternative Crossing Analysis

Figure provides the population density within a 30-minute drive of the Presidio-Ojinaga International Bridge crossing. The nearest alternative crossing to Presidio is the Ysleta Bridge, which requires an approximately 360-mile detour on the Mexican side and around 260-mile detour on the U.S. side. US 67/SH 17 and MEX-16 in/out of Presidio/Ojinaga are high-quality, winding, two-lane roads which feed into I-10 and the MEX-45D toll road which are both four-lane, higher speed, and limited access facilities.

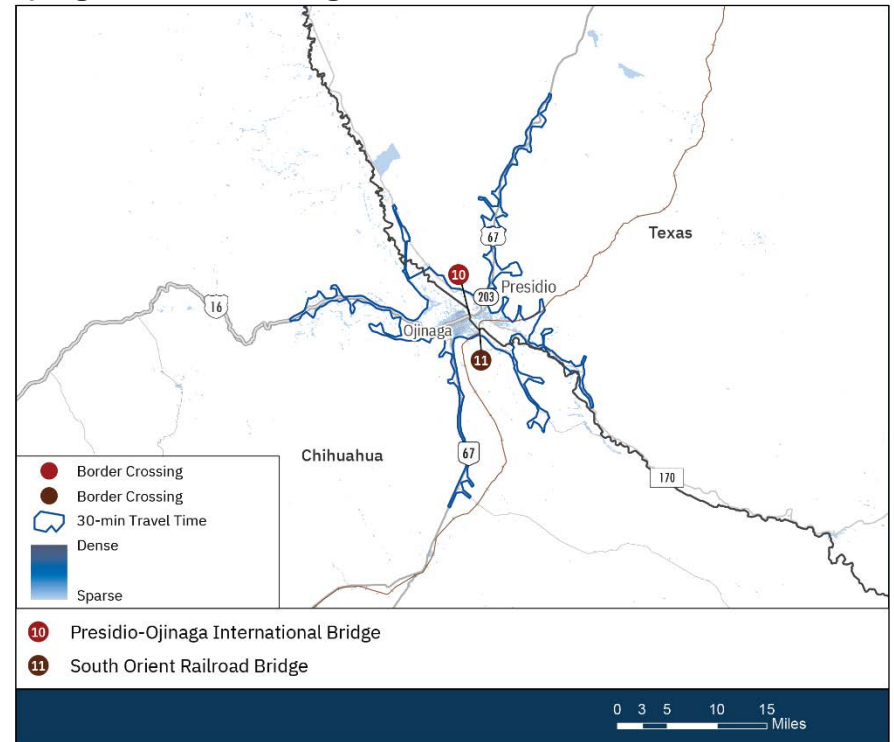
Table 3-4 and **Figure 3-9** show the alternative(s) analyzed, and the connecting roads in Texas and Chihuahua that were analyzed for POVs and CMVs in the event of a Presidio-Ojinaga International Bridge closure.

Table 3-4: POV and CMV Alternative Crossings and Connecting Roads from Presidio

	Crossing	POV and CMV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
10	Presidio-Ojinaga International Bridge	Ysleta Bridge	US 67, US 90, I-10	MEX-45, MEX-45D, MEX-16, MEX-80D

Source: Jacobs Analysis, 2025

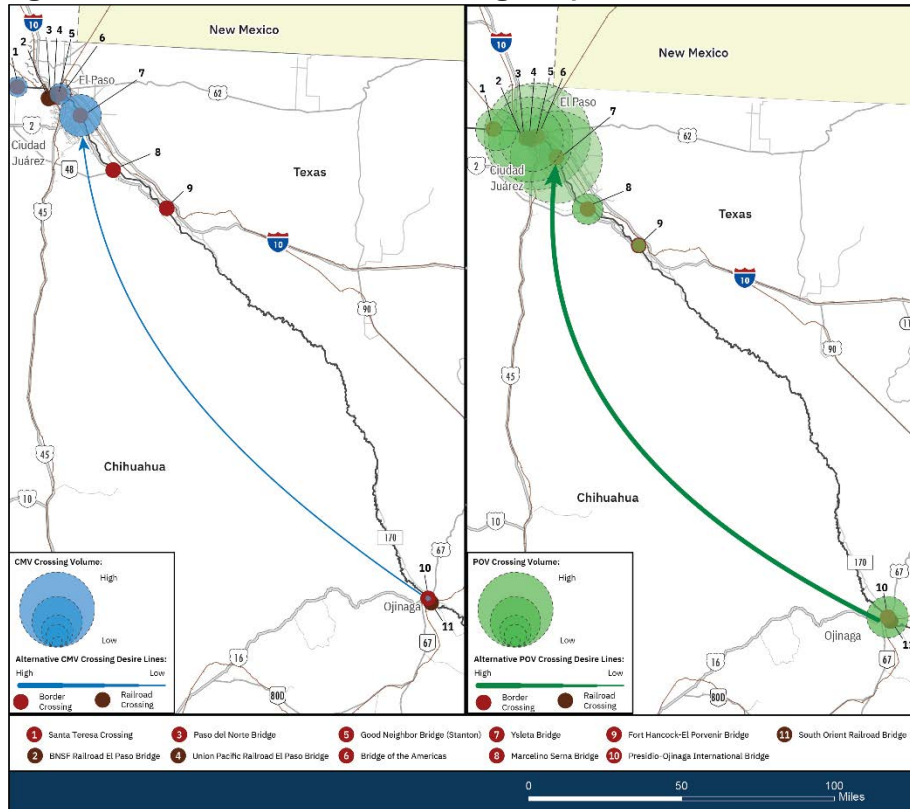
Figure 3-9: Population Density Within 30 Minute Drive from Presidio-Ojinaga International Bridge



Source: Jacobs Analysis, 2025



Figure 3-10: Presidio Alternative Crossing Analysis for POVs and CMVs



Source: Jacobs Analysis, 2025

Local Population Catchment in Presidio

The single crossing between Presidio and Ojinaga returns the lowest population catchment score as the next nearest crossing requires a several hundred-mile detour. In other words, none of the demand can be served within a 30-minute drive of the Presidio-Ojinaga International Bridge by an adjacent crossing. A second border crossing in Presidio would increase local resiliency (particularly if flood-proof), but local demand is limited to less

than 2,000 northbound vehicles/day so a second crossing in the region might be a lower priority.

Diversion Routes, Wait Times, and Volumes in Presidio

- » The attractiveness of US 67 to longer distance CMVs and nearshoring activities would increase with additional service stations/garages, improved cell coverage, and charging facilities for electric vehicles.
- » Improvements are also needed on US 90 as some stretches are considered narrow and unsafe. Furthermore, there are two railroad crossings with low bridge clearance: one at Alpine (13'7") and one just south of Van Horn (14'3") which force trucks to use SH 17 north of Marfa to access I-10.
- » On the Mexican side, the MEX-67 beyond Ojinaga would benefit from enhanced road safety, and increased connectivity between Ojinaga towards Monclova was also identified.
- » The Texas Pacific Transportation Limited (TXPF) rail crossing will soon be reinstated as construction on the CBP facility broke ground in September 2024. There is a need for warehousing to support commercial trucks once operations commence.



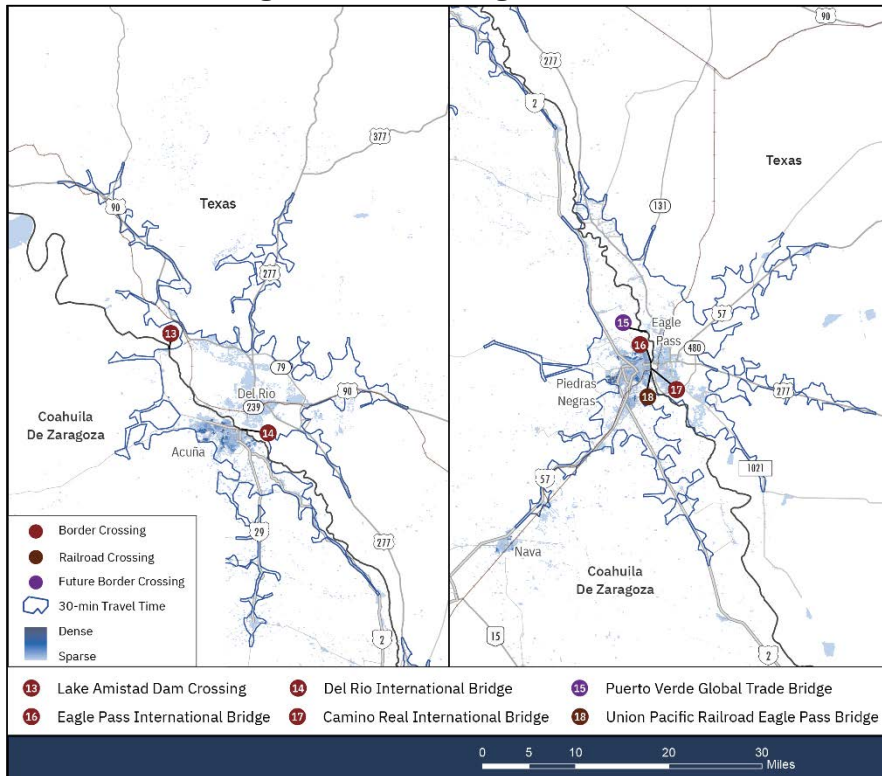
Central Region Alternative Crossing Analysis

The Central Region of the Border Region Connectivity Plan includes the ports of entry at Del Rio, Eagle Pass and Laredo.

Del Rio/Eagle Pass Alternative Crossing Analysis

There are four crossings in the Del Rio/Eagle Pass region. **Figure 3-11** provides the population density within a 30-minute drive of the international crossings.

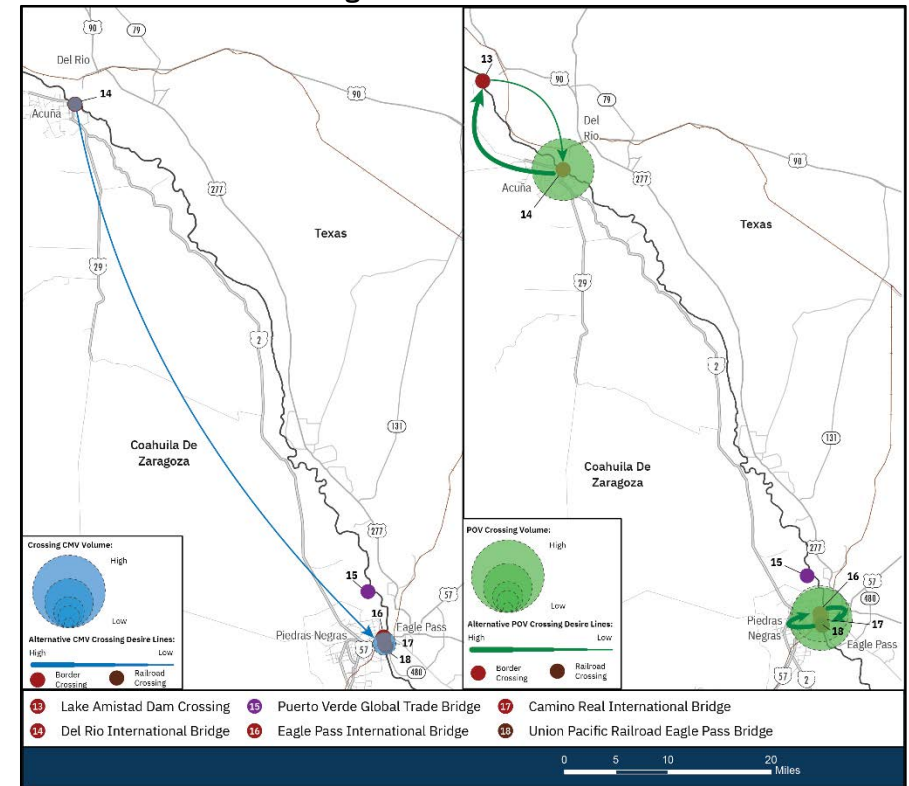
Figure 3-11: Population Density Within 30-Minute Drive from International Crossings in Del Rio and Eagle Pass



Source: Jacobs Analysis, 2025

Figure 3-12 provides a visual analysis of the POV and CMV alternatives analysis that was conducted given a crossing closure in the Del Rio/Eagle Pass area.

Figure 3-12: Del Rio/Eagle Pass Alternative Crossing Analysis for POVs and CMVs in Del Rio and Eagle Pass



Source: Jacobs Analysis, 2025



Table 3-5 and **Table 3-6** provide the crossing that was disrupted, the alternative(s) analyzed, and the connecting roads in Texas and Coahuila that were analyzed for POVs and CMVs, respectively.

Table 3-5: POV Alternative Crossing Analysis: Connecting Roads

	Crossing	POV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
13	Lake Amistad Dam Crossing	Del Rio International Bridge	US 277 US 290	MEX-2, Lib. Emilio Mendoza Cisneros Ave Sur Pte
14	Del Rio International Bridge	Lake Amistad Dam Crossing	US 277 US 290	MEX-2, Lib. Emilio Mendoza Cisneros Ave Sur Pte
16	Eagle Pass International Bridge	Camino Real International Bridge	S Monroe St	Downtown roads
17	Camino Real International Bridge	Eagle Pass International Bridge	S Monroe St	Downtown roads

Source: Jacobs Analysis, 2025

The urban crossings within Eagle Pass are only around ½ mile apart and are connected by a grid network of urban roads on the Mexican side of the border, and by the four-lane undivided S Monroe St on the U.S. side. Diverted traffic could also use MEX-2 and US 277/US 83 - both undivided two-lane roads which provide connectivity between alternative crossings in Del Rio, Eagle Pass, and Laredo.

Table 3-6: CMV Alternative Crossing Analysis: Connecting Roads

	Crossing	CMV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
14	Del Rio International Bridge	Camino Real International Bridge	US 277	MEX-2
16	Camino Real International Bridge	Colombia Solidarity Bridge	US 832 or Old Mines Rd	MEX-2

Source: Jacobs Analysis, 2025

Appendix C provides more detailed information on the alternative crossing analysis performed for Del Rio and Eagle Pass border crossings.

Local Population Catchment in Del Rio and Eagle Pass

The local population is well served by the four international crossings, which is reflected in the high 30-minute population catchment scores across the region (**Table 3-7**). The lowest population catchment score of 96% is at the Del Rio International Bridge, which means that 96% of the demand could be served by the Lake Amistad Dam Crossing. This closure would impact about 180,000 people.



Table 3-7: Del Rio/Eagle Pass Population Catchment Scores

Population of crossing captured by alternative- Millions (% alternative coverage)	Lake Amistad Dam Crossing	Del Rio International Bridge	Eagle Pass International Bridge	Camino Real International Bridge
	9	14	16	17
Lake Amistad Dam Crossing	9	0.18 (100%)	N/A	N/A
Del Rio International Bridge	14	0.18 (96%)	0.19	N/A
Eagle Pass International Bridge	16	N/A	N/A	0.22 (99%)
Camino Real International Bridge	17	N/A	0.22 (100%)	0.22

Source: Jacobs Analysis, 2025

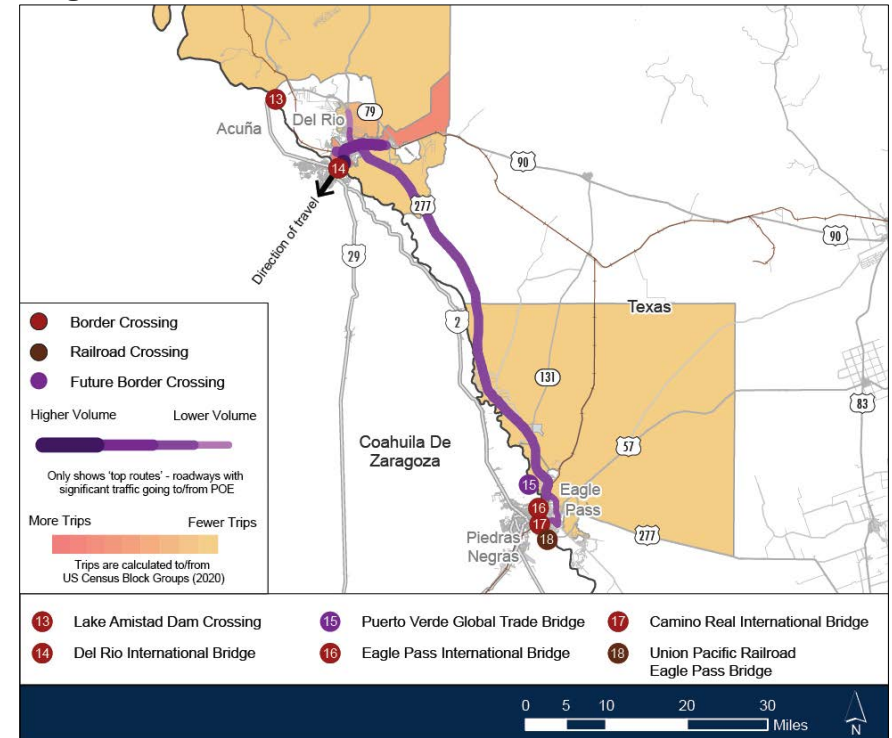
Diversion Routes, Wait Times, and Volumes in Del Rio and Eagle Pass

- » US 277 between Del Rio and Eagle Pass offers the most direct option for POV and truck movements should there be a disruption on either border crossing location (**Figure 3-13**).
- » US 277/US 83 between Eagle Pass and Laredo is 125 miles long and is approximately 11 miles longer than the more direct and unpaved Eagle Pass Road/Old Mines Road. The existing route also handles slow turning oil and gas vehicles, which impacts the reliability of travel times between the border regions. The more direct route along Eagle Pass

Road/Old Mines Road could potentially be upgraded to increase connectivity and improve reliability between cities.

- » Many stretches of MEX-2 are considered narrow, poorly maintained/illuminated, and lacking adequate security – truck drivers typically avoid this route as a result.

Figure 3-13: Southbound Top Truck Routes to Del Rio International Bridge – 2021



Source: Jacobs Analysis, 2025



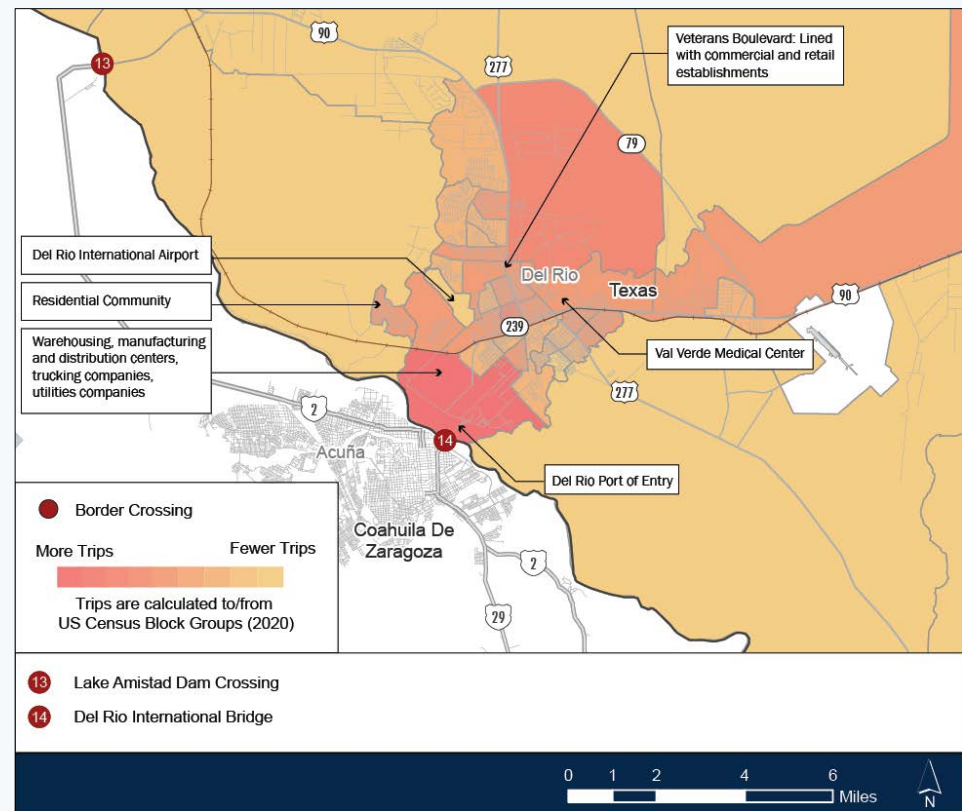
Case Study: Traffic Diversion during Del Rio International Bridge Closure (September 17, 2021, to September 25, 2021)

The Del Rio International Bridge processes traffic 24 hours every day for POVs and from Monday to Saturday for cargo. The major roadways leading to the Bridge are US 90 East, US 90 North, and US 277 South. An origin/destination analysis of the bridge identified US 277 as the most used route by vehicles from industrial/commercial areas in Eagle Pass where several truck rental, service and logistics companies are located.

Significant southbound traffic to Mexico via the Del Rio International Bridge was found to originate from within five miles of the bridge. These trips come from Frontera Road west of the Bridge, where several manufacturing, logistics, and import-export companies, trucking companies and parking areas are located. Del Rio's main street, Veterans Boulevard (dotted with grocery and furniture stores, along with repair shops and restaurants), generates significant southbound traffic as well. The Val Verde Regional Medical Center is a major node for trips to and from Del Rio and stands out as a zone generating southbound trips. Downtown Del Rio, due to its trucking and service shops along US 57, and areas along Frontera Road west of the Bridge, are also major sources for trucks. Industrial areas in Eagle Pass, which have truck parking, manufacturing, and logistics companies, also generate a small number of truck trips using the Del Rio International Bridge. Northbound trips depict a similar pattern. Most POV trip destinations in Del Rio are near the Bridge, in residential areas, and along Veterans Boulevard. Several northbound trips are also made to the Val Verde Regional Medical Center.

The bridge was closed for around nine days from September 17, 2021, to September 25, 2021, after thousands of migrants set up camps under the bridge. Traffic was re-routed to Eagle Pass, which is nearly 60 miles south of Del Rio.

Figure 3-14: Top Origins (Census Blocks) for Southbound Trips through Del Rio International Bridge All Vehicles (2021)



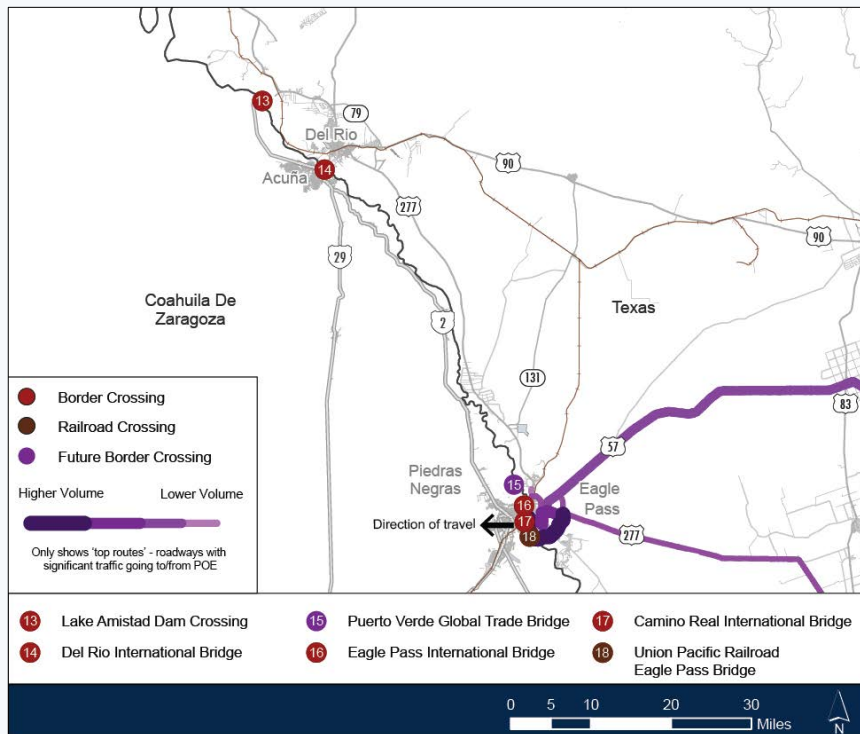
Source: Jacobs Analysis, 2025



Case Study: Traffic Diversion during Del Rio International Bridge Closure (September 17, 2021, to September 25, 2021)

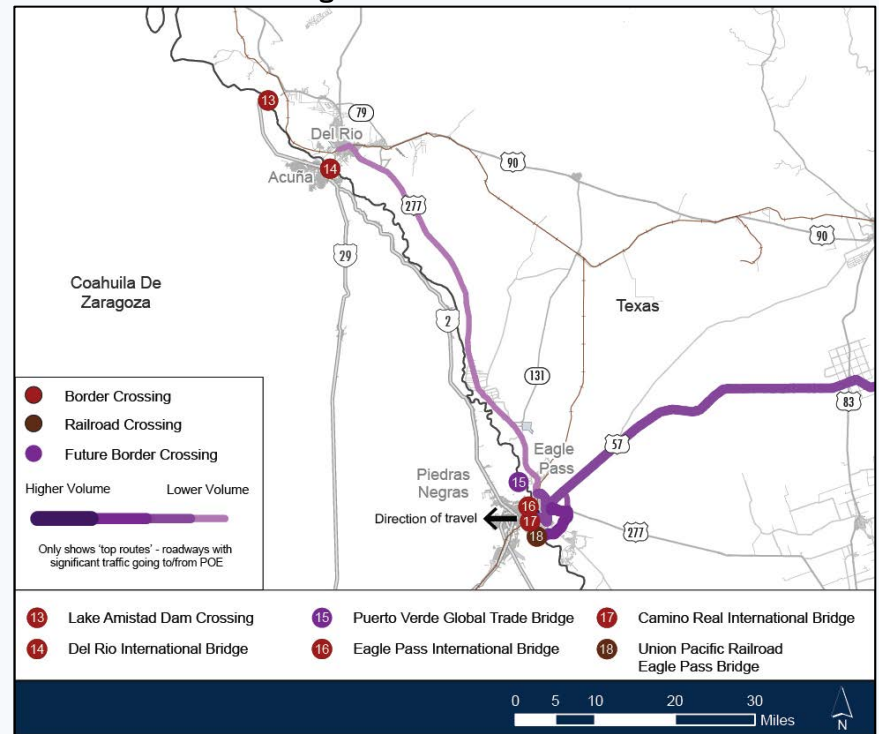
During the closure period, Southbound POV traffic was diverted to Eagle Pass International Bridge using US 277. Southbound truck traffic was also diverted to Eagle Pass (Camino Real International Bridge) using US 277. An increase in volume on US 277 is observed during this period, as shown in the comparison between **Figure 3-15** and **Figure 3-16**.

Figure 3-15: Southbound Top Routes To Eagle Pass – 2021 Typical Truck Flows



Source: Jacobs Analysis, 2025

Figure 3-16: Southbound Top Routes To Eagle Pass – During Closure at Del Rio International Bridge – Truck Flows



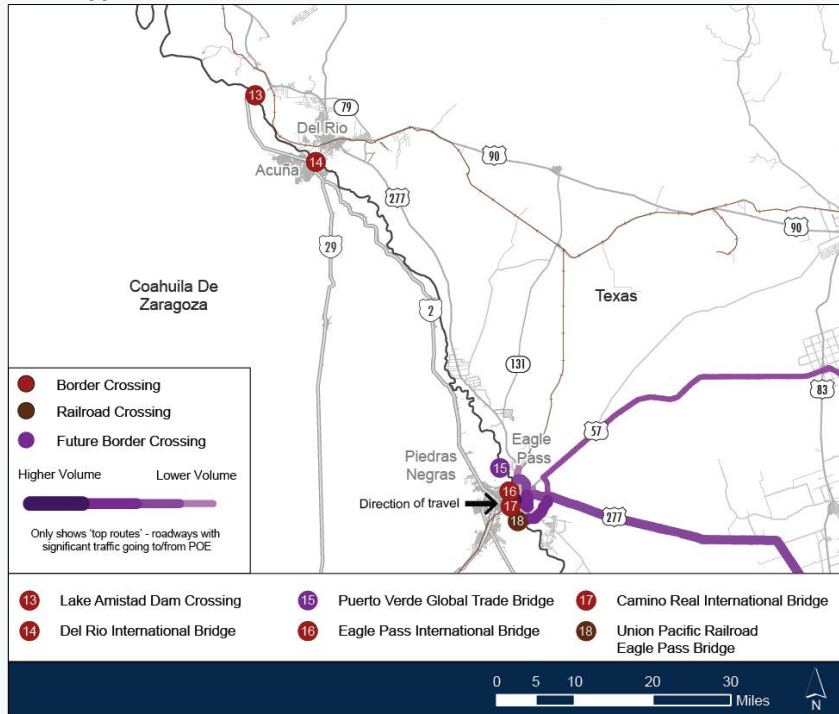
Source: Jacobs Analysis, 2025



Case Study: Traffic Diversion during Del Rio International Bridge Closure (September 17, 2021, to September 25, 2021)

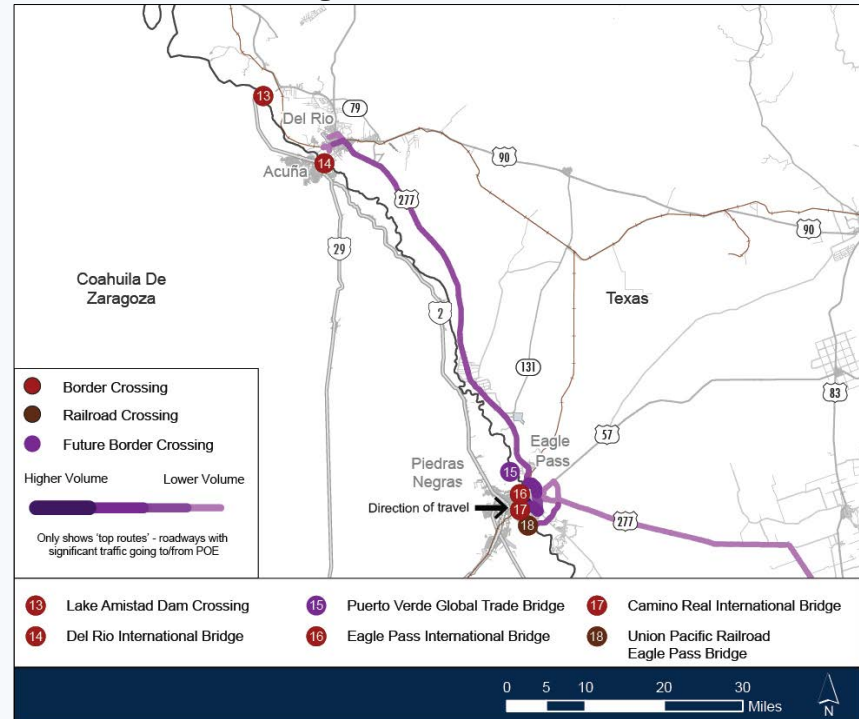
Figure 3-17 and **Figure 3-18** show the comparison between typical 2021 northbound truck traffic and closure period truck traffic. During the closure period, trucks used US 277 to go to destinations Del Rio, with West Gibbs Street and North Bedell Avenue standing out as major routes. Northbound POV traffic was also found to cross into the U.S. using the Eagle Pass International Bridge. Not many trips were made to Del Rio, with amenities in Eagle Pass likely being utilized instead (retail and commercial).

Figure 3-17: Northbound Top Routes To Eagle Pass – 2021 Typical Truck Flows



Source: Jacobs Analysis, 2025

Figure 3-18: Northbound Top Routes To Eagle Pass – During Closure at Del Rio International Bridge – Truck Flows



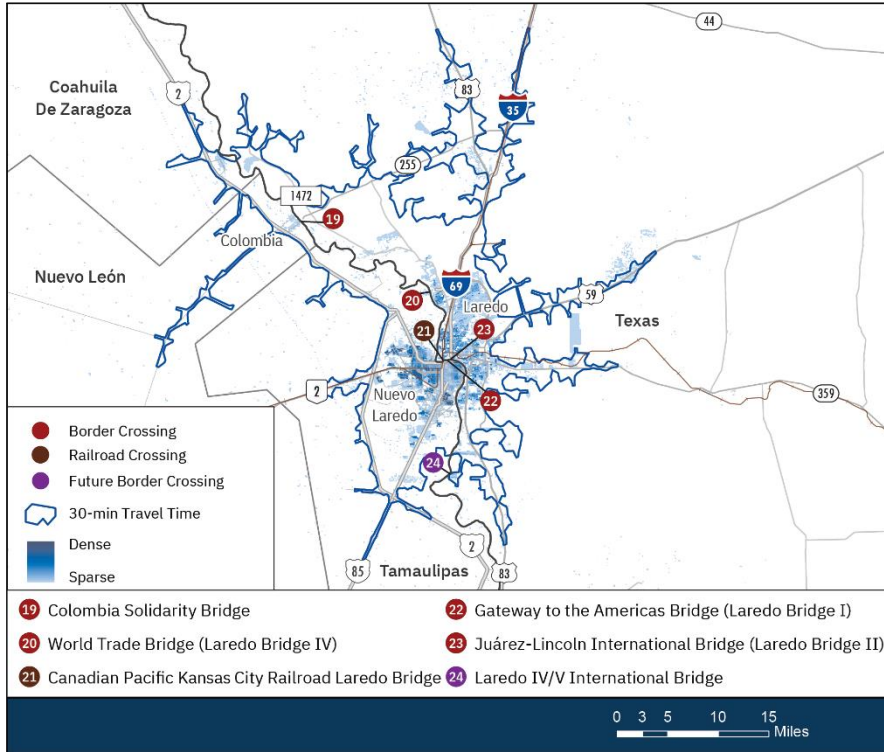
Source: Jacobs Analysis, 2025



Laredo Alternative Crossing Analysis

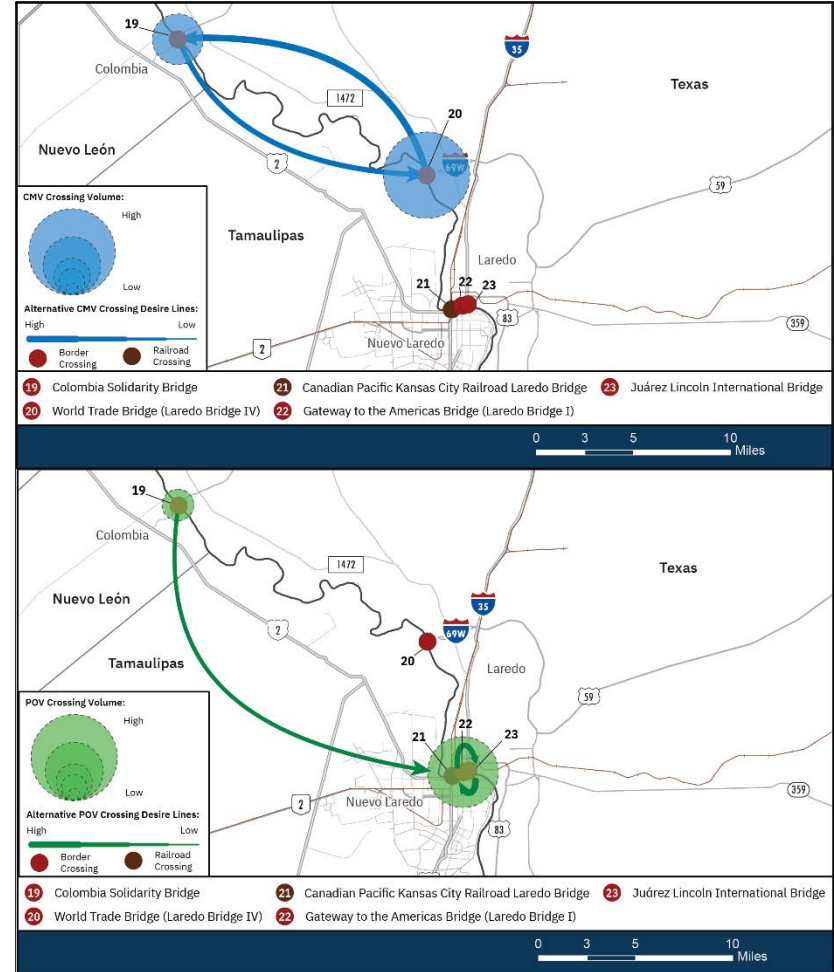
There are four crossings in the Laredo region. **Figure 3-19** provides the population density within a 30-minute drive of the international crossings. **Figure 3-20** also shows the POV and CMV alternatives that were identified should there be a closure at one of the crossings in Laredo.

Figure 3-19: Population Density Within 30-Minute Drive from International Crossings



Source: Jacobs Analysis, 2025

Figure 3-20: Alternative Crossing Analysis for CMVs and POVs in Laredo



Source: Jacobs Analysis, 2025



Table 3-8 and **Table 3-9** provide the crossing that was disrupted, the alternative(s) analyzed, and the connecting roads in Texas and Nuevo León/Tamaulipas that were analyzed for CMVs and POVs, respectively.

The POV downtown crossings of Gateway to the Americas Bridge (Laredo Bridge I) and the Juárez-Lincoln International Bridge are 1/3 mile apart and are connected by a grid of narrow east-west one-way streets, with high frontage activity in both Laredo and Nuevo Laredo.

The commercial crossings to the north-west of Laredo are connected via the four-lane MEX-2 in Mexico and the four/six-lane FM 1472 (Mines Rd) in the U.S. Travel times along MEX-2 are reliable, however, Mines Rd consistently suffers from congestion as it handles trade and local light-industrial traffic, as well as residential traffic.

Many stretches of MEX-2 are considered narrow, poorly maintained/illuminated, and lacking adequate security – truck drivers typically avoid this route as a result.

Table 3-8: CMV Alternative Crossing Analysis: Connecting Roads

	Crossing	CMV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
19	Colombia Solidarity Bridge	World Trade Bridge (Laredo Bridge IV)	Mines Rd	MEX-2
20	World Trade Bridge (Laredo Bridge IV)	Colombia Solidarity Bridge	Mines Rd	MEX-2

Source: Jacobs Analysis, 2025

Table 3-9: POV Alternative Crossing Analysis: Connecting Roads

	Crossing	POV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
19	Colombia Solidarity Bridge	Gateway to the Americas	FM 255	MEX-2, Blvr. Luis Donaldo Colosio Norponiente, Downtown Laredo roads
20	Gateway to the Americas	Juárez-Lincoln International Bridge	Lincoln St, Hidalgo St	C Nicholas Bravo, C Hidalgo
23	Juárez-Lincoln International Bridge	Gateway to the Americas	Lincoln St, Hidalgo St	C Nicholas Bravo, C Hidalgo

Source: Jacobs Analysis, 2025

Local Population Catchment

The local population in Laredo is well served with the two downtown international crossings which is reflected in the high 30-minute population catchment scores at 98% and 100% (**Figure 3-19**). The lowest population catchment score of 40% is at the Juárez-Lincoln International Bridge, which means that only 40% of the demand could be served by the Colombia Solidarity Bridge. This closure would impact about 290,000 people.



Table 3-10 Del Rio/Eagle Pass Population Catchment Scores

Population of crossing captured by alternative Millions (% alternative coverage)		Lake Amistad Dam Crossing	Del Rio International Bridge	Eagle Pass International Bridge	Camino Real International Bridge
		9	14	16	17
Lake Amistad Dam Crossing	9	0.18	0.18 (100%)	N/A	N/A
Del Rio International Bridge	14	0.18 (96%)	0.19	N/A	N/A
Eagle Pass International Bridge	16	N/A	N/A	0.22	0.22 (99%)
Camino Real International Bridge	17	N/A	N/A	0.22 (100%)	0.22

Source: Jacobs Analysis, 2025

Diversion Routes, Wait Times, and Volumes in Del Rio and Eagle Pass

- » Delays are typically higher at the larger Juárez-Lincoln International Bridge than at the four SENTRI lanes at Gateway to the Americas.
- » The closure of Gateway to the Americas could likely be accommodated by the Juárez-Lincoln Bridge as they typically only open around half of the 15 Ready lanes available. Conversely, the closure of the Juárez-Lincoln International Bridge would create significant border delays that could not be mitigated – these pose a greater risk to POV crossing times than the delays on the interconnecting infrastructure.
- » Commercial traffic can be reassigned between the two crossings within the U.S. as they are both part of the same CBP region. However,

payments on the Mexican side are made to two different Mexican States which inhibits diversion.

- » Mines Road (FM 1472) suffers the most serious congestion between truck crossings. It is currently under improvement review by TxDOT.



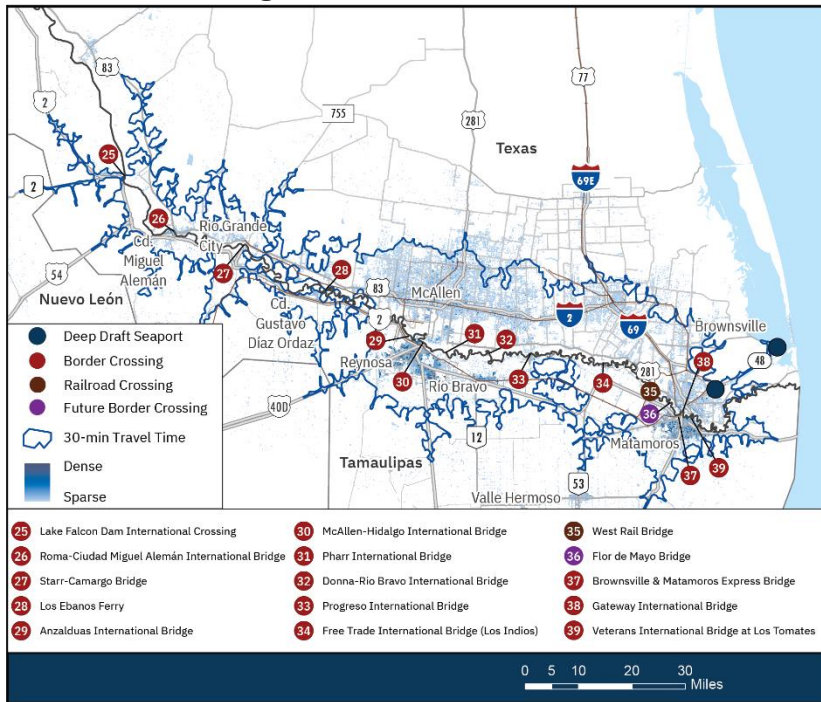
South Region Alternative Crossing Analysis

The South Region (also referred to as the Rio Grande Valley) includes the ports of entry at Roma, Rio Grande City, Hidalgo, Pharr, Progreso, and Brownsville, and a total of 13 vehicle crossings.

Rio Grande Valley Alternative Crossing Analysis

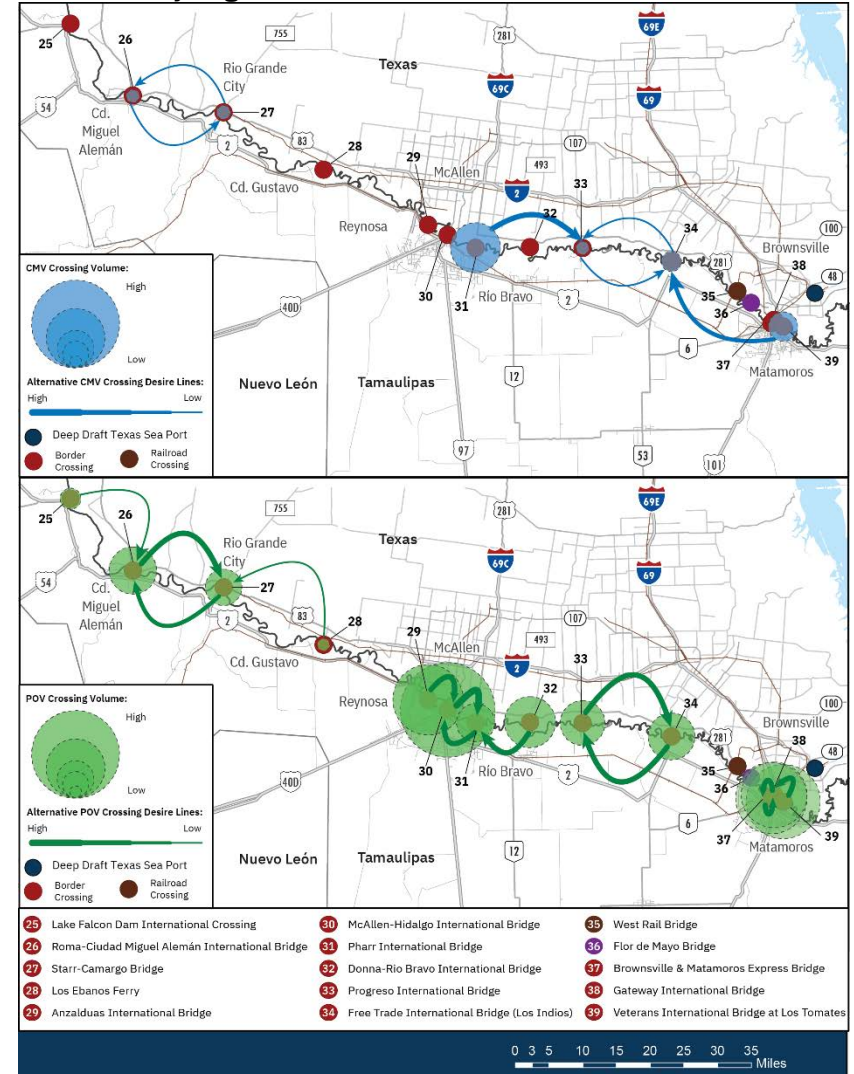
Figure 3-21 shows the population density within a 30-minute drive of the international crossings. **Figure 3-22** also shows the CMV and POV alternatives for crossing closures in the Rio Grande Valley region.

Figure 3-21: Population Density Within 30-Minute Drive from International Crossings



Source: Jacobs Analysis, 2025

Figure 3-22: Alternative Crossing Analysis for CMVs and POVs in Rio Grande Valley Region



Source: Jacobs Analysis, 2025



Table 3-11 and **Table 3-12** show the CMV and POV simulation results should a crossing be disrupted, the alternative(s) available, and the connecting roads in Texas and Tamaulipas, respectively. The Mexican side of the Rio Grande Valley is connected via MEX-2, which is mostly an undivided two-lane road, with long stretches of “half-lanes” to assist passing. Many segments of MEX-2 have been identified as a security risk. Between Rio Bravo and Free Trade International Bridge, MEX-2D is a high-quality, tolled, four-lane configuration. On the U.S. side of the border, the Rio Grande Valley is connected from east to west via:

- » US 83 – a high quality undivided two-lane highway.
- » I-2 – interstate quality starting to the west of Havana near the Los Ebanos Ferry crossing and ending at I-69E/US 77/US 83 in Harlingen.
- » The I-69E which runs almost to the easternmost crossing Veterans International Bridge at Los Tomates.

Local Population Catchment

Overall, most crossings in the Rio Grande Valley have a high local population catchment score, meaning they are well served in the event of a closure. The lowest regional local population catchment score is at the Free Trade International Bridge, where at most only 56% of the local population within a 30-minute drive can be diverted to another crossing. Most of the population in this area is in the Harlingen and San Benito areas on the U.S. side, which are more likely to interact with Matamoros than areas immediately south of the crossing which is predominantly agricultural land.

Table 3-11: CMV Alternative Crossing Analysis: Connecting Roads in the Rio Grande Valley

	Crossing	CMV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
26	Roma-Ciudad Miguel Alemán International Bridge	Starr-Camargo Bridge	US 83	MEX-2
27	Starr-Camargo Bridge	Roma-Ciudad Miguel Alemán International Bridge	US 83	MEX-2
31	Pharr International Bridge	Progreso International Bridge	US 281	MEX-2, MEX-20
33	Progreso International Bridge	Free Trade International Bridge	US 281, FM 2556, I-2	MEX-20
34	Free Trade International Bridge	Progreso International Bridge	US 281, FM 1015, I-2	MEX-20
39	Veterans International Bridge at Los Tomates	Free Trade International Bridge	US 281	MEX-2

Source: Jacobs Analysis, 2025



Table 3-12: POV Alternative Crossing Analysis: Connecting Roads in the Rio Grande Valley

	Crossing	POV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
25	Lake Falcon Dam International Crossing	Roma-Ciudad Miguel Alemán International Bridge	US 83	MEX-2
26	Roma-Ciudad Miguel Alemán International Bridge	Starr-Camargo Bridge	US 83	MEX-2
27	Starr-Camargo Bridge	Roma-Ciudad Miguel Alemán International Bridge	US 83	MEX-2
28	Los Ebanos Ferry	Starr-Camargo Bridge	US 83	MEX-2
29	Anzalduas International Bridge	McAllen-Hidalgo International Bridge	SH 115, I-2	MEX-40
30	McAllen-Hidalgo International Bridge	Pharr International Bridge	US 281, I-2	MEX-2
31	Pharr International Bridge	McAllen-Hidalgo International Bridge	US 281, I-2	MEX-2

	Crossing	POV Alternative	Connecting Roads (Texas)	Connecting Roads (Mexico)
32	Donna-Rio Bravo International Bridge	Pharr International Bridge	US 281, I-2	MEX-2, MEX-20
33	Progreso International Bridge	Free Trade International Bridge	US 281, FM 2556, I-2	MEX-20
34	Free Trade International Bridge	Progreso International Bridge	US 281, FM 1015, I-2	MEX-20
37	Brownsville & Matamoros Express Bridge	Gateway International Bridge	Sam Perl Blvd	Av. Álvaro Obregón
38	Gateway International Bridge	Brownsville & Matamoros Express Bridge	Sam Perl Blvd	Av. Álvaro Obregón
39	Veterans International Bridge at Los Tomates	Gateway International Bridge	US 83	Blvd. Manuel Cavazos Lerma

Source: Jacobs Analysis, 2025



Table 3-13: Population Catchment Scores in Laredo Region

Population of crossing captured by alternative- Millions (% alternative coverage)		Lake Falcon Dam Crossing	Roma-Ciudad Miguel Alemán International Bridge	Starr-Camargo Bridge	Los Ebanos Ferry	Anzalduas International Bridge	McAllen-Hidalgo International Bridge	Pharr International Bridge	Donna-Rio Bravo International Bridge	Progreso International Bridge	Free Trade International Bridge	Brownsville & Matamoros Express Bridge	Gateway International Bridge	Veterans International Bridge at Los Tomates
		25	26	27	28	29	30	31	32	33	34	37	38	39
Lake Falcon Dam Crossing	25	0.05	0.04 (89%)	0.04 (82%)	-	-	-	-	-	-	-	-	-	-
Roma-Ciudad Miguel Alemán International Bridge	26	0.04 (50%)	0.09	0.08 (95%)	0.02 (27%)	-	-	-	-	-	-	-	-	-
Starr-Camargo Bridge	27	0.04 (37%)	0.08 (77%)	0.11	0.05 (42%)	0.01 (11%)	0 (1%)	-	-	-	-	-	-	-
Los Ebanos Ferry	28	-	0.02 (8%)	0.05 (15%)	0.30	0.25 (83%)	0.2 (67%)	0.12 (38%)	0 (0%)	0 (0%)	-	-	-	-
Anzalduas International Bridge	29	-	-	0.01 (1%)	0.25 (16%)	1.53	1.35 (88%)	1.26 (82%)	0.79 (51%)	0.37 (25%)	0 (0%)	-	-	-
McAllen-Hidalgo International Bridge	30	-	-	0 (0%)	0.2 (14%)	1.35 (95%)	1.41	1.28 (91%)	0.8 (57%)	0.39 (28%)	0 (0%)	-	-	-
Pharr International Bridge	31	-	-	-	0.12 (8%)	1.26 (91%)	1.28 (93%)	1.39	0.88 (64%)	0.47 (34%)	0.02 (1%)	-	-	-
Donna-Rio Bravo International Bridge	32	-	-	-	0 (0%)	0.79 (77%)	0.8 (79%)	0.88 (87%)	1.02	0.61 (59%)	0.05 (5%)	0 (0%)	-	-
Progreso International Bridge	33	-	-	-	0 (0%)	0.37 (54%)	0.39 (56%)	0.47 (67%)	0.61 (87%)	0.70	0.11 (15%)	0 (1%)	0.01 (1%)	0.01 (2%)
Free Trade International Bridge	34	-	-	-	-	0 (0%)	0 (1%)	0.02 (6%)	0.05 (16%)	0.11 (34%)	0.31	0.15 (48%)	0.17 (53%)	0.17 (56%)
Brownsville & Matamoros Express Bridge	37	-	-	-	-	-	-	-	0 (0%)	0 (1%)	0.15 (20%)	0.75	0.75 (100%)	0.75 (100%)
Gateway International Bridge	38	-	-	-	-	-	-	-	-	0.01 (1%)	0.17 (22%)	0.75 (97%)	0.77	0.77 (100%)
Veterans International Bridge at Los Tomates	39	-	-	-	-	-	-	-	-	0.01 (1%)	0.17 (22%)	0.75 (96%)	0.77 (99%)	0.78

Source: Jacobs Analysis, 2025



Diversion Routes, Wait Times, and Volumes in the Rio Grande Valley

- » Should CMV processing lanes be introduced at the Donna-Rio Bravo International Bridge over the next 4-5 years, connectivity along the S FM 493 (D Salinas International Boulevard) would need improvements along with connectivity into the planned projects at SH 495 /SH 68 and/or the IBTC.
- » A bypass to the north of Rio Grande City and Roma (to/from the US 83) would alleviate heavy truck traffic in the town centers and increase border-to-border connectivity with the Laredo region.
- » There is a need for additional overweight corridors connecting Port of Brownsville and Port of Harlingen. Similarly, there is an ongoing request for legislation to connect the heavy weight corridors in Cameron County with those in Hidalgo County.
- » Finally, connectivity for Mexican CMVs to/from the crossings in the Rio Grande Valley region are restricted on the U.S. side by gaps in the commercial zones. Continuity of the zones would increase resiliency between the Laredo crossings and the Rio Grande Valley crossings.

Case Study: Traffic Diversion during the Pharr International Bridge Closure (April 11, 2022, to April 12, 2022)

The Pharr International Bridge processes POVs and CMVs, with CMVs amounting to 63% of the total traffic in the Rio Grande Valley. The bridge is open seven days a week, with some timing restrictions on POV crossings. A significant portion of the trade linked to this Bridge is produce/perishable. The major roadways used by trucks are I-69C, I-2 East and West, and US 281.

Trade crossing at the Pharr International Bridge is mainly linked to the following industries: non-metallic minerals, petroleum or coal products, farm and food products, and waste/scrap materials. Most of the traffic that crosses at this Bridge is commercial traffic. The top origins for southbound truck trips start from several commercial/industrial zones near the Pharr International Bridge, where import-export facilities and cold storage facilities are located (e.g., fruits and fresh produce). The Valley International Airport in Harlingen processes air cargo. The McAllen-Miller International Airport is along I-2 West in McAllen. A small number of trips originate from the airport facilities. Major highways that serve the Pharr International Bridge are I-69C, I-2 East and West, and US 281. Several freight generators are located along I-2 East (between I-69C and I-69E) and in Edinburgh, McAllen, and Pharr.¹⁵

84% of northbound trips' first destination is within three miles of the Bridge. These trips are destined for the logistics, manufacturing, import-export, and cold storage facilities along South Cage Boulevard (US 281 North) and Military Highway (US 281 East and West). This overlaps with the clusters of freight generators located in this area.

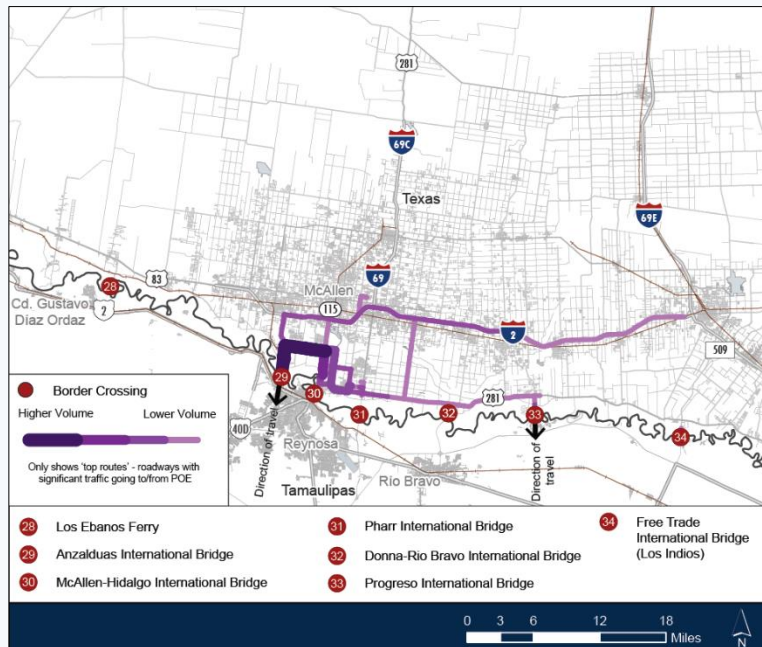
¹⁵ Pharr District Profile, Texas Freight Plan 2018



Case Study: Traffic Diversion during the Pharr International Bridge Closure (April 11, 2022, to April 12, 2022)

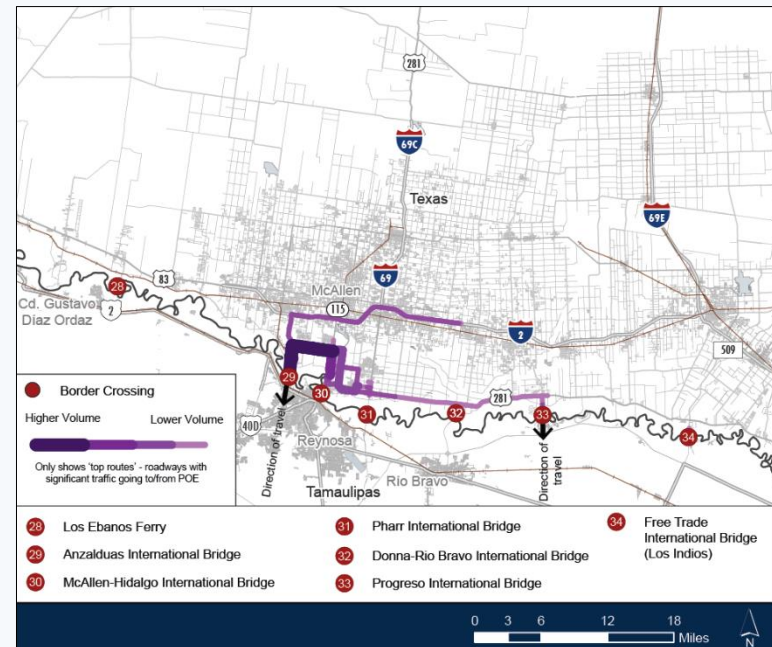
Due to increased inspections which led to miles-long queues in Reynosa (Mexico), truck drivers organized a blockade at the Pharr International Bridge, resulting in the closure of the Bridge for three days (i.e., from April 11 to April 13, 2022). During this blockade, the overall cross-border truck traffic in this region seemed to have reduced. The comparison between southbound traffic patterns during a typical day in 2022 versus during the closure period, for the nearby bridges processing cargo, can be seen in **Figure 3-23** and **Figure 3-24**, respectively. Normal traffic patterns in 2022 show that Anzalduas International Bridge processed most of the southbound empty truck traffic to Mexico. I-2 and US 281 were the major highways that carried the traffic to Anzalduas. Most of this traffic likely came from the areas within McAllen/Pharr that are major freight generators. There were fewer crossings at the Progreso and Free Trade International Bridges, in comparison to the truck volume at Anzalduas, which is why the top routes to those bridges are not apparent in the StreetLight Data analysis. However, during the closure period, the Progreso International Bridge saw a significant share of southbound crossings, even though the Anzalduas International Bridge still had a higher share. The Free Trade International Bridge had the smallest share of southbound crossings, only critical cargo from the Valley International Airport may have used it to cross.

Figure 3-23: Southbound Top Truck Routes to Anzalduas, Progreso, and Free Trade International Bridges – 2022



Source: Jacobs Analysis, 2025

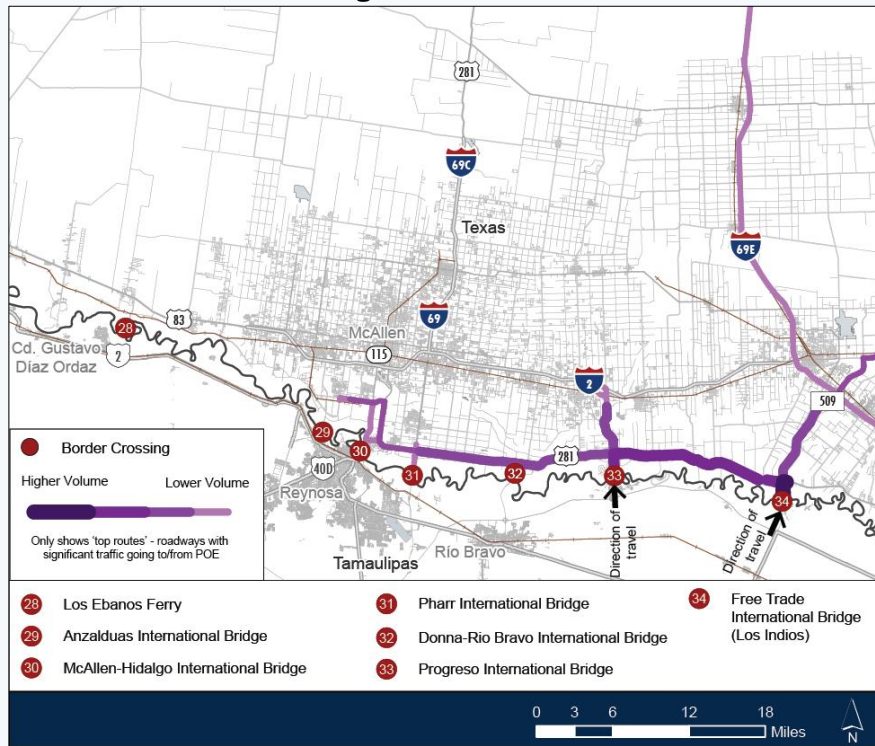
Figure 3-24: Southbound Top Truck Routes to Anzalduas, Progreso, and Free Trade International Bridges – Closure Period



Case Study: Traffic Diversion during the Pharr International Bridge Closure (April 11, 2022, to April 12, 2022)

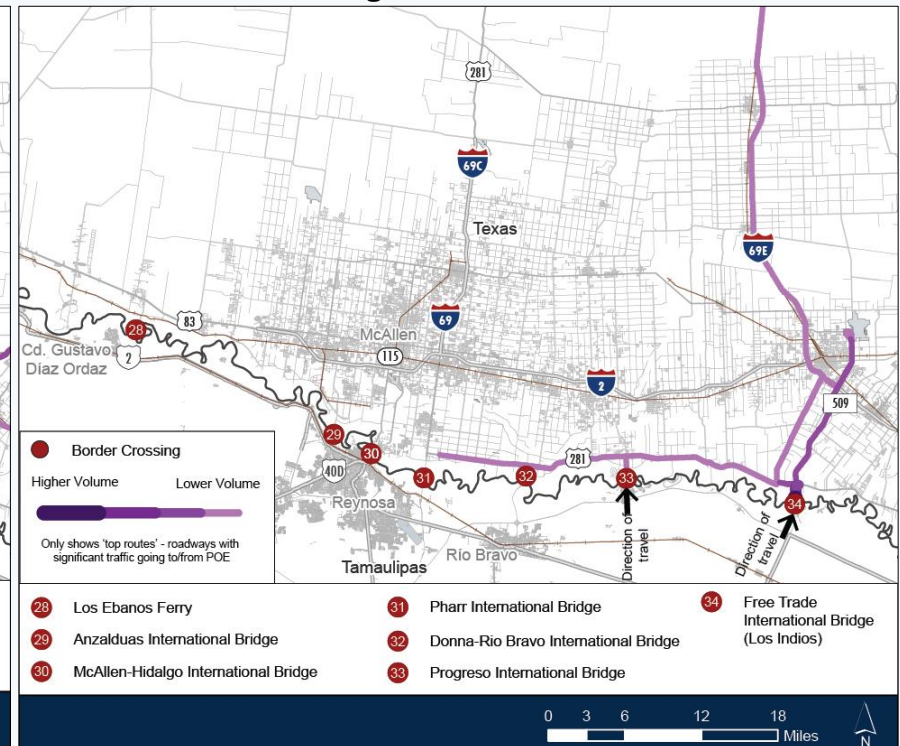
Figure 3-25 and **Figure 3-26** show the northbound truck traffic patterns during a typical day in 2022 and the closure period, respectively. The Anzalduas International Bridge does not process northbound trucks. The Free Trade International Bridge processed more northbound trucks compared to the Progreso International Bridge. During the typical period, northbound truck traffic from the Progreso and Free Trade International Bridges goes onto US 281 towards I-2/Pharr/McAllen destinations, and onto Spur 509 to I-69 East and West. During the closure period, nearly all the traffic that crossed northbound in this region crossed at the Free Trade International Bridge (**Figure 3-26**).

Figure 3-25: Northbound Top Truck Routes to Anzalduas, Progreso, and Free Trade International Bridges – 2022



Source: Jacobs Analysis, 2025

Figure 3-26: Northbound Top Truck Routes to Anzalduas, Progreso, and Free Trade International Bridges – Closure Period



Source: Jacobs Analysis, 2025



Crossing-to-Maritime Port Analysis

The 2021 Texas-Mexico Border Transportation Master Plan (BTMP) recommended that regional connectivity studies be conducted to “assess connectivity issues and challenges between existing border crossings” and “from border crossings to Texas and Mexico seaports.”

To facilitate the advancement of the BTMP, the TxDOT initiated a study to identify:

- » potential needs (e.g., bottlenecks, network gaps, safety, congestion, land use incompatibility, etc.) on the corridors from the border crossings to Texas and Mexico seaports, and
- » potential/proposed improvements or mitigation measures to address the identified connectivity challenges.

The first step in the analysis was to identify the major corridors that connect the border crossings to Texas’s and Mexico’s major seaport. The next step was to identify the commodities and volumes that move between Texas and Mexico’s seaports on these corridors and the international border crossings. The analysis revealed a lack of data. Information and insight were thus gained through a review of the literature, stakeholder interviews, and the insight obtained during stakeholder workshops. A tool was developed to allow stakeholders to identify the needs and proposed improvements by clicking and adding information on a GIS map. This chapter of the report summarizes the findings of the analysis.

Maritime Ports in Texas

Texas maritime ports are critical in contributing to the facilitation of trade and consequently to Texas and U.S. economies. In 2023, Texas ports and marine terminals handled 746.4 million tons of cargo. The total economic value of public port and maritime cargo activity was \$713.9 billion, representing 28% of the state’s \$2.6 trillion Gross Domestic Product. Of this, \$611.7 billion was attributed to cargo moving through Texas, including the value added during export manufacturing and from enterprises using imported raw materials and intermediate goods within the state. From 2018 to 2023, combined tonnage at public and private terminals grew by 130.3 million tons, driven mainly by a 115.0-million-ton increase in petroleum and petroleum products. Other liquid bulk cargo – mostly chemical products – rose by nearly 15 million tons, while containerized cargo and miscellaneous break bulk grew by 5.6 million and 1.2 million tons, respectively. This growth supported an additional 728,741 jobs related to marine cargo activity since 2018.¹⁶

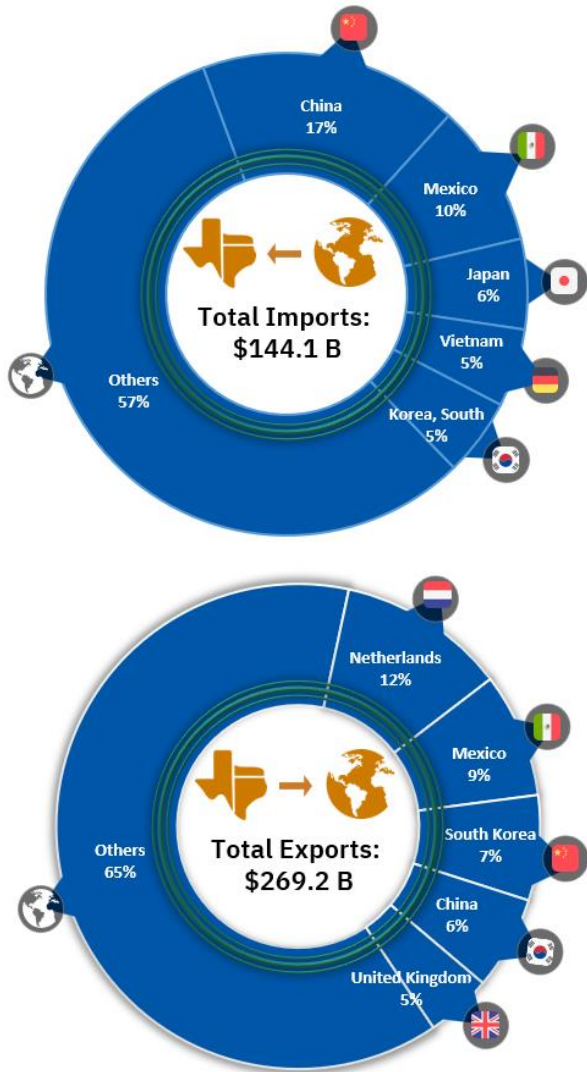
In 2024, Texas waterborne trade totaled \$413.3 billion, comprising \$144.1 billion in imports and \$269.2 billion in exports. Mexico ranked as Texas’s second-largest waterborne trading partner after China at \$36.2 billion (**Figure 3-27**).

Figure 3-28 shows the major waterborne commodities traded between Texas and Mexico in 2024. It is evident that the top three commodities are mineral fuel and oil at \$26.7 billion, organic chemicals at \$4.5 billion, and vehicles and parts (except railway) at \$3.6 billion.

¹⁶ [Economic Impacts of the Texas Ports on the State of Texas \(2023\)](#)

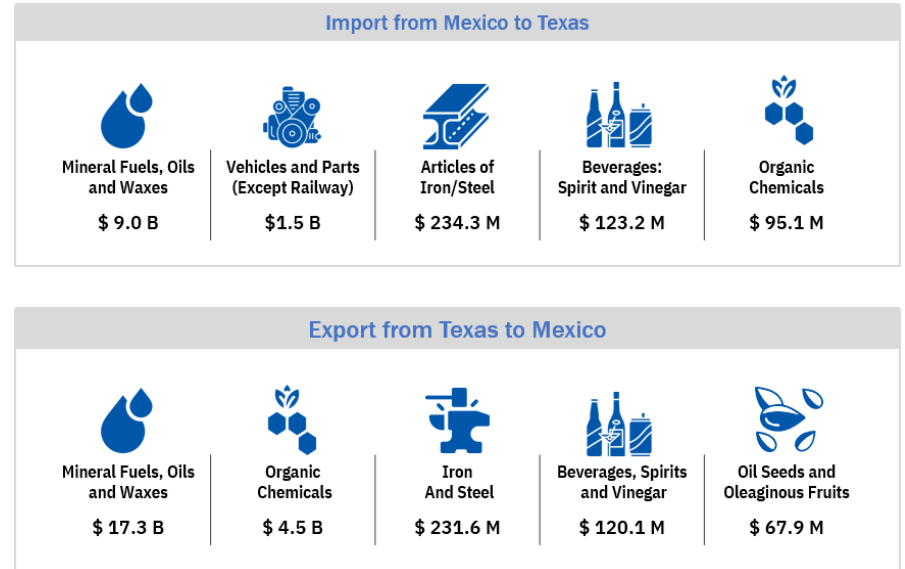


Figure 3-27: Texas Waterborne Trade (2024)



Source: U.S. Census Bureau (USA Trade Online)

Figure 3-28: Texas Waterborne Trade with Mexico: Major Commodities (2024)



Source: Bureau of Transportation Statistics (BTS)

The Texas maritime system includes 11 deep draft ports, nine shallow draft ports, and the 379-mile-long Texas segment of the Gulf Intracoastal Waterway (GIWW). Ports are a vital part of the national freight network, helping farmers move their products to markets overseas and bringing raw materials to Texas manufacturers and clothes, electronics, and other consumer goods to Texans.

All the Texas ports are interconnected by the GIWW, a shallow draft channel that links intrastate barge traffic with ocean-going vessels and handles both domestic and foreign trade. **Table 3-14** shows the 11 deep draft and nine shallow draft Texas ports, shows the major commodities handled by each of Texas’s major deep draft ports.



Figure 3-29: Maritime Ports in Texas



Source: Jacobs Analysis, 2025



Table 3-14: Major Commodities Handled by Major Deep Draft Ports in Texas

Port	Crude Oil	Petroleum Products	Chemical	LNG	Agricultural Products	Containerized Cargo	Military Cargo	Steel	Vehicles	Forest Product
Houston	✓	✓	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A
Corpus Christi	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A
Beaumont	✓	✓	✓	N/A	N/A	N/A	✓	N/A	N/A	✓
Port Arthur	✓	✓	✓	N/A	N/A	N/A	✓	N/A	N/A	N/A
Texas City	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freeport	N/A	✓	✓	N/A	✓	✓	N/A	N/A	N/A	N/A
Galveston	N/A	✓	N/A	N/A	✓	✓	N/A	N/A	✓	N/A
Brownsville	N/A	✓	N/A	N/A	✓	✓	N/A	✓	N/A	N/A

Source: Jacobs Analysis, 2025



Maritime Ports in Mexico

Maritime ports in Mexico serve as more than mere gateways for goods; they are crucial to Mexico's economy and its seamless integration into the global marketplace. Strategically positioned as conduits between the Atlantic and Pacific Oceans, Maritime ports in Mexico enable international trade, linking Mexico with the world's leading markets. Mexico's ports process a range of products, including manufactured products, agricultural commodities, and minerals for export, as well as raw materials, consumer goods, and advanced technology for import.

Figure 30 shows the Pacific and Gulf Coast ports in Mexico and **Table 3-15** shows the major commodities handled by major maritime ports in Mexico.

Figure 3-30 Maritime Ports in Mexico



Source: Jacobs Analysis, 2025



Table 3-15: Major Commodities Handled by Major Ports in Mexico

Port	Crude Oil	Petroleum Products	Chemical	LNG	Agricultural Products	Containerized Cargo	General Cargo	Steel	Vehicles/ Auto Parts	Forest Product
Port of Manzanillo	N/A	✓	N/A	N/A	✓	✓	✓	✓	✓	✓
Port of Lázaro Cárdenas	N/A	N/A	N/A	N/A	N/A	✓	✓	✓	✓	✓
Port of Mazatlán	N/A	N/A	N/A	N/A	✓	✓	N/A	✓	✓	✓
Port of Veracruz	N/A	N/A	N/A	N/A		✓	✓	✓	✓	✓
Port of Altamira	N/A	✓	✓	✓	✓	✓	N/A	✓	✓	✓
Port of Guaymas	N/A		✓	N/A	✓	N/A	N/A	N/A	N/A	N/A
Port of Tampico	✓	✓	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A
Port of Coatzacoalcos	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓

Source: Jacobs Analysis, 2025



Port-to-Maritime Port Challenges and Considerations

This section provides the challenges and considerations gathered during the stakeholder interviews, workshops, and the post-workshop interviews regarding port-to-maritime port connectivity.

The [Connectivity WebApp](#) provides a visual of the stakeholder identified challenges and the TxDOT projects currently being implemented by region to address the categorized challenges.

West Region Port-to-Maritime Port Challenges and Considerations

The West Region of the Border Region Connectivity Plan encompasses two border crossing areas: El Paso and Presidio.

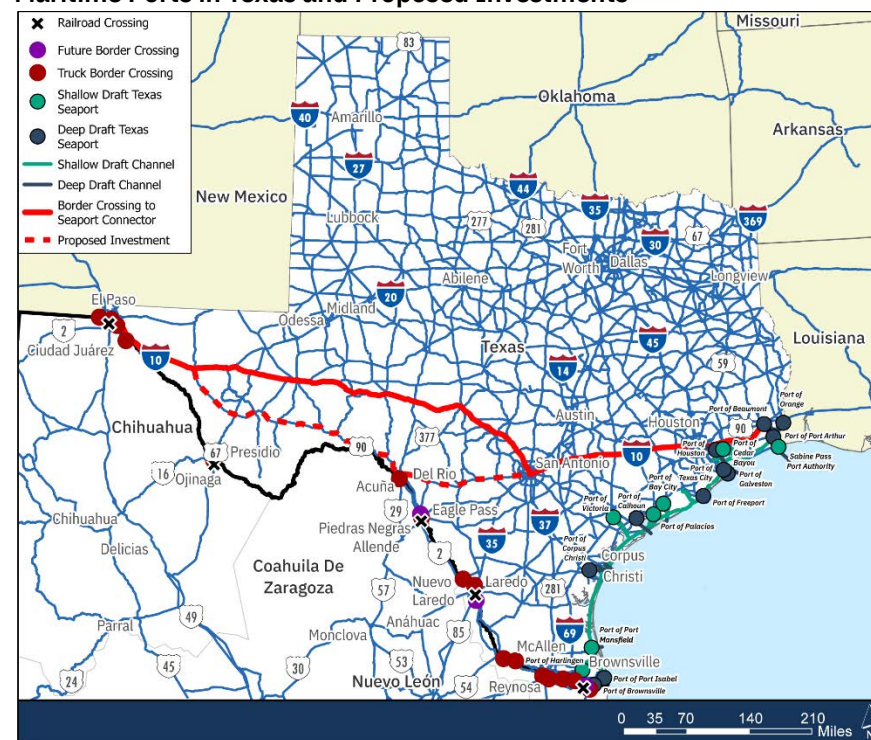
El Paso Border Crossings

Texas

Workshop participants shared that Asian cargo processed at West Coast ports (specifically Los Angeles and Long Beach in California) crosses through El Paso's international bridges into Mexico. Similarly, goods and materials destined for Asia are transported from Mexico through El Paso to West Coast ports. I-10 is the major corridor used for this trade. The following commodities cross at El Paso: automotive parts, agriculture products, household goods, groceries and food, electronics, and meat. Stakeholders emphasized the importance of I-10 as a trade corridor linking El Paso to Port Houston but mentioned that very few products from Texas seaports cross at El Paso into Mexico (**Figure 3-31**). However, El Paso does see a lot of cross-dock operations. Maritime containers are also often cross-docked in port hinterlands before being distributed to the rest of the state. Arguably, some of these cross-docked cargo may cross in El Paso into

Mexico, but no data are available to track these movements. Similarly, stakeholders mentioned that in-bond shipments are transported to bonded warehouses or Foreign Trade Zones (FTZs). FTZs allow manufacturers to add components/value to products, after which the finished products can cross the border. This allows manufacturers to save on duties, but these movements are similarly untracked.

Figure 3-31: Major Texas Corridors Linking El Paso Border Crossings to Maritime Ports in Texas and Proposed Investments



Source: Jacobs Analysis, 2025



Another consideration from the stakeholders is to invest in alternatives to I-10 since snowstorms/sandstorms have occurred (from Van Horn to Pecos) that required trucking companies to seek alternatives. An alternative to I-10 linking to Port Houston is US 90. The stakeholders recommended investments in US 90 as an alternative to I-10.

Cross-docking is a strategy to reduce inventory costs by transferring freight from one mode (e.g., truck/rail) to another mode (e.g., truck/rail) at a docking facility as soon as possible.

Mexico

Figure 3-32 shows the major trade corridors that link Juárez to Mexico's Pacific Coast ports. Juárez is linked to the Port of Manzanillo via MEX-45, MEX-49, and MEX-54D. Juárez is linked to the Port of Lázaro Cárdenas via MEX-45, MEX-45D, MEX-43D, and MEX-37D.

Stakeholders noted that Mexico's Pacific Coast ports, including Manzanillo and Lázaro Cárdenas, offer viable alternatives to California's ports (i.e., Los Angeles and Long Beach) for processing cargo from Asia bound for El Paso. These ports are being considered as potential future links for Texas to efficiently connect with the Pacific Coast. Currently, while Mazatlán's port primarily serves tourism, its proximity to automotive manufacturing regions presents opportunities for growth.

However, several stakeholders raised concerns about Mexican carriers facing extortion from cartels while navigating southern Mexico. Although Manzanillo remains a crucial port option, highway security issues loom large. Often compared to Silicon Valley, Manzanillo has attracted interest from Asian companies wanting to establish operations there, and yet, security concerns hinder their progress.

In contrast, Guadalajara has implemented aggressive anti-cartel measures, making it an attractive place for foreign investment, particularly from Chinese companies looking to set up operations in Guadalajara and Juárez. Nonetheless, Juárez's lack of direct flights to Los Angeles hampers its connectivity and coupled with Guadalajara's proximity to the U.S., is viewed as a constraint on export capabilities.

Figure 3-32: Major Mexico Corridors Linking Pacific Coast Ports in Mexico to the Juárez Border Crossings and Proposed Investments



Source: Jacobs Analysis, 2025



Regarding rail connectivity, the Chihuahua-Pacific rail route, known as "The Chepe," connects Chihuahua with Mazatlán/Topolobampo. Unfortunately, double-stacking rail containers on this route presents challenges due to vertical height restrictions imposed by approximately 80 rail bridges and 75 to 80 tunnels. The costly and lengthy timelines necessary to address these constraints discourage potential investors. Stakeholders also see tourism as potential within the rail sector, sparking discussions about opening certain routes, like the Chihuahua-Pacific, to tourism; however, financial feasibility remains a significant hurdle.

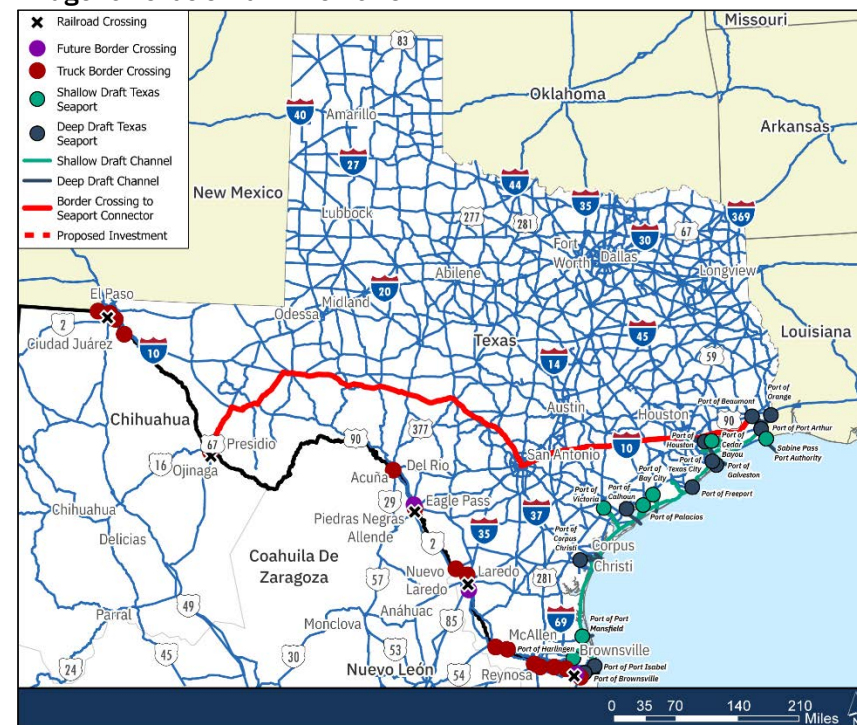
Additionally, stakeholders emphasized the necessity for a more direct connector from Topolobampo to Guadalupe y Calvo (MEX-24 near Paral) and advocated for a bypass around Flores Magon to link MEX-10 with MEX-7. These improvements could enhance logistics and efficiency throughout the region.

Presidio Border Crossings

Texas

Stakeholders were not aware of products from Texas seaports crossing at Presidio into Mexico. **Figure 3-33** shows that US 67 and I-10 are the major trade corridors that link Presidio to Texas's maritime ports.

Figure 3-33: Major Texas Corridors Linking the Presidio International Bridge to Texas's Maritime Ports



Source: Jacobs Analysis, 2025



Mexico

In Mexico, **Figure 3-34** shows the major trade corridors that link Ojinaga to Mexico's Pacific Coast ports and the recommended investments to improve connectivity between Mexico's Pacific Coast ports and Ojinaga.

Figure 3-34: Major Corridors Linking Pacific Coast Ports in Mexico to Ojinaga and Proposed Investments



Source: Jacobs Analysis, 2025

Workshop participants mentioned that Ojinaga is connected to the Port of Mazatlán via MEX-40 to MEX-49 to MEX-67. This corridor is seen as secure with no recent security issues being reported. Workshop participants also confirmed the completion of MEX-30 connecting to MEX-16. Stakeholders mentioned that the investments in MEX-40 between Mazatlán and Durango have significantly improved travel times (from six hours to 2.5 hours). Stakeholders mentioned that MEX-24 provides a potential route option to link Ojinaga to the Pacific Coast, but security concerns need to be addressed.

Workshop participants reiterated their interest in connecting Topolobampo to Ojinaga by rail but acknowledge the challenges due to bridge and tunnel restrictions that prevent double-stacked rail containers.

Stakeholders recommended the expansion and improvement of the junction (point known as El Huérfano) to Aldamas on MEX-16 (from Ojinaga to Chihuahua). Stakeholders also mentioned that MEX-67 from La Mula to Camargo is in very poor condition. Improved maintenance and widening of MEX-67 to Ojinaga was recommended. Similarly, investment in MEX-16 and re-classification of MEX-16 from Ojinaga to Chihuahua was proposed.



Central Region Port-to-Maritime Port Challenges and Considerations

The Central Region of the Border Region Connectivity Plan includes the crossings at Del Rio, Eagle Pass, and Laredo.

Del Rio/Eagle Pass Border Crossings

Texas

Figure 3-35 shows that US 90 and I-10 are the major trade corridors that link Del Rio to Port of Houston and US 57 and I-10 are the major trade corridors that link Eagle Pass to Port of Houston. Similarly, US 90 and I-37 and US 57 and I-37 are the major trade corridors linking Del Rio and Eagle Pass to the Port of Corpus Christi, respectively. According to stakeholders, the major commodities crossing at Camino Real International Bridge are automotive parts and beer (e.g., Modelo). The Port of Corpus Christi is, however, considered important to Eagle Pass, because the port provides an alternative to Port of Houston and Port of Galveston for automotive products. The land Port of Eagle Pass wants to enter a partnership with the Port of Corpus Christi to transport automotive parts.

Stakeholders recommended the expansion of SH 44 to connect the Port of Corpus to the future I-27 (via US 83 and US 277), I-35, I-69W, I-69C, and I-64 E. One east-west road that connects five interstates. Stakeholders recommended that I-27 be extended to Del Rio. Stakeholders also noted that the stop and go traffic on US 277 poses a truck safety concern for oil and gas carriers.

Stakeholders were concerned that US 90 was dangerous because it is a narrow, undivided road that has seen increased truck traffic. Stakeholders recommended that US 90 be upgraded to four lanes. Two towns also presented concerns along US 90:

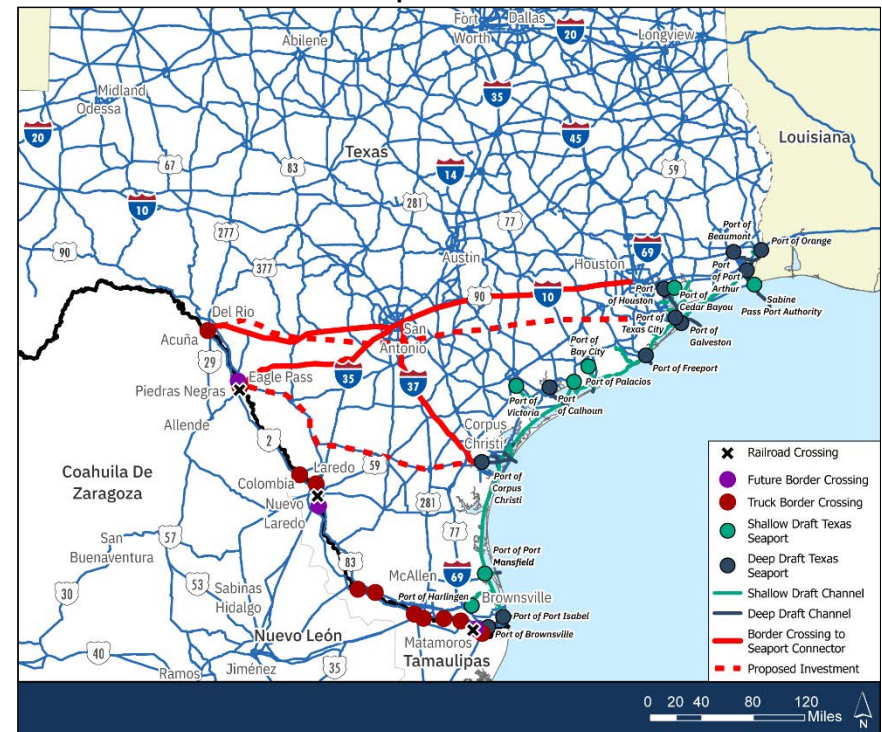
- » US 90 traverses Castroville. Stakeholders recommended a relief route for Castroville, because the downtown represents a

bottleneck, but historic bridges (Texas Historic Commission issue) in the town prevent widening the road through Castroville.

- » Rivers on each side of Uvalde blocks traffic when flooded. A relief route is needed around downtown Uvalde. Uvalde is also growing (e.g., because of the airport and junior college) and presents a bottleneck for commercial traffic.

Finally, US 57 links Eagle Pass to I-10 to Port Houston. Stakeholders recommended overpasses on US 57 from Eagle Pass to San Antonio to remove traffic conflicts.

Figure 3-35: Major Texas Corridors Linking Del Rio/Eagle Pass to Maritime Ports in Texas and Proposed Investments



Source: Jacobs Analysis, 2025



Mexico

Figure 3-36 the major trade corridors that link Del Rio and Piedras Negras to Pacific Coast ports in Mexico and the recommended investments to improve connectivity between Mexico’s Pacific Coast ports and Del Rio and Eagle Pass. Del Rio is connected to Port Mazatlán via MEX-29, MEX-57, MEX-30, and MEX-40. Eagle Pass is connected to Port Mazatlán via MEX-57, MEX-30, and MEX-40.

Figure 3-36: Major Corridors Linking Pacific Coast Ports in Mexico to the Del Rio/Eagle Pass Border Crossings and Proposed Investments



Source: Jacobs Analysis, 2025

Cargo processed at the Port of Mazatlán and transported by rail must move south towards Guadalajara and then reroute north towards Monterrey and

the Texas-Mexico border, because there is no east-west rail connection between Mazatlán and Durango. The terrain in this area is mountainous which makes the development of a future rail line connection challenging. Since importers rent ocean containers from shipping companies that need to be returned empty, a shorter rail route would allow for containers to be returned sooner, which would save on costs to importers. Stakeholders mentioned that this lack of rail connection favors the port of Manzanillo because the port already has direct access to rail lines.

Workshop participants mentioned that five companies in Eagle Pass move commodities by rail - up to 100 rail crossings/day. The proposed Puerto Verde Trade Corridor will reroute commercial vehicles and rail around the urban center of Eagle Pass and be served by the Puerto Verde’s Green Eagle Railroad. The rail line will be 20 miles long (i.e., one mile on the U.S. side and 19 miles in Mexico). The U.S. side is all farmland so it is expected that it will be quick to build the rail line. The Mexican side is an existing coal mining site, and the rail line will follow the existing ROW owned by the Mexican government. In the future it is anticipated that Puerto Verde will connect to a planned port in Sinaloa (approximately 25 miles north of the Port of Mazatlán).

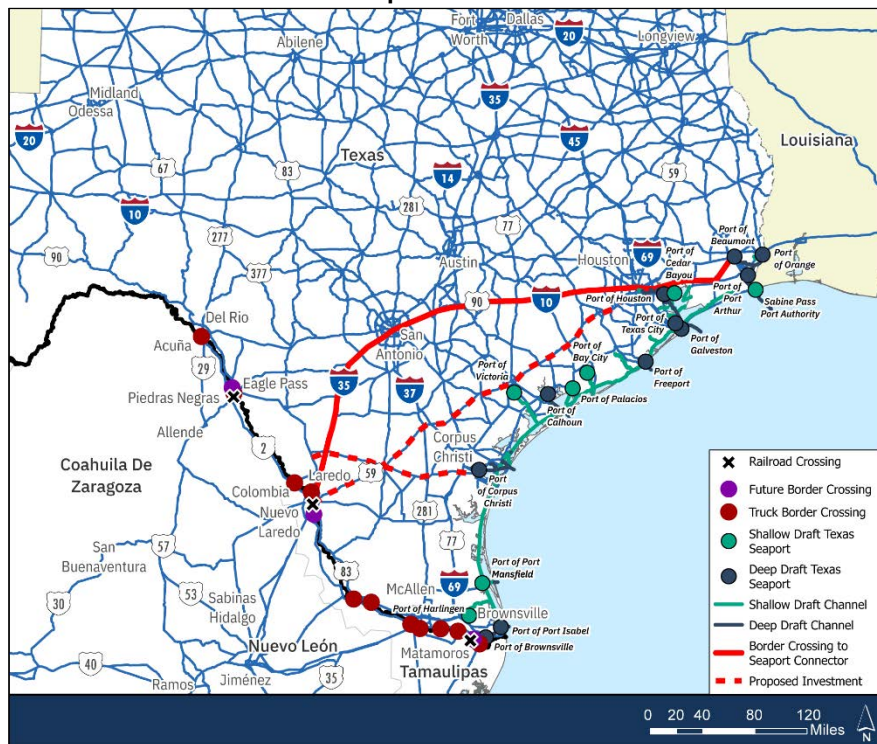
Laredo Border Crossings

Figure 3-37 shows that I-35 and I-10 are the major trade corridors that link Laredo to Port Houston. US 59 is an alternative route linking Laredo to Port Houston via I-10 and to the Port of Corpus Christi via I-37. A meeting with Port Houston revealed that some automotive parts are moved by truck from Port Houston and cross at Laredo and El Paso into Mexico. Furthermore, a workshop participants mentioned that refined sugar shipments were diverted from April to October from Veracruz to Port Houston.



These sugar shipments previously crossed at the Colombia Solidarity Bridge and World Trade Bridge (Laredo Bridge IV) by truck, as well as Eagle Pass by rail. Consequently, Laredo lost the business to the seaports. This case arguably demonstrates that the land border to maritime port corridors can compete with the waterborne corridors.

Figure 3-37: Major Texas Corridors Linking Laredo Border Crossings to Maritime Ports in Texas and Proposed Investments



Source: Jacobs Analysis, 2025

According to stakeholders who attended the October workshop, US 59 is an important connector between Laredo and Port Houston. All OS/OW loads from Laredo to Houston use US 59 as the road has OS/OW clearance. US 59 has therefore seen an increase in traffic. US 59, however, traverses a lot of

small towns with many traffic stops along the route. Stakeholders recommended that US 59 be expanded and upgraded to interstate standards (future I-69) to connect Laredo to Texas's seaports. Stakeholders stated that TxDOT has funding for the first 20 miles, but urged TxDOT to acquire ROW and begin environmental studies now to ensure projects are shovel-ready when funding becomes available. Specifically, one stakeholder pointed out that US 59 from Laredo to Port of Houston is not a 4-lane divided road from Laredo to Goliath. This segment of US 59 needs to be prioritized for expansion to a 4-lane divided road to relieve pressure on I-35 and I-10 to Houston. Another stakeholder pointed to the need to have another connector between US 59 and SH 359 to improve connectivity/safety between Houston and Laredo.

US 59 also connects Laredo to the Port of Corpus Christi (an alternative to Port Houston) via I-37. Stakeholders participating in the October workshop emphasized the need for a 4-lane divided US 59 to link Laredo to the Port of Corpus Christi. Stakeholders also recommend the expansion of SH 44 to connect the Port of Corpus to the I-69W, I-64C, US 59, and I-35. One east-west road that connects three interstates. Finally, stakeholders recommended that ocean-going containers (53 feet) handled at Texas ports are allowed to be transported by truck into Mexico.

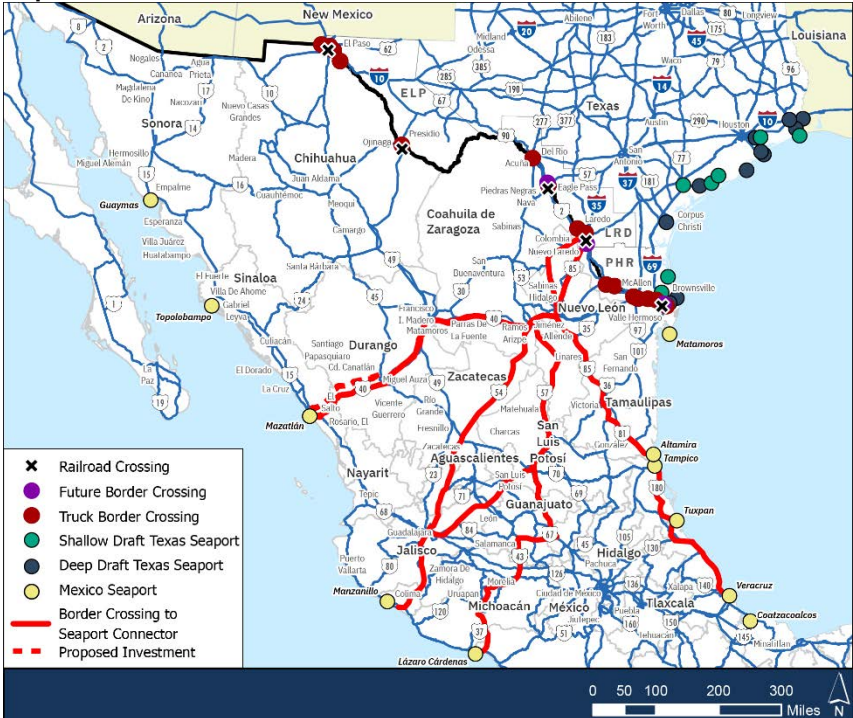
Mexico

Figure 3-38 shows that Nuevo Laredo is well connected by rail to the ports of Manzanillo and Lázaro Cárdenas. When COVID prevented ships from docking at Los Angeles/Long Beach shipments from Asia were routed through Lázaro Cárdenas to Laredo by train. It is anticipated that future strikes at California ports could cause similar delays diverted traffic to Lázaro Cárdenas. Laredo and Colombia are also well connected to Mexico's Pacific Coast Ports via Mexico's federal highway system.



Specifically, MEX-85 (NL-1 in the case of Colombia) and MEX-40/MEX-40D connect Laredo to the Port of Mazatlán; MEX-85 (NL-1 in the case of Colombia) and MEX-54 and MEX-54D provide connectivity to the Port of Manzanillo, and finally MEX-37D, MEX-43D, MEX-57, and MEX-85 (NL-1 in the case of Colombia) connects to the Port of Lázaro Cárdenas.

Figure 3-38: Major Corridors Linking Pacific Coast Ports in Mexico and Gulf Coast Ports to the Nuevo Laredo/Colombia Border Crossings and Proposed Investments



Source: Jacobs Analysis, 2025

Stakeholders mentioned that both the Ports of Mazatlán and Manzanillo are receiving increasing volumes of electronics and auto parts from Asia. It was, however, unclear whether these shipments are transported through the Texas-Mexico border. Finally, Laredo and Colombia are well connected to Mexico’s major Gulf Coast Ports (i.e., Veracruz, Tuxpan, Tampico, and Altamira) via MEX-180D, MEX-80, MEX-83, MEX-85 (NL-1 in the case of Colombia). Workshop participants mentioned plans to start processing 53-foot rail containers through Veracruz to eliminate the need for transloading.

Like the workshop participants in Eagle Pass, stakeholders mentioned a need for an east-west rail connection between Mazatlán and Durango. This lack of rail connection favors the Ports of Manzanillo and Lázaro Cárdenas because these ports already have direct access to rail lines.



South Region Port-to-Maritime Port Challenges and Considerations

The South Region of the Border Region Connectivity Plan includes the ports of entry at Roma, Rio Grande City, Hidalgo, Pharr, Progreso, and Brownsville.

Rio Grande Valley Border Crossings

Texas

Figure 3-39 that I-2, I-69C/US 281, I-69E/US 77 and US 59 are the major trade corridors that link the Rio Grande Valley border crossings to maritime ports in Texas.

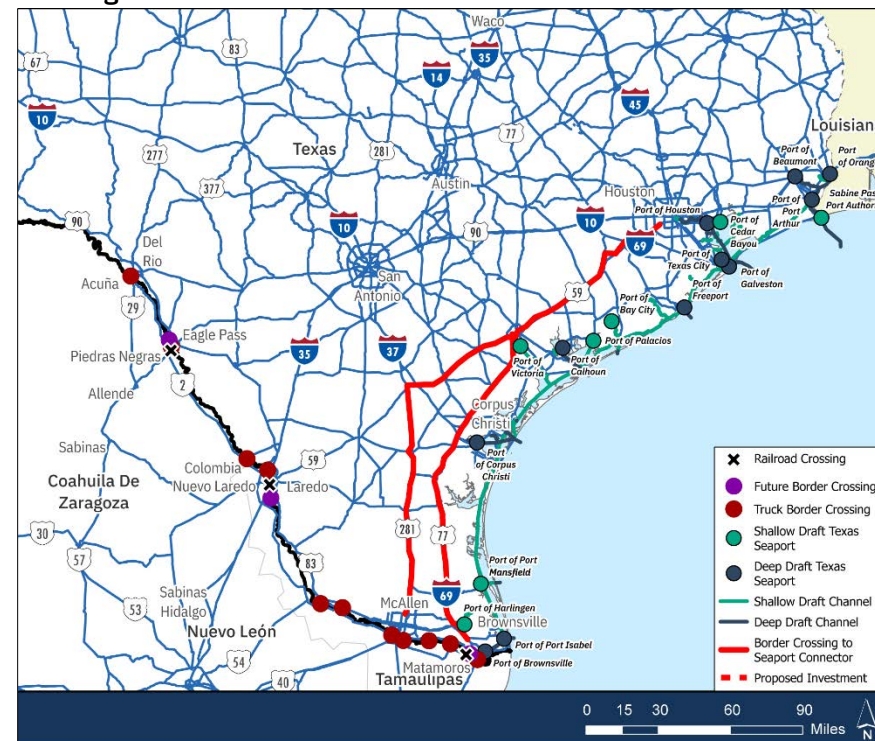
The Port of Brownsville and the Port of Harlingen handle a significant amount of trade that originates or is destined for Mexico. Both port authorities can issue permits for the movement of OS/OW vehicles on designated state highways.

Permits issued by the Port of Brownsville allow vehicles to travel OS/OW between the Gateway International Bridge or the Veterans International Bridge at Los Tomates and the Port of Brownsville. The Port of Brownsville issues permits to cover travel on:

- » SH 48/SH 4 between the Gateway International Bridge and the entrance to the Port of Brownsville.
- » US 77/US 83 and SH 48/SH 4 between the Veterans International Bridge at Los Tomates and the entrance to the Port of Brownsville.

TTI reported the southbound transport of diesel, gasoline, and fuel, mineral products, and metals from the Port of Brownsville via the Veterans International Bridge into Mexico in 2023. TTI also reported the northbound movement of plastics and rubbers, food, diesel, gasoline, and fuel from Mexico via the Veterans International Bridge to the Port of Brownsville in 2023.

Figure 3-39: Major Texas Corridors Linking Rio Grande Valley Border Crossings to Maritime Ports in Texas



Source: Jacobs Analysis, 2025

Permits issued by the Port of Harlingen allow vehicles to travel OS/OW between the Free Trade International Bridge and the Port of Harlingen. Specifically, the Port of Harlingen issues permits to cover travel from:

- » Port of Harlingen east entrance using FM 509, US 77 Business, and FM 1846.
- » Port of Harlingen west entrance using FM 509 and FM 106.
- » Harlingen Industrial Park south entrance using FM 509.
- » Harlingen Aerotropolis south entrance at Valley International Airport using FM 509.



According to the Port of Harlingen, 90% of Port Harlingen's cargo is destined for Mexico

TTI reported the northbound and southbound transport of diesel and gasoline to and from the Port of Harlingen via the Free Trade International Bridge from and to Mexico in 2023.

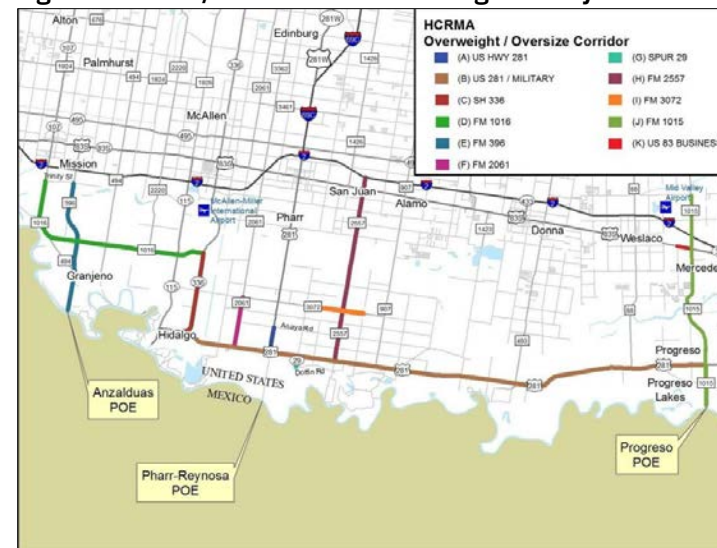
Finally, the Hidalgo County Regional Mobility Authority (HCRMA) has been issuing permits and administering the OS/OW corridors in Hidalgo County since 2014. HCRMA-issued permits cover travel on the following roads (highlighted routes in **Figure 3-40**):

- » US 281 between the intersection of US 281 and the Pharr International Bridge and the intersection of US 281 with SH 336.
- » SH-336 between the intersection of SH 336 and US 281 and the intersection of SH 336 and FM 1016.
- » FM 1016 between the intersection of FM 1016 and SH 336 and the intersection of FM 1016 and Trinity Road.
- » Trinity Road between the intersection of Trinity Road and FM 1016 and the intersection of Trinity Road and FM 396.
- » FM 396 between the intersection of FM 396 and Trinity Road and the intersection of FM 396 and the Anzalduas International Bridge.
- » FM 2061 between the intersection of FM 2061 and FM 3072 and the intersection of FM 2061 and US 281.
- » US 281 between the intersection of US 281 and the Pharr International Bridge and the intersection of US 281 and Spur 29.
- » Spur 29 between the intersection of Spur 29 and US 281 and the intersection of Spur 29 and Doffin Canal Road.

- » Doffin Canal Road between the intersection of Doffin Canal Road and the Pharr International Bridge and the intersection of Doffin Canal Road and Spur 29.
- » FM 2557 (Stewart Road) from US 281/Military Highway to I-2 (US 83) and FM 3072 (Dicker Road) from Veterans Boulevard to Cesar Chavez Road.
- » US 281 (Cage Boulevard) from US 281/Military Highway to Anaya Road.
- » US 281/Military Highway from Spur 29 to FM 1015
- » FM 1015 from US 281/Military Highway to Progreso International Bridge.

There are 47 miles of OS/OW corridors (which includes 12 bridges) in Hidalgo County.

Figure 3-40: OS/OW Corridors in Hidalgo County



Source: Hidalgo County Regional Mobility Authority (HCRMA)



Workshop participants stated that project cargo moves at times from Port Houston to Altamira using US 77. Trucking companies have also used US 77 to move OW loads for Caterpillar and to move wind turbines. Specifically, wind towers from Matamoros were reported to cross daily at the Free Trade International Bridge and use US 77 to Port of Galveston and Texas City. It was estimated that 20% to 25% of the traffic on US 77 is truck traffic.

Stakeholders also stated that some truck traffic uses US 281 and US 59 to move loads from the Valley to Houston. Truck traffic on US 281 and US 59 linking the Valley to Houston is increasing every quarter. US 281/I-69C, for example, moves a lot of seasonal fruit and vegetables in November. It is, however, unclear whether these shipments are destined for a Texas maritime port. It was estimated that 30% to 35% of the traffic on US 281 is truck traffic. Stakeholders recommended that US 77 (future I-69E) be built out to interstate standards between Corpus Christi and Brownsville. Similarly, stakeholders recommended that capacity (i.e., lanes) on US 281 (future I-69C) be increased to accommodate increased port traffic. Both these considerations will enhance connectivity between I-2 and the Port of Corpus Christi, which will open opportunities for cargo to move through Corpus Christi.

US 281/Military Highway is a heavy-weight corridor in Hidalgo County (**Figure 3-40**). Stakeholders recommended that an OW Network be established, and that legislation is needed to connect the heavy-weight corridors in Cameron County (i.e., Port of Brownsville and Port of Harlingen OW corridors) with the heavy-weight corridors in Hidalgo County (TxDOT is currently conducting a study in collaboration with the Texas A&M Transportation Institute). Stakeholders also recommended that the permits issued by the two port authorities and HCRMA be interchangeable among these networks. Stakeholders mentioned that when SH 4 (a segment of the Port of Brownsville heavy-weight corridor) was under construction, capacity was limited to one lane for two years. OW carriers had no other options.

Traffic issues are also experienced at Veterans International Bridge. Stakeholders stated that Veterans International Bridge has only one lane for southbound trucks and cars.

Mexico

Figure 3-41 shows that the Rio Grande Valley is well connected by highway and rail to Mexico's Pacific Coast ports of Mazatlán, Manzanillo, and Lázaro Cárdenas.

Figure 3-41: Major Corridors Linking Pacific Coast Ports in Mexico and Gulf Coast Ports to the Rio Grande Valley Border Crossings and Proposed Investments



Source: Jacobs Analysis, 2025



Reynosa is connected to:

- » The Port of Mazatlán via MEX-40D and MEX-40;
- » The Port of Manzanillo via MEX-40D, MEX-54, MEX-80, and MEX-54D; and
- » Port of Lázaro Cárdenas via MEX-40D, MEX-35, MEX-57, MEX-43D, and MEX-37D.

Finally, Brownsville is well connected to Mexico's major Gulf Coast Ports (i.e., Veracruz, Tuxpan, Tampico, and Altamira) via MEX-180D, MEX-180, and MEX-101.

Workshop participants stated that steel shipments from the Port of Brownsville destined for Monterrey use MEX-2D and MEX-40. Oil tankers use MEX-101. Northbound automotive coils from Tampico cross at Veterans International Bridge. Stakeholders mentioned security problems for trucks traffic traveling southbound on MEX-101. Northbound truck traffic is not experiencing issues because of CBP. Finally, stakeholders stated that US 281, crossing at the Pharr International Bridge, and MEX-40 is the shortest route between the Port of Corpus Christi and Torreon, Mexico. Stakeholders advocated for infrastructure investments in MEX-40 (linking to Reynosa) and MEX-101 (linking to Matamoros).

Truck drivers leave Matamoros during the day because of San Fernando cartels.

Workshop participants stated that MEX-54 is an important connector for the Rio Grande Valley. It connects Monterrey to Mier (and MEX-2) and from Monterrey the Federal Highway system provides connectivity to Mexico's Pacific Coast Ports. Stakeholders mentioned that MEX-54 is not shown on

most maps, but it is a critical route. Stakeholders highlighted that MEX-54 reaches the border as an "alternative route" that is toll-free. Approximately 60% of the commodities transported on MEX-54 consist of produce. The remaining 40% is miscellaneous goods. Stakeholders recommended that the mayors of Ciudad Apodaca and Miguel Alemán be included in connectivity conversations.

A representative from the Port of Matamoros stated that the Port of Brownsville is currently more efficient for certain exports than the Port of Matamoros. For example, 1,200 trailers of rock only require one payment when routed through the Port of Brownsville, instead of multiple filings (e.g., 1,000 individual files) as in the case of Port Matamoros. Brownsville is therefore a better short-term option until Port Matamoros is fully operational. The Port of Matamoros representative advocated for the expansion of TAM-5 from two lanes to four lanes to connect Port Matamoros to Matamoros and Reynosa (via MEX-2/2D). TAM-5 is the only route in this area as it is a peninsula with no southbound roads, leading to a 100km stretch to the water. A bypass is needed to divert some traffic. The distance from Port Matamoros to the junction is 62 km, with an additional 20 km to reach the API. The proposed road from the junction to La Rosita is approximately 48 km. The proposed project is still in the conceptual phase, with challenges related to water and road curves that need to be addressed during planning.

According to the Port of Matamoros, 7,000 to 9,000 petrochemical trailers already use the Port Matamoros.



Route T-MEC is a proposed rail corridor from the Port of Mazatlán through Torreón to Monterrey along MEX-40. From Monterrey the route traverses Laredo (along NL-1), Tulsa, Chicago before finally connecting to Winnipeg (Canada). Stakeholders stated that there is a proposal to expand the T-MEC (“Tratado entre México, Estados Unidos y Canadá” known in English as the USMCA) to include Port Matamoros in the T-Mec corridor. Connecting Port Matamoros to the T-MEC route will facilitate the movement of goods into San Antonio via La Rosita, Matamoros. This connection would involve adding 160 km of rail line to connect with the existing infrastructure. Stakeholders mentioned that Texas would need to realign with the T-Mec route for this to be feasible, but that the proposed connector would not be ready for full operation for a few years. Linking the Port of Matamoros to Monterrey via rail will also enhance the logistics efficiency of moving steel and other imports. It was stated that the 300 km area around the Port of Matamoros shows the most potential for enhancing transportation efficiency.

Finally, workshop participants advocated for infrastructure improvements in MEX-180 and MEX-101, as well as enhanced security to connect the Port of Altamira with Matamoros.

Future Trends

Several trends seem to suggest that the corridors linking Texas’s and Mexico’s maritime ports, and the border crossings will become increasingly important in the future. Some of the arguments include:

- » A lack of investments to address congestion at Mexico’s maritime ports could divert traffic to Texas’s maritime ports that will subsequently be trucked or railed into Mexico.
- » Increased congestion at California’s maritime ports might divert cargo from Asia destined to the U.S. to Mexico’s Pacific Ports that will ultimately be trucked or railed into Texas.

- » Mexico’s Pacific ports are an alternative to the Panama Canal that has been experiencing increasing delays due to traffic and water issues.
- » Nearshoring is also expected to increase maritime shipments that will cross the Texas-Mexico border.

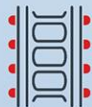
Figure 3-42 Route T-MEC Rail Corridor



4



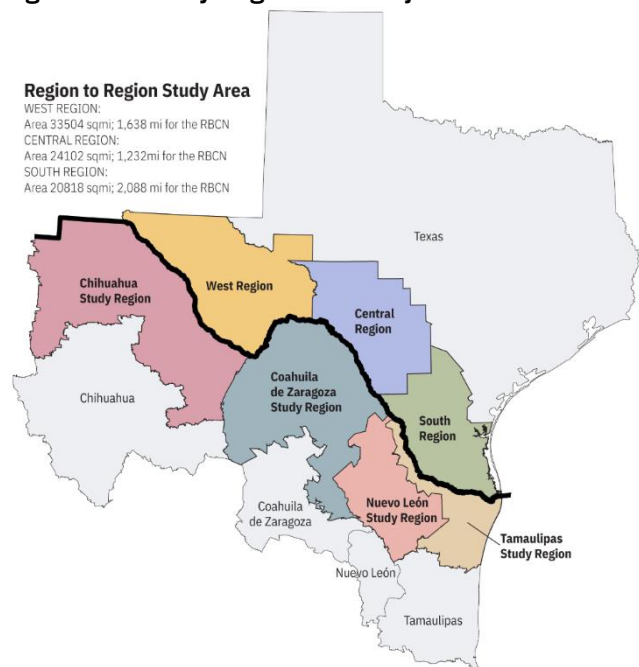
Region-to-Region Connectivity



Region-to-Region Connectivity

This section examines the connectivity challenges between Texas’s three border regions (i.e., West, Central, and South displayed in **Figure 4-1** to identify opportunities for improvement. The West, Central, and South border regions each encompass portions of multiple TxDOT districts. These regions were not defined based on district boundaries, but rather on the functional relationships among key origins and destinations within approximately 100 miles of the Texas-Mexico border. Each region reflects a cluster of border-crossing activity hubs that are connected by shared supply chains and primary freight corridors.

Figure 4-1: Study Regions and Adjacent Areas within RBCN



Source: Texas-Mexico Border Region Connectivity Plan Study Area, 2025

Identification of the Regional Border Connectivity Network (RBCN)

As part of the Texas-Mexico Border Region Connectivity Plan, the RBCN was designated as the geographic area for transportation performance measurement and needs assessment in the Texas Border Region. The RBCN, a subset of the multimodal transportation system in the Texas Border Region, is crucial for the movements of goods and people within, to, and through the border region. For details on the network designation process, reference Appendix D.

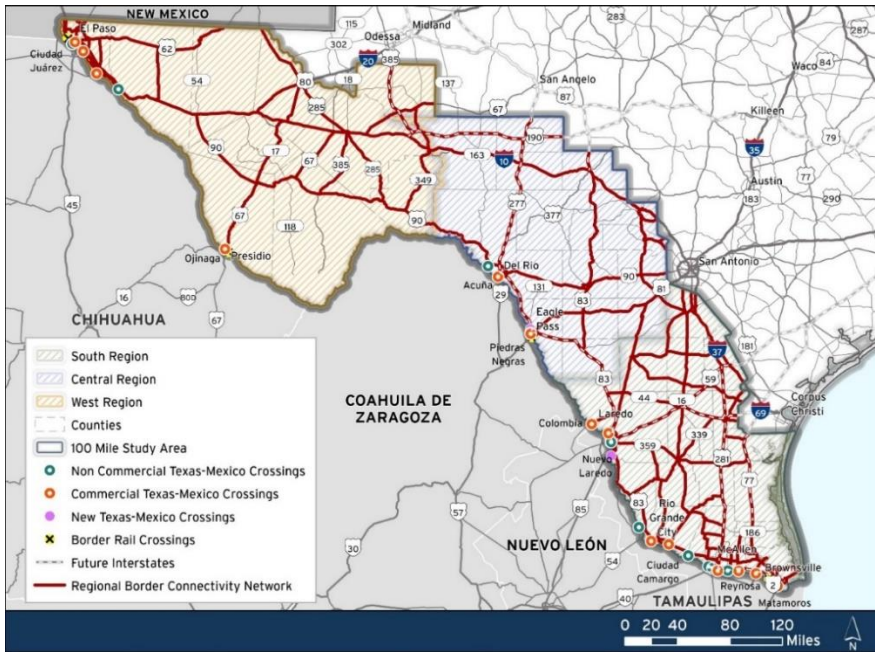
The RBCN was developed using a two-phase process: a data-driven analysis followed by stakeholder input. This approach ensured the network’s accuracy and relevance. The network focused on two primary themes: the movement of people and goods and market access and connectivity. Metrics for these themes are detailed in Appendix D.

In the second phase, TxDOT El Paso, Laredo, and Pharr Districts provided critical feedback that was used to refine the network. Discussions included plans, studies, and funded projects, such as US 67, Port-to-Plains Segment 3, and the I-10 Corridor Studies, aligning the RBCN with regional development priorities and infrastructure goals.

The final RBCN (**Figure 4-2**) spans 4,958 miles, connecting all 43 counties within the Texas Border Region. The network includes 1,639 miles of the network are in the West Region, 1,232 miles in the Central Region, and 2,088 miles in the South Region.



Figure 4-2: Regional Border Connectivity Network (RBCN)



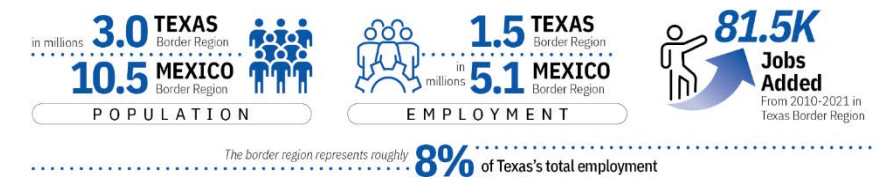
Source: HNTB, 2025

Existing Conditions

The study leveraged state border corridor studies and approved local studies to assess inter-regional travel within Texas’s three border regions. A baseline conditions assessment, detailed in Appendix D, was enhanced using updated INRIX, Streetlight, IMPLAN, TREDIS, and telematics data. This data-driven analysis identified critical POE connectors and border thoroughfare challenges, focusing on first and last mile facilities. The RBCN corridor analysis also assessed arterial conditions using local travel demand models. Findings were reviewed by TxDOT districts and MPOs, with key performance metrics illustrated in the next figures.

There are currently 3 million people living within the Texas Border Region with another 10.5 million living within the Mexico Border Region. The Texas-Mexico Border Region employs approximately 6.6 million individuals, with approximately 1.5 million of them within the Texas Border Region, comprising 8% of Texas’ overall employment. Employment growth has remained positive, putting more pressure on an already strained highway infrastructure. **Figure 4-3** displays a summary of RBCN population and employment indicators.

Figure 4-3: RBCN Population and Employment Indicators

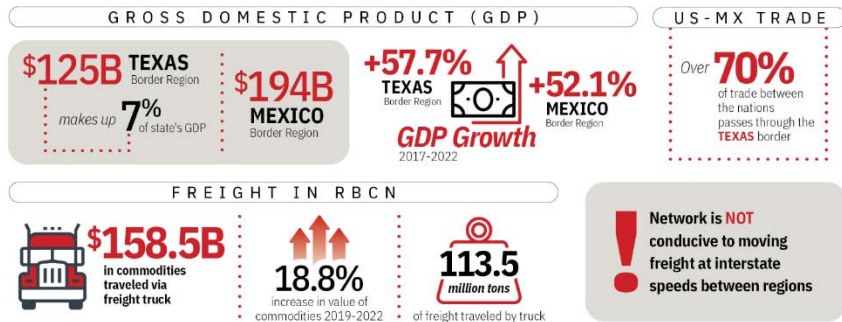


Source: HNTB, 2025

The Texas Border Region contributes \$125 billion annually to Texas’s economy, or 7% of the total state GDP. Economic growth is unprecedented, with a 57.7% increase in the state’s GDP between 2017 and 2022. Annually, 113.5 million tons of freight, valued at \$158.5 billion, pass through the Texas border. This translates to over 70% of the commodities between Texas and Mexico passing through the Texas border. Based on these figures, coupled with year-over-year growth, the current transportation network cannot adequately support the transport of goods between the ports at interstate speeds. **Figure 4-4** displays a summary of RBCN economic and freight indicators.



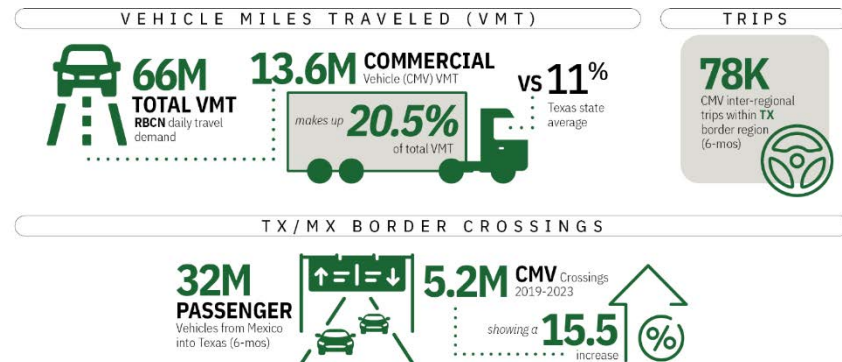
Figure 4-4: RBCN Economic and Freight Indicators



Source: HNTB, 2025

The RBCN sees 66 million miles in Vehicle Miles Traveled (VMT) each day, of which 13.6 million miles (20.5%) is from commercial vehicles. Further, there were over 78,000 truck trips between each of the three regions over a six-month period between 2023 and 2024. Border crossings have also seen an uptick with 32 million passenger vehicle transfers between Texas and Mexico. There have also been 5.2 million truck transfers between the borders over a four-year period, showing a 15.5% year-over-year increase.

Figure 4-5: RBCN Traffic Indicators



Source: HNTB, 2025

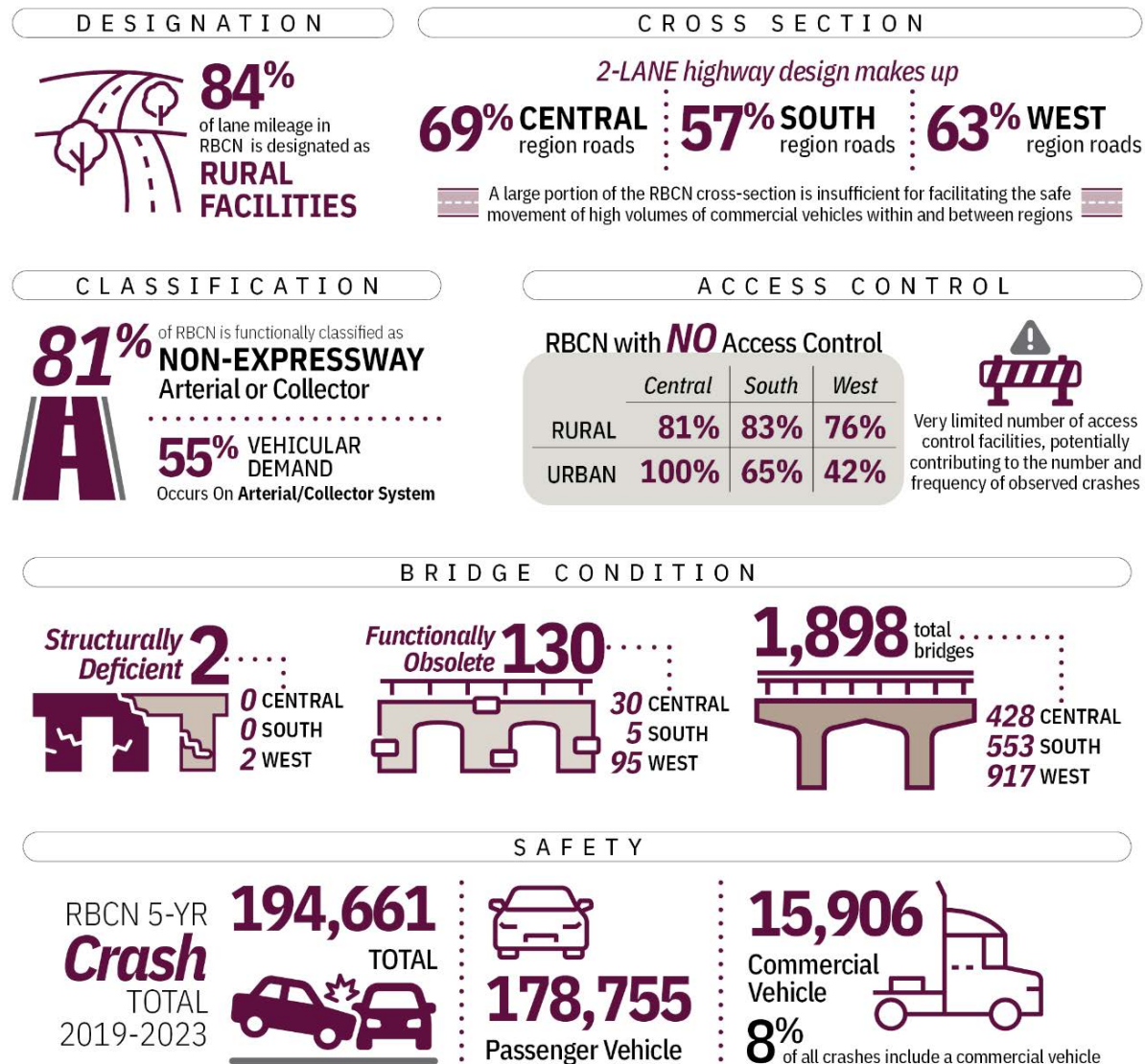
The RBCN is primarily a rural network, with 84% of the total lane miles designated as rural facilities, meaning it provides connectivity to important facilities like farms, ranches, or other essential infrastructure in sparsely populated areas of the Texas Border Region. Further, 81% of the RBCN is classified below interstate design standards, including principal and minor arterials or collectors, indicating an inability to support higher speeds and throughput compared to interstate highways. Most roads in the RBCN have two travel lanes, encompassing 63% of all roads in the West Region, 69% in the Central Region, and 57% in the South Region.

Of the 1,898 total bridges in the RBCN, 130 (6.8%) are functionally obsolete, meaning bridges that were built to standards that are no longer current and are incapable of meeting current traffic demands, with two bridges (1.54%) considered structurally deficient.

Over a five-year period (2019-2023), there were a total of 194,661 crashes on the RBCN, of which 15,906 (8%) involved a commercial vehicle. Without considerable improvements, as designated in this report, the exponential growth throughout the RBCN, coupled with the network's current limitations, may contribute to an increase in the number and severity of traffic safety incidents.



Figure 4-6: RBCN Infrastructure Indicators

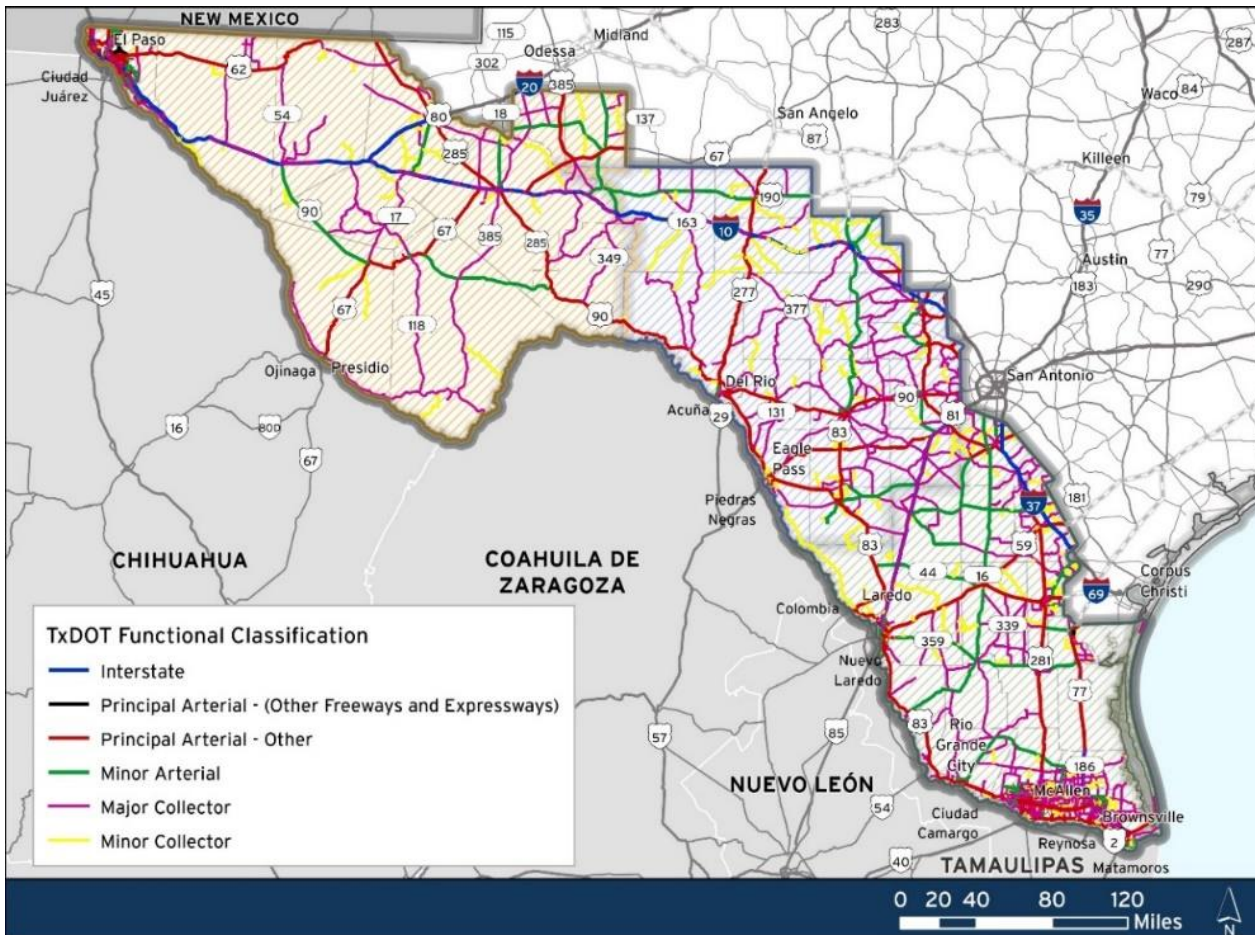


Source: HNTB, 2025

Major Routes

Major routes within the Texas Border Region were categorized using TxDOT Functional Classifications and are displayed in **Figure 4-7**. Additional details are provided in Appendix D.

Figure 4-7: Functional Classification, Texas Study Area



Source: TxDOT Functional Classification, 2024



Table 4-1, TxDOT classifies major roadways into six functional classifications.

Table 4-1: Roadway Classifications within Study Area

Functional Classification	Length (lane miles)
Interstate	2,794
Principal Arterial - Other Freeways and Expressways	239
Principal Arterial - Other	4,057
Minor Arterial	2,129
Major Collector	19,073
Minor Collector	2,372

Source: HNTB Analysis, 2025

- » *Interstates:* High-capacity highways that connect multiple states as part of the national Interstate Highway System. In the Texas Border Region, I-10, I-20, I-35, and I-37 span 2,794 lane miles, providing essential freight and passenger routes from POEs to other states.
- » *Principal Arterials (Other freeways and Expressways):* Major highways with controlled access, designed for high-speed, long-distance travel. These roads cover 239 lane miles and connect major cities within the region.
- » *Principal Arterials – Other (OPAs):* Arterials that link urban centers and rural hubs, prioritizing mobility for both intra-urban and through traffic. OPAs account for 4,057 lane miles of connectivity across the region.
- » *Minor Arterials:* Moderate-capacity roads that connect smaller towns and neighborhoods to major arterials, typically consisting of two to four lanes. These routes span 2,129 lane miles.

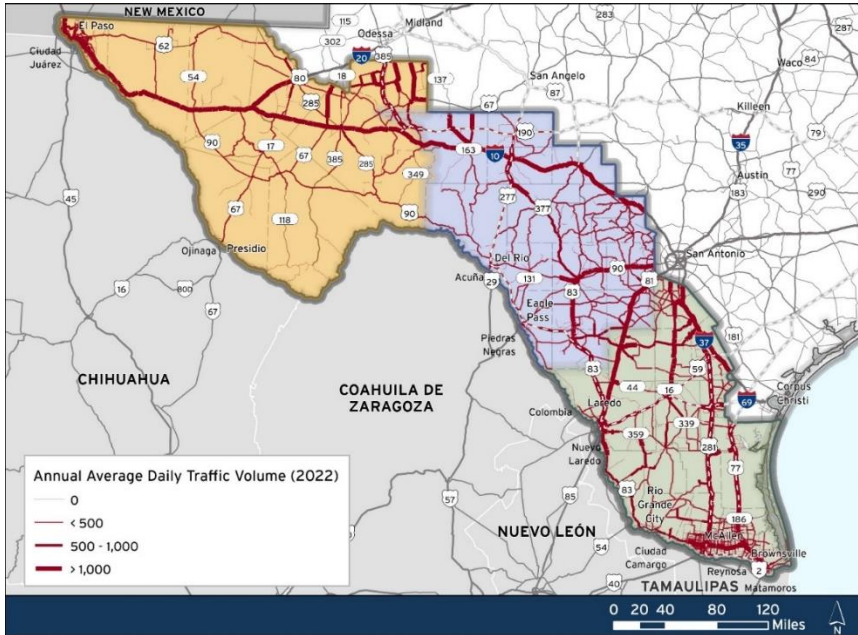
- » *Major Collectors:* Roads that funnel traffic from local streets to arterials, using signals and speed controls to manage higher volumes. In the Texas Border Region, they cover 2,372 lane miles.
- » *Minor Collectors:* Low-capacity roads that balance mobility and land access, connecting local roads to major routes. They span 2,129 lane miles and are typically two to four lanes.

Traffic Analysis and Congestion Impacts

This analysis highlights the major routes and their congestion impacts, providing a comprehensive overview of the current traffic conditions for the RBCN. According to TxDOT’s Statewide Analysis Model (SAM), Annual Average Daily Traffic (AADT) volumes are projected to increase significantly from 2022 (**Figure 4-8**) to 2050 (**Figure 4-9**), particularly along key corridors near Presidio, Alpine, Del Rio, Eagle Pass, and Uvalde. This growth reflects expanding economic activity, contributing to heightened congestion in these areas.



Figure 4-8: Texas Annual Average Daily Traffic (AADT) Volume, 2022



Source: TxDOT, Statewide Analysis Model (SAM), 2024.

Key findings from the SAM data analysis reflect growth patterns in traffic, including impacts on congestion, truck activity, and crash data within the study area. Significant congestion is observed on key routes, particularly in urban areas. Truck traffic accounts for 20.5% of the total VMT, with the West Region having the largest share. Additionally, high crash densities are noted on major routes, with common causes including failure to control speed, driver inattention, and unsafe lane changes. Key findings include:

Average Daily Traffic (ADT)

- » Major routes like I-10, I-35, I-37, I-69C/US 281, and I-69E/US 77 have high traffic volumes, exceeding 10,000 vehicles per day.
- » The total VMT in the study area is estimated at 66 million miles, with the South Region accounting for the largest share.

Congestion Impacts

- » *I-10*: Significant congestion between El Paso and San Antonio.
- » *I-35*: High congestion from Laredo to San Antonio.
- » *I-37*: Congestion south of San Antonio.
- » *US 281 and US 77*: High congestion north of the McAllen/Brownsville metro area.
- » *Urban Areas*: Higher congestion levels within urban areas compared to rural corridors.

Truck Traffic

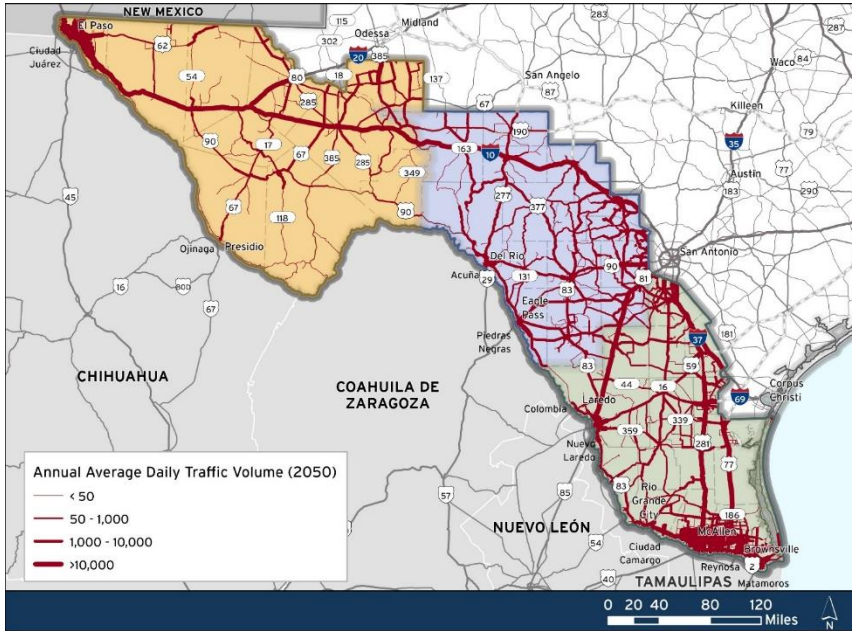
- » *Commercial VMT*: Estimated at 13.6 million miles, representing 20.5% of the total VMT in the study area.
- » *West Region*: Largest share of commercial VMT at 5.3 million miles.
- » *Central Region*: Least amount of commercial VMT at 3.7 million miles.
- » *South Region*: Significant commercial VMT at 4.6 million miles, with high demand in the Rio Grande Valley.

Crash Data

- » High crash densities on I-10, I-35, I-37, and US 281/US 77.
- » Common causes include failure to control speed, driver inattention, and unsafe lane changes.
- » Crashes involving commercial vehicles are more severe and impact travel time reliability.



Figure 4-9: Annual Average Daily Traffic (AADT) Volume, Study Area 2050



Source: TxDOT, SAM, 2024.

Freight and Goods Movement Bilateral trade, encompassing both northbound and southbound movements, encompasses a diverse range of sectors including high-tech, machinery, chemical products, and motor vehicles. In 2023, the aggregate value of all goods exceeded \$450 billion. An in-depth visual analysis [StoryMap](#) was developed to understand the intricacies of trade flows between the two nations.

Trade in the Texas-Mexico Border Region is increasingly dominated by trucks, which accounted for approximately 75% of the region’s total trade value in 2023 – the highest ratio recorded between 2006 and 2023 (**Figure 4-10**).

Figure 4-10: Percent of Texas-Mexico Freight Value Transported via Truck



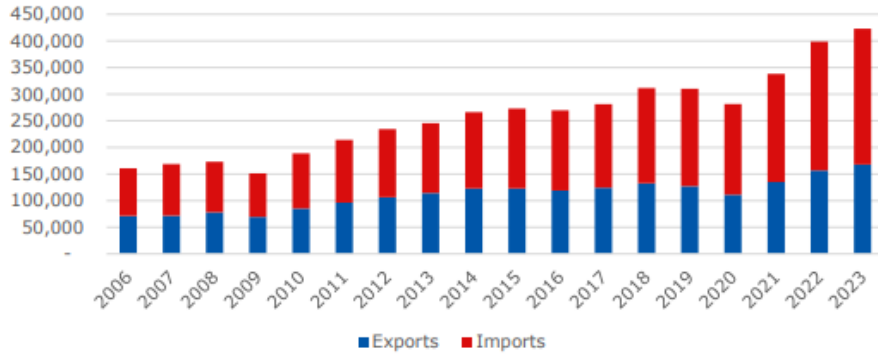
Source: The Bureau of Transportation Statistics (BTS) TransBorder Freight program, 2024

Over the past two decades, the value of freight movement across the border region has grown significantly. From 2006 to 2023, Texas-Mexico trade increased by 147.6%, with 75% of the total trade value carried by trucks in 2023.

As the following figures show, in 2023, 58% of the value of goods crossing the border were imports into the U.S., while 42% were exports to Mexico (**Figure 4-11**). Trade growth has been positive for all but five years between 2006 and 2023, with notable declines only in 2009 (Great Recession) and 2020 (COVID-19 Pandemic). Since 2019, Texas-Mexico trade value has surged by 33.5%.

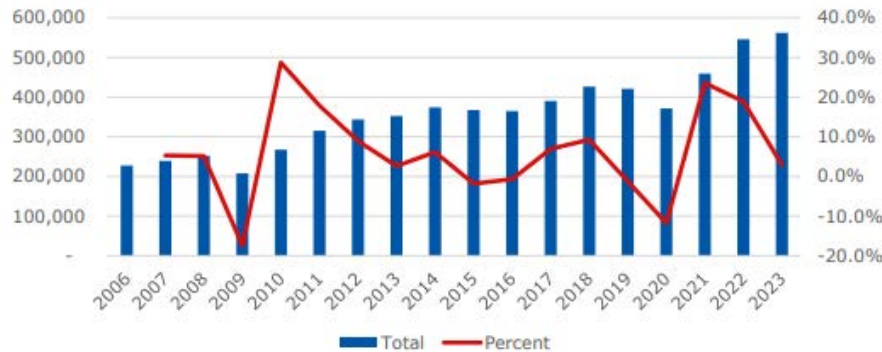


Figure 4-11: Texas-Mexico Truck Freight Flows by Export & Import Values (in Millions)



Source: BTS TransBorder Freight program, 2024

Figure 4-12: Total Texas-Mexico Freight Flows by Value (in Millions) & Yearly Percent Change



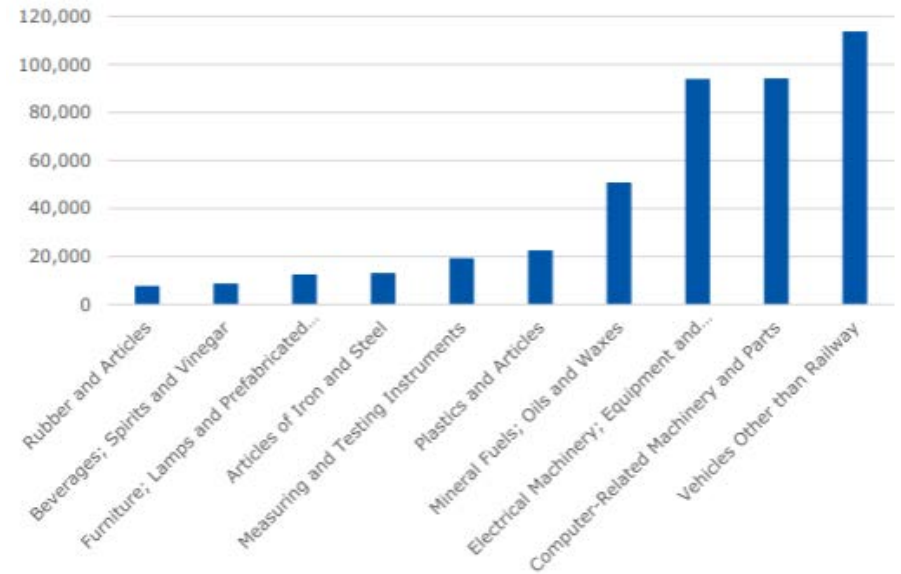
Source: BTS TransBorder Freight program, 2024

The top commodities by value crossing the Texas-Mexico border include electrical machinery, equipment, and parts, along with vehicles other than railway.¹⁷ In 2023, vehicles other than railway emerged as the largest

¹⁷ Vehicles other than railway includes a wide range of vehicles and their parts and accessories. These vehicles are designed for various purposes other than operating on railway or tramway tracks. Subcategories within this group include tractors, buses, trucks and

commodity group by trade value. The study area also experienced the highest growth among the top ten commodity groups, with its trade value increasing by 17.1% from 2022 to 2023.

Figure 4-13: Top Commodities (by Values in Millions) Crossing Texas-Mexico border, 2023



Source: BTS TransBorder Freight program, 2024

chassis, cranes, vehicle body parts and accessories such as brakes, gearboxes, and axles, military vehicles, motorcycles and non-motorized cycles, etc.



In 2022, 113.5 million tons of freight traveled by truck on roads within the Texas-Mexico Border Region. While this represents a slight decline in tonnage (-4.5%) compared to 2019 (**Figure 4-12** and **Figure 4-14**), the value of freight increased during the same period.

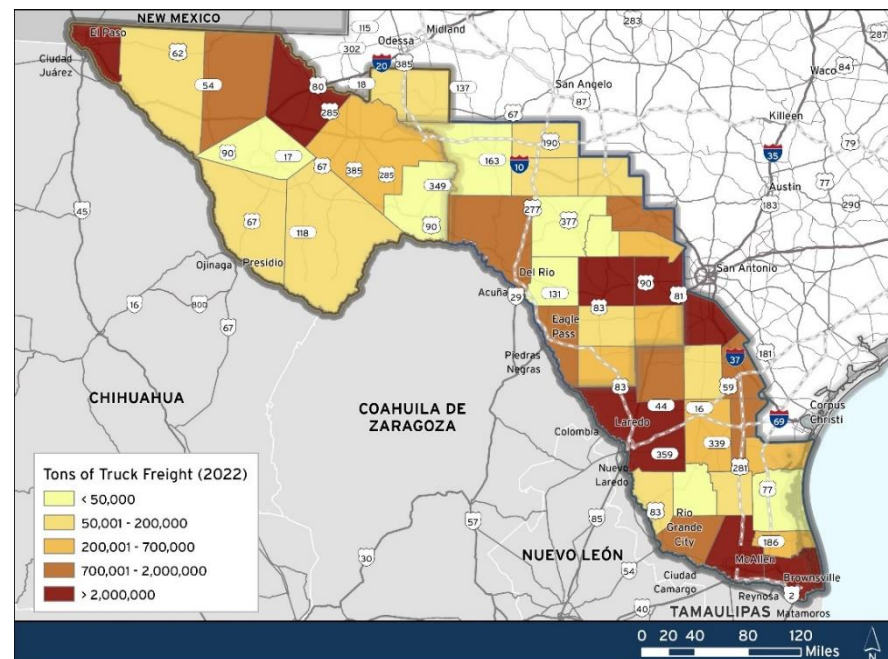
Table 4-2: Tons of Commodities via Freight Truck, Texas Study Area 2019-2022 (in millions)

Region	Tons of Commodities via Freight Truck 2019	Tons of Commodities via Freight Truck 2022	Absolute change	Percent Change
South	70.9	70.4	-0.5	-0.70%
Central	20.0	16.2	-3.8	-19.10%
West	28.0	26.9	-1.1	-3.00%
Study Area	118.9	113.5	-5.4	-4.50%

Source: Analysis of Transearch Commodity Flow data, 2024

In Texas, the counties handling the highest tonnage of commodities include Hidalgo, Webb, El Paso, Cameron, and Atascosa (**Table 4-2**). Meanwhile, La Salle, Crane, Upton, Reeves, and Duval counties saw the greatest percentage increases in tonnage between 2019 and 2022 (**Figure 4-14**).

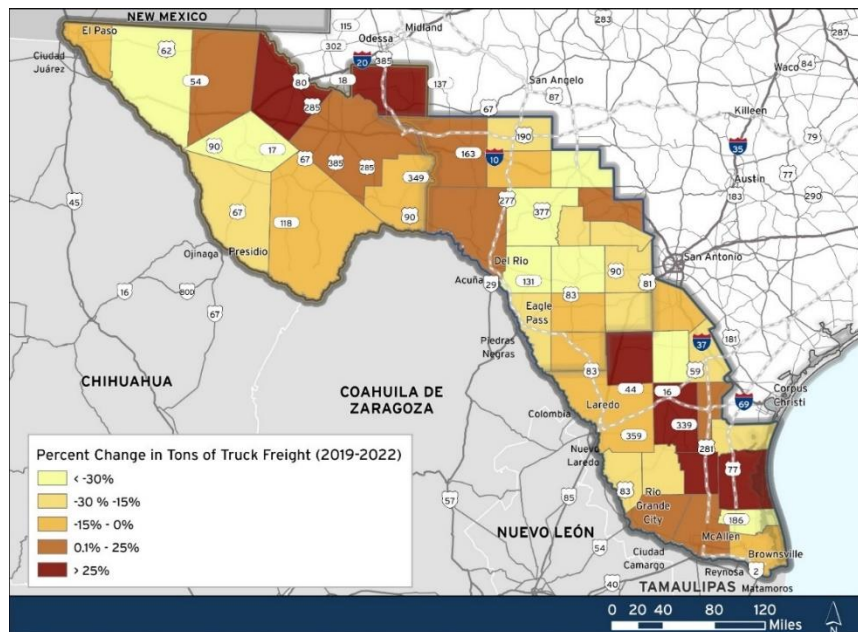
Figure 4-14: Texas Truck Freight Tonnage, 2022



Source: Analysis of Transearch Commodity Flow data, 2024



Figure 4-15: Texas Percent Change in Truck Freight Tonnage, 2019-2022



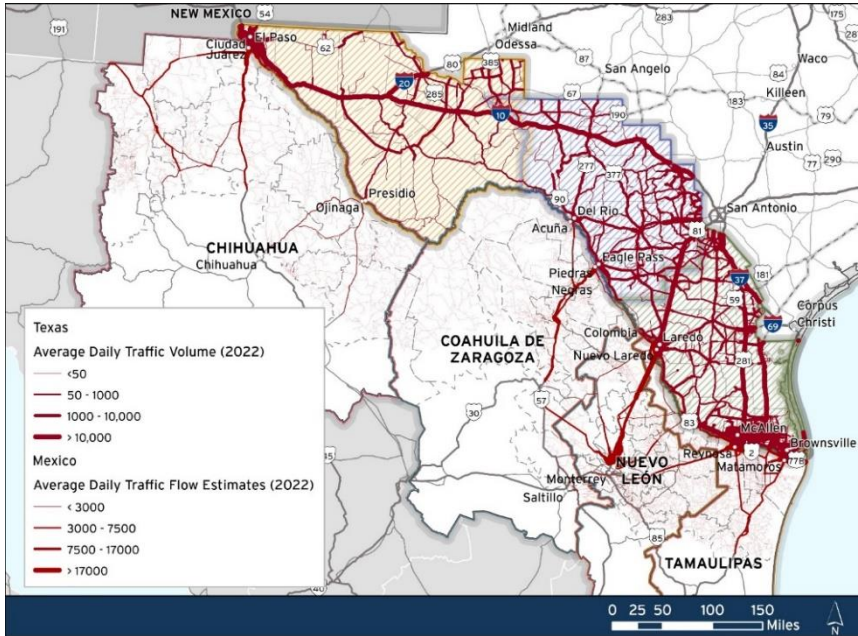
Source: Analysis of Transearch Commodity Flow data, 2024

In 2022, the AADT in the study area exceeded 10,000 vehicles per day on key corridors such as I-10, I-35, I-37, I-69C/US 281, and I-69E/US 77. The total VMT across these three regions was estimated at 66 million miles, accounting for 9.3% of Texas's total statewide VMT. VMT reflects the total miles traveled in a geographic area over a specific period:

- » The West Region contributed 23.2 million VMT (35.2%).
- » The Central Region recorded the smallest share with 11 million VMT (16.6%).
- » The South Region accounted for the largest portion, totaling 31.8 million VMT (48.2%).

- » On the Mexican side of the border, the states of Chihuahua, Coahuila de Zaragoza, Nuevo León, and Tamaulipas serve as critical corridors for the movement of people and goods to and from Texas's southern border.
- » Significant ADT flows in these regions occur along key routes, including MEX-45: From Juárez to MEX-10 in Chihuahua; MEX-57: From Piedras Negras to Monclova in Coahuila de Zaragoza; MEX-85: From Nuevo Laredo to Monterrey in Nuevo León; and MEX-40: From Reynosa to Monterrey in Nuevo León.

Figure 4-16: Texas Average Daily Traffic (ADT) Volume, 2022

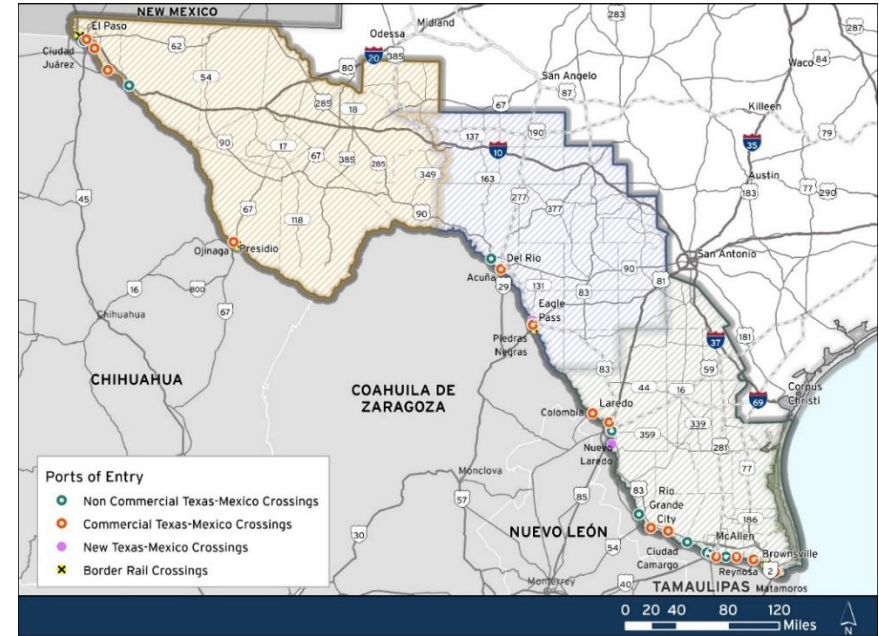


Source: TxDOT, SAM. Secretaria de Comunicaciones y Transportes (SCT) ADT Mexico Counts, 2024

For truck movements, much of the ADT within Texas's border region is concentrated along major north-south corridors such as I-10, I-35, US 377, US 90, US 281, US 77, and SH 16, which connect major Texas cities to the border regions (**Figure 4-16**).

In 2022, an estimated 13.6 million truck VMT occurred along these routes, accounting for 20.5% of the total 66 million VMT in the study area. Regionally, commercial VMT was distributed almost uniformly across the border region, with 39% in the West Region, 27% in the Central Region, and 34% in the South Region. **Figure 4-17** highlights the locations of these critical infrastructure assets, which play a key role in supporting regional trade and mobility.

Figure 4-17: Texas-Mexico Border Region Major Crossings



Source: BTS, 2024

Roadway Design Impacts on Freight Movements

The design of roadways in the Texas-Mexico Border Region significantly influences the movement of goods, impacting safety, traffic flow, and the overall condition of the transportation network.

- » *Rural Roadways*: The South Region has the highest proportion of rural networks with no access control, a factor that has been demonstrated to reduce traffic flow and increase the incidents of crashes.
- » *Urban Roadways*: In urban areas, the Central region leads in the proportion of roadways without access control, which can adversely affect traffic flow and safety.

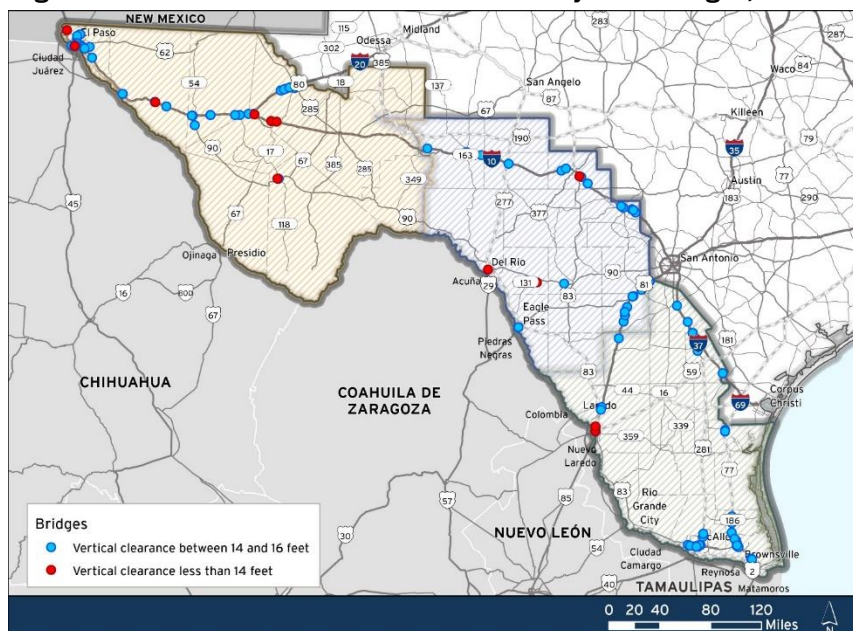


» *Medians*: Across the Central, South, and West Regions, most roadways lack medians, which could enhance traffic management and safety.

Freight movement is further challenged by vertical clearance limitations. Routes with low clearances force commercial vehicles, including oversized and overweight loads, to divert to alternative roads that may not be designed to handle larger, heavier vehicles, leading to network damage. In the study area, 324 bridges have vertical clearances between 14 and 16 feet, while 22 bridges, primarily located in the West Region, have clearances under 14 feet (**Figure 4-18**).

Addressing these design limitations is critical for improving the efficiency, safety, and longevity of the border region's transportation infrastructure.

Figure 4-18: Critical Vertical Clearance of Study Area Bridges, 2024



Source: TxDOT, Bridge Division, 2024.

Community and Stakeholder Engagement

Initial core stakeholder engagement began with each of the TxDOT District offices along the border region District Engineers and staff provided area technical expertise, knowledge of area funding sources and resources, and historical knowledge of the development and implementation of past transportation projects, and future transportation projects.

Stakeholder Engagement Methodology

Stakeholder identification and mapping was compiled using a comprehensive listing from meetings held between 2019 and 2020. More than 500 individuals and agencies provided the starting point in each target city to identify key stakeholders based upon their power, knowledge, and interest in the planning studies for invitations to approximately 100 individuals in each area for this effort.

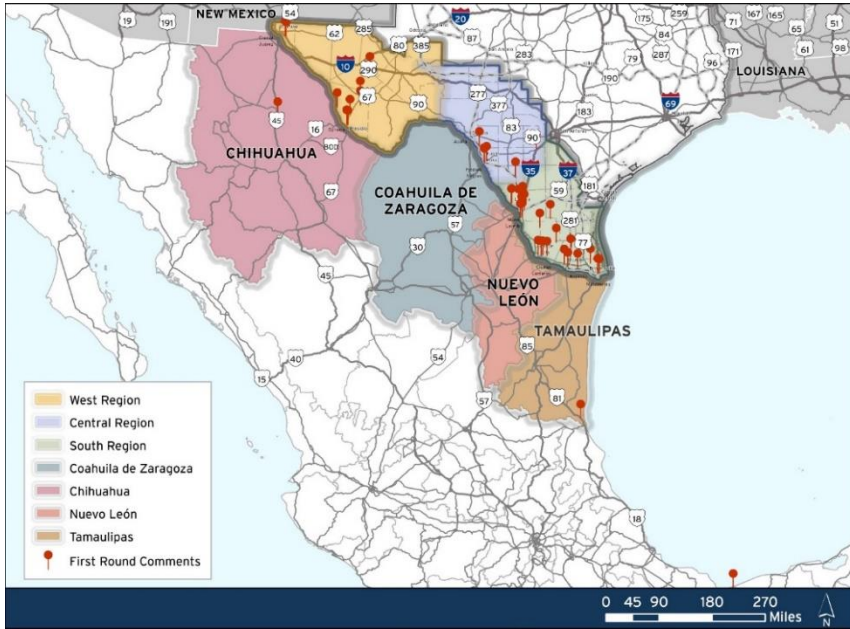
Workshops included stakeholders from a range of public and private entities, such as TxDOT District Offices, municipal governments and agencies, utilities, international bridges, MPOs, chambers of commerce, economic development corporations, U.S. federal agencies, railway companies, border alliances, educational institutions, consul generals, private industry, and POEs.

Summary of Feedback Results

A total of 231 people attended the first round of feedback from cities including El Paso, Presidio, Del Rio, Laredo, and McAllen, while 208 people participated in the second round from El Paso, Presidio, Eagle Pass, Laredo, and McAllen. **Figure 4-19** and **Figure 4-20** show the locations of the feedback or considerations for additional roads or areas of interest. A list of attendees by city for both rounds of stakeholder engagement is available in Appendix A. The feedback in the second round primarily focused on providing considerations for addressing unmet needs within the border region network.



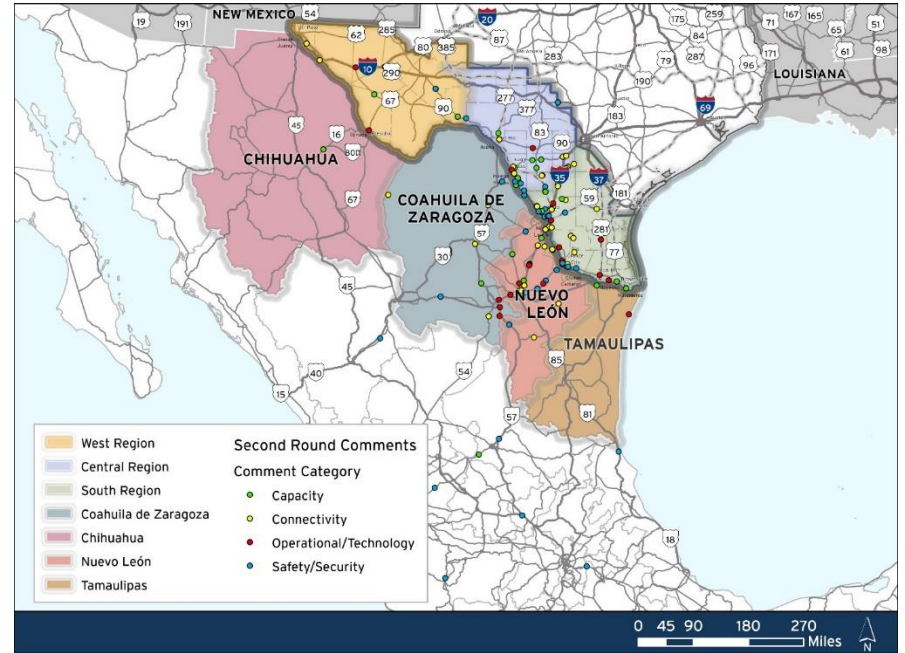
Figure 4-19: Round One Stakeholder Comments



Source: Comments captured in ESRI Experience Builder during stakeholder meetings

For the first round of stakeholder involvement, the South Region provided more feedback than the West Region, with a higher number of attendees in the South, ensuring more consistent input. Comments recorded within the South Region were predominantly placed around the City of Laredo and corridors abutting the southern border (e.g., US 83).

Figure 4-20: Round Two Stakeholder Comments



Source: Comments captured in ESRI Experience Builder during stakeholder meetings, 2024.

A total of 138 comments were collected in the second round of stakeholder engagement, with 62 related to Mexico and 79 pertaining to Texas. As shown in **Figure 4-21** participant comments in the second round for Texas and Mexico combined suggested that connectivity was the primary concern, with other major concerns including safety/security, capacity, and operational/technology.

Figure 4-21: Border Region Stakeholder Input by Category for Texas and Mexico

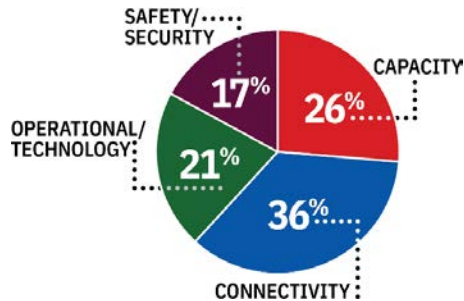


Source: Comments captured during round two of stakeholder meetings

As shown in **Figure 4-22**, participant comments in the second round for Texas suggested that connectivity was the primary concern followed by capacity, technology/operational, and safety/security. The main themes from each of the workshop locations include the following:

- » The El Paso participants perceived the network as reliable, but there were opportunities to enhance connectivity and amenities.
- » Presidio identified operational and infrastructural improvements that can enhance the regional economy.
- » Laredo and Eagle Pass showed new interest in underutilized routes to increase capacity and connectivity, aiming to redistribute border flows.
- » McAllen highlighted policy opportunities for commercial zones and the influence of new developments on future demand.

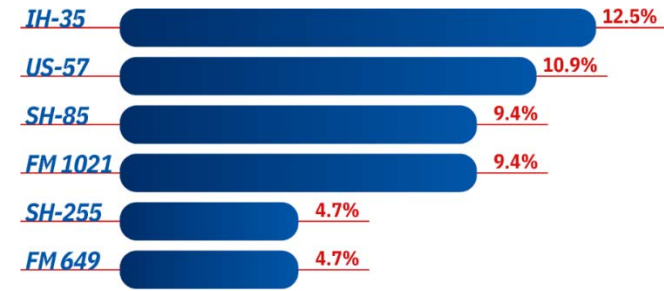
Figure 4-22: Texas Stakeholder Input by Category



Source: Comments captured during round two of stakeholder meetings

As shown in **Figure 4-23**, The most mentioned roadways on the Texas side were I-35, US 57, SH 85 and FM 1021.

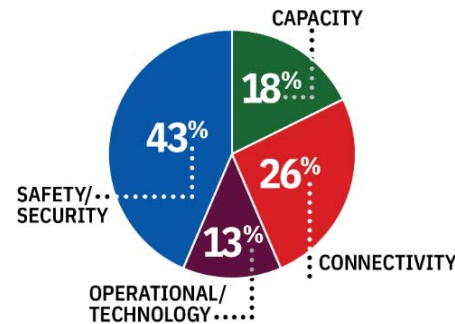
Figure 4-23: Most Mentioned Texas Roadways by Percentage



Source: HNTB Analysis, 2025

As shown in **Figure 4-24** in the second round of workshops, Mexican participants highlighted safety and security as top concerns, followed by connectivity, capacity, and operational/technology issues. Key insights included a lack of connectivity between Mexican states and POEs, the need for new bypasses and implementation of considerations from the Economic Corridor or Northern Mexico Plan, calls for enhanced security along key POE routes, and inconsistencies in highway maintenance between state and federal roads.

Figure 4-24: Mexico Stakeholder Input by Category

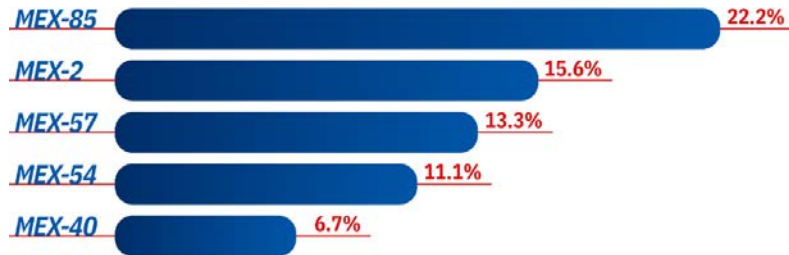


Source: Comments captured during round two of stakeholder meetings



As shown in **Figure 4-25**, the most mentioned roadways on the Mexican side were MEX-85, MEX-2, MEX-57, and MEX-54.

Figure 4-25: Most Mentioned Mexico Roadways by Percentage



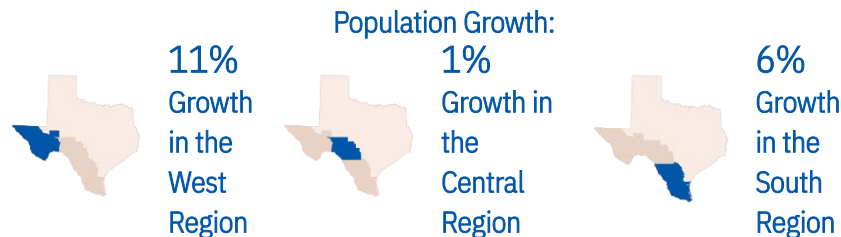
Source: HNTB Analysis, 2025

Future Conditions and Trends

Population and Employment Growth Projections

The Texas Border Region is estimated to undergo population and employment growth with varying speed in different regions. These shifts present both challenges and opportunities that will require targeted and strategic investment in transportation infrastructure. This section provides an overview of the population and employment growth forecasts and their implications for the region-to-region freight movements.

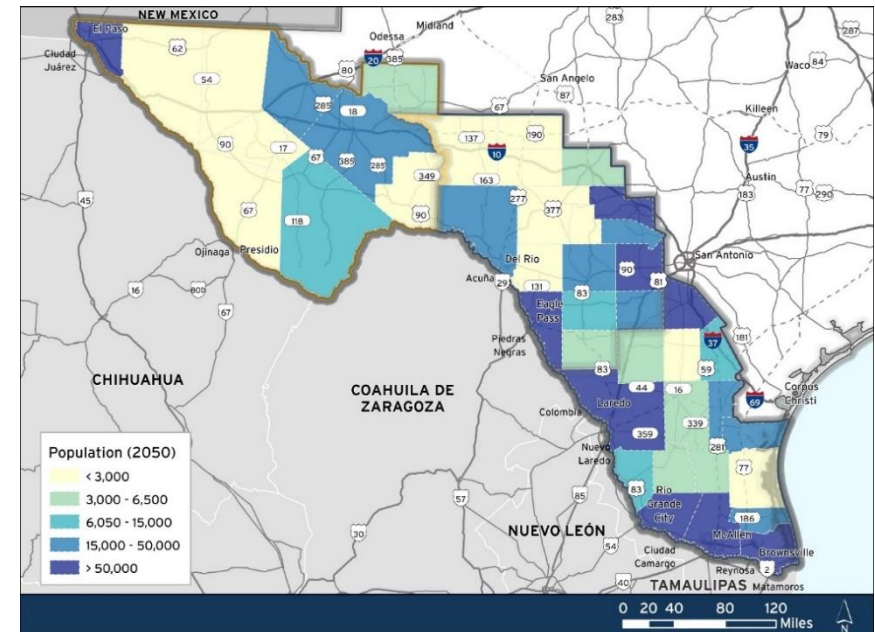
Figure 4-26: Demographic Shifts and Urbanization in The Texas Border Region



Source: Texas Demographic Center, Texas Population Projections 2020 to 2050, 1.0 Migration Scenario

Regional population growth patterns through 2050 show a clear trend of urbanization across the Texas Border Region. This demographic shift is particularly evident around urban centers like El Paso, McAllen-Brownsville, and along the I-35 corridor between Laredo and San Antonio, as illustrated in **Figure 4-27**.

Figure 4-27: Study Area Population in Millions, 2050



Source: Texas Demographic Center, Texas Population Projections 2020 to 2050, 1.0 Migration Scenario

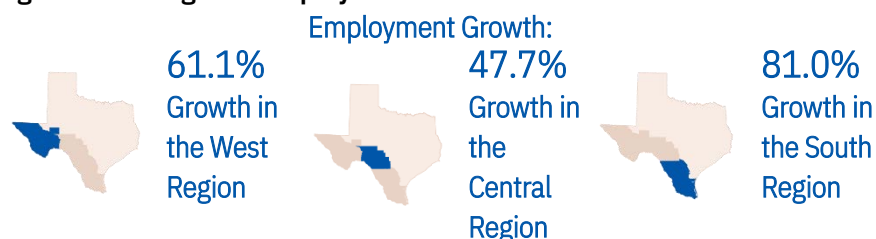
Implications for Region-to-Region Freight Transportation Planning

Freight and passenger traffic generated by urban growth will add pressure to transportation infrastructure in areas with population clusters such as around major cities and trade routes. This has significant implications for freight transportation planning. In the meantime, maintaining adequate freight connectivity to rural areas remains critical for supporting agriculture,



energy, and other key industries that form the economic backbone of these regions. The projected growth patterns suggest a need for differentiated infrastructure strategies - urban areas will require solutions focused on congestion mitigation and improved intermodal connectivity, while rural corridors need targeted improvements to maintain essential freight access and support evolving industrial needs. Special consideration should be given to border regions where international trade activities add another layer of complexity to freight movement patterns.

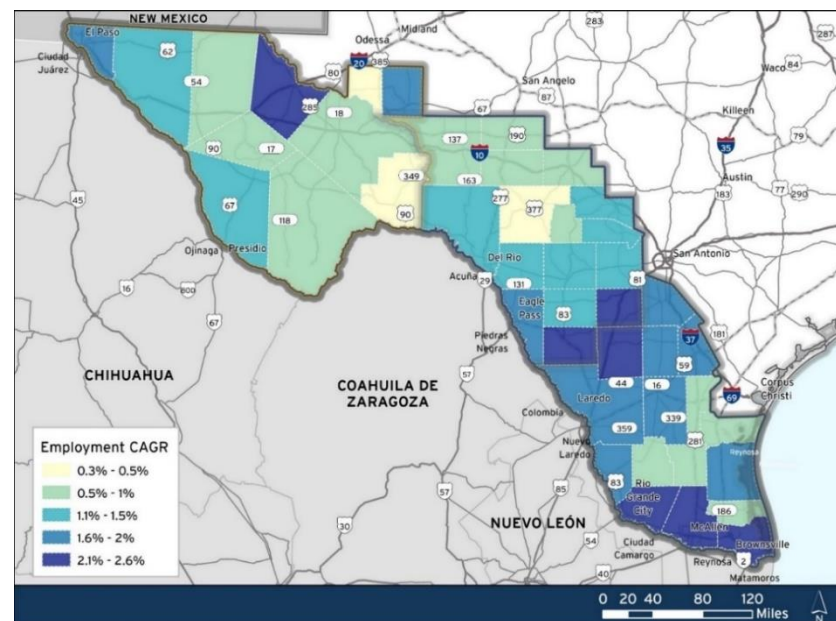
Figure 4-28: Regional Employment Growth and Economic Drivers



Source: HNTB Analysis, 2025

Employment projections through 2050 reveal robust job growth across the Texas Border Region, with particularly strong increases in the South and West Regions. As illustrated in **Figure 4-29**, the highest concentration of job creation is expected in counties along major trade corridors and near international border crossings, where employment in logistics, manufacturing, and international trade continues to expand.

Figure 4-29: Employment Compound Annual Growth Rate in the Texas Border Region, 2022-2050



Source: Texas-Mexico Border Region Connectivity Plan, based on data from the Texas SAM, TxDOT

Implications for Region-to-Region Freight Transportation Planning

Employment growth in counties along the I-35 corridor and rural areas in the Permian Basin is projected to outpace population growth, driven by manufacturing, energy, and logistics sectors. This trend underscores the need for enhanced freight infrastructure to accommodate increased cargo volumes, particularly in areas where job growth is concentrated outside major metropolitan centers.

The Border Region Activity and Profiles report further examines commodity flow, cross-border truck trips, and major origins and destinations across the West, Central, and South regions. Appendix D details specific border crossings and infrastructure assets, with traffic patterns analyzed by road



functional class to identify capacity enhancement needs. The report also considers social and cultural factors, including GDP growth and employment rates, to provide a comprehensive understanding of the region’s evolving freight dynamics.

Technology Breakthroughs

The Texas-Mexico Border Region’s transportation landscape is being transformed and is expected to continue to be heavily impacted by various emerging technologies, such as connected and automated vehicles, electric vehicles, Intelligent Transportation Systems (ITS), etc. These technologies are poised to reshape regional transportation networks, with implications for infrastructure, mobility patterns, environmental sustainability, and economic integration across regions. This section discusses the ongoing development and deployment of key transportation technologies in the region and how they could impact the region’s transportation planning.

Figure 4-30: Connected and Automated Vehicles (CAVs)



Source: Connected and Autonomous Vehicle Task Force

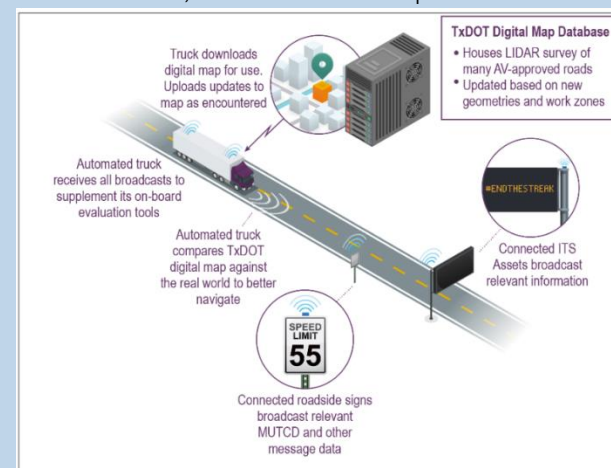
Connected and Automated Vehicles

Connected vehicle technologies are transforming freight operations through vehicle-to-infrastructure (V2I) and vehicle-to-vehicle (V2V) communications. These systems enable real-time information sharing about traffic conditions, safety hazards, and optimal routing, while supporting applications like freight signal priority and smart work zone management. The Texas Connected Freight Corridors project demonstrates

the potential for these technologies to improve freight mobility and safety along major corridors.

CAV Initiatives in Texas

The Connected and Autonomous Vehicle Task Force was established on January 22, 2019, to bring together public and private stakeholders to advance the CAV technologies. The task force’s goal is to utilize this emerging technology to enhance the efficiency and safety of people and freight movements. Since then, the Task Force has published various annual reports and white papers, outlining and identifying the state’s needs and opportunities to develop CAV. In addition to the formation



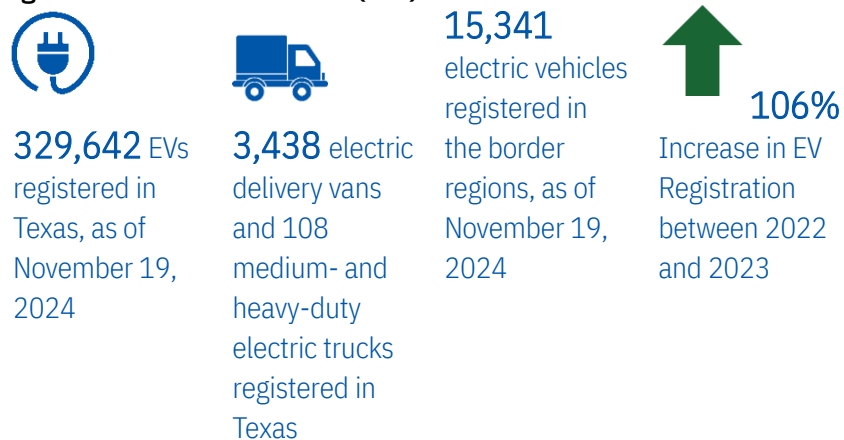
of the Task Force, implementing AV infrastructure, such as deploying connected signs and establishing a repository of digitized infrastructure data, is also one of the key strategies proposed in the Texas Freight Network Technology and Operations Plan. The image on the left illustrates the components of an AV infrastructure program.

Source: CAV task force meetings and materials, TxDOT

The advancement of autonomous vehicles, particularly in the trucking sector, presents both opportunities and infrastructure and policy challenges for Texas's border regions. Multiple AV truck companies are already conducting testing in Texas, leveraging the state's supportive regulatory environment and diverse operating conditions. To support this technology, key freight corridors will require enhanced lane markings, standardized signage, and strategic locations for autonomous truck terminals where loads can transfer between autonomous and human-driven vehicles. While CAV technology can potentially increase roadway safety by reducing the potential human errors, the integration of CAVs with human-driven vehicles may create challenges in managing traffic. AVs will need to navigate roads alongside non-autonomous vehicles, cyclists, and pedestrians, which may require new traffic rules, road designs, and law enforcement strategies.

The growth in adoption of EVs in Texas, although mostly in urban/suburban areas, will require the border regions to advance their electric charging infrastructure to support the movements of EVs throughout the regions. The Texas Statewide EV Registration Tool shows that there are currently close to 330 thousand EVs registered in the state, of which 92.9% concentrated in urban areas including Dallas-Fort Worth, Houston, Austin, and San Antonio. Even though most of the EVs are registered in the urban areas, it is still crucial to guarantee the mobility of these vehicles coming to and from the border, as well as between the border regions. Furthermore, Texas has become one of the innovation hubs for electric freight traveling, from light-duty to medium-/heavy-duty trucks. Transportation planning for the border region should also account for the growing demand for electric trucks, ensuring that these areas are prepared for future advancements in electric freight travel.

Figure 4-31: Electric vehicles (EVs)

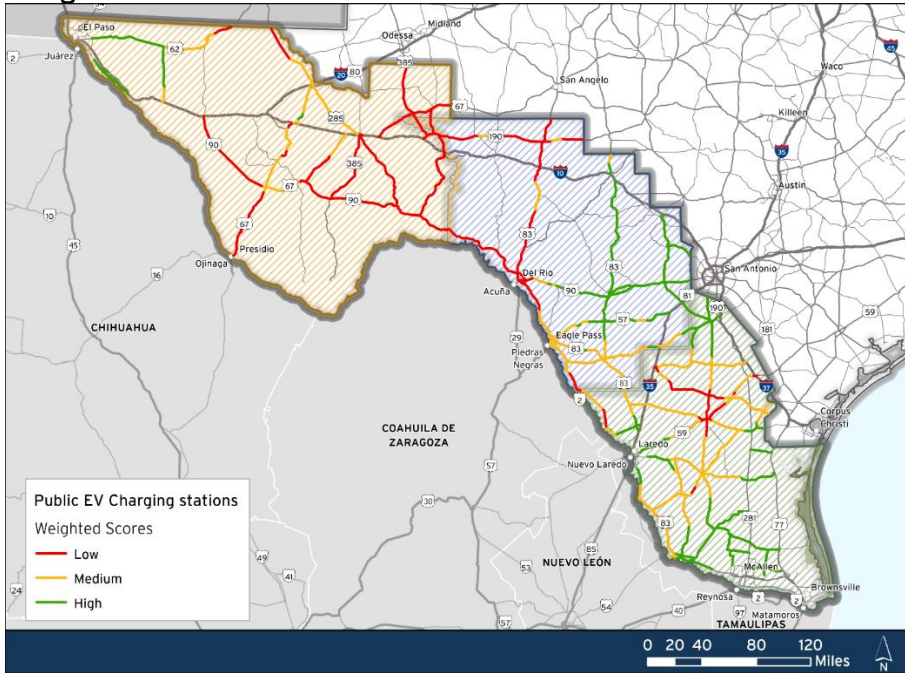


EV charging infrastructure is unevenly distributed across the border regions, with the El Paso, San Antonio, and Rio Grande Valley corridors scoring highest for accessibility, while rural areas like Alpine, Marfa, and Pecos lag. This gap poses challenges for long-distance EV travel and freight electrification in the West Region, where limited charging options could hinder mobility and sustainability goals. Addressing these gaps along key freight corridors is essential, alongside workforce training to support the maintenance and operation of electric trucks, creating economic development opportunities.

Source: Texas EV Registration Tool, [Microsoft Power BI](#), Accessed November 20, 2024; Rider 28: Evaluation of Medium-Duty and Heavy-Duty Vehicle Charging Infrastructure and Capacity, TxDOT, September 2024.; Rider 48



Figure 4-32: Accessibility of Public EV Charging Stations Performance Categories



Source: U.S. Department of Energy: Alternative Fuels Center, 2024.

Future-Proofing the Texas-Mexico Border Region

The management of transportation systems and operations is critical to ensuring the continued movement of goods and people in the face of extreme weather events and their impacts on infrastructure. The Texas-Mexico border, spanning a vast and diverse region, is particularly vulnerable to a range of extreme weather events, necessitating a transportation system that is both adaptive and prepared. Also, integrating sustainability measures across the transportation network is vital to mitigating the externalities affecting the communities served by the border region transportation activities.

Recent efforts aim to bolster these capacities. For instance, in 2024, TxDOT will finalize a Statewide Resiliency Plan, designed to enhance the robustness of Texas's multimodal transportation system. This plan will align with other TxDOT initiatives, creating a cohesive framework to address climate-related challenges. Key investments in the climate resilience of the Texas-Mexico Border Region will require continuous collaboration between the U.S. and Mexico. However, achieving this level of coordination is complex, as it involves reconciling differing priorities, resource availability, and governance structures. Despite these challenges, enhanced cross-border cooperation is essential to developing plans and policies that strengthen critical infrastructure, ensuring the seamless movement of goods and people.

Priority areas for **binational collaboration** to prepare for these events include:

- » Business Continuity Planning: Preparing for disruptions in border transportation operations to minimize economic impacts.
- » Disaster Evacuation Readiness: Creating and distributing evacuation kits and plans tailored to regional needs.
- » Infrastructure Protection: Implementing advanced technologies and strategies to safeguard key transportation assets.
- » Supply Chain Resilience: Strengthening the robustness of supply chains to withstand and recover from extreme events.

Together, these efforts will contribute to a more resilient and sustainable transportation network, capable of supporting the dynamic needs of the Texas-Mexico Border Region in the face of evolving climate challenges.

Extreme Weather Event Preparedness

Disruptive incidents from extreme weather events have repeatedly interrupted cross-border trade and supply chain operations, leading to



economic losses and delays. The Texas-Mexico Border Region has experienced a concerning uptick in extreme weather events in recent years, from hurricanes and tropical storms to winter freezes and powerful thunderstorms. Additional extreme weather events include drought and water scarcity, which some parts of the Texas-Mexico Border Region are expected to see increased rates of in the coming years. With projections showing decreased annual precipitation of more than 20% by mid-century, water availability for transportation-related needs, surrounding ecosystems, and for industry will become even more scarce. Recent extreme weather incidents and their impact on the network are detailed next.

Table 4-3: Extreme Weather Events and Natural Disasters Identified

Name	Description	Date
Hurricane Hanna	Hurricane Hanna caused widespread damage in Southeast Texas and caused power outages in Brownsville. As a result, the Port of Brownsville was closed briefly.	July 2020
Hurricane Laura	Hurricane Laura made landfall in Louisiana and affected the middle and northern Gulf Coast of Texas. Evacuation orders were put in place for Galveston and Port Arthur. All commercial ports and shipping channels closest to the storm's landfall - (Beaumont, Cameron, Lake Charles, Orange, Port Arthur and Sabine) were closed. No border crossings were affected	August 2020

Name	Description	Date
Tropical Storm Beta	Tropical Storm Beta caused significant flooding in the Houston and Galveston areas.	September 2020
Hurricane Nicholas	Hurricane Nicholas caused 100,000 people in the Houston and Galveston areas to go without power for several days.	September 2021
Winter Storm	This winter storm that impacted the El Paso POE.	December 2022
Tropical Depression Harold	Tropical Depression Harold caused 20,000 people in Southern Texas to go without power for several days.	August 2023
Hurricane Otis	This hurricane caused damage and triggered landslides in Mexico. It was categorized as a Category 5 storm.	October 2023

Source: *The Maritime Executive*. July 2020, August 2020, September 2020.; *The Texas Tribune*. September 2021; *CBS News*, 2023

Failing to prepare the border region for extreme weather risks supply chain disruptions, facility damage, and economic fallout. To enhance resilience, stakeholders must prioritize comprehensive business continuity planning and targeted infrastructure investments, including:

- » Developing robust emergency protocols.
- » Deploying advanced supply chain visibility technologies.
- » Fostering collaboration and information sharing among agencies, businesses, and communities.



Adaptation to Temperature Changes

Neglecting temperature changes leaves the region vulnerable to disruptions that could interrupt operations, reduce productivity, and strain critical infrastructure. Extreme weather projections indicate that Texas will experience a steady increase in average temperatures in the coming decades, leading to more extreme heat conditions. Extreme heat and cold conditions impact physical infrastructure conditions, material standards, and the need for frequent maintenance.

Average Texas temperatures in 2036 are expected to be:

1.6 °F warmer than the 2000-2018 average

3.0 °F warmer than the 1950-1999 average

Source: Office of the Texas State Climatologist, 2020. Assessment of Historic and Future Trends of Extreme Weather in Texas 1900-2036

Border stakeholders must expand their implementation of measures to mitigate the impacts of extreme heat, such as enhancing cooling systems and worker safety protocols. Even as the threat of severe cold diminishes, maintaining some cold weather readiness remains prudent.

Precipitation and Flood Risk Management

Extreme weather is expected to drive an increase in the frequency and intensity of extreme precipitation events in the border region, elevating the risk of damaging floods at border crossings, transportation hubs, and other critical infrastructure.

Precipitation in the Texas-Mexico Border Region is expected to increase over the next decade:

2-3% increase in expected extreme rainfall intensity in 2036, as compared to 2000-2018

6-10% overall increase in expected rainfall, as compared to 1950-1999

Source: Office of the Texas State Climatologist, 2020. Assessment of Historic and Future Trends of Extreme Weather in Texas 1900-2036

Inadequate flood risk management could lead to the inundation of border facilities, disrupting the flow of goods and people across the border. Prolonged flooding events may also result in costly infrastructure repairs and extended service interruptions. For example, insufficient drainage can have major impacts on the integrity of road infrastructure, especially during extreme weather events.

Upgrading drainage systems, flood mitigation measures, and early warning capabilities will be essential to prepare for this growing threat. Developing robust emergency response protocols to manage the impacts of heavy rainfall and flooding is also crucial to maintain operational continuity.

Sea Level Rise and Storm Surge Preparedness

Failure to prepare for growing coastal flooding threats risks the inundation and damage of key border facilities, leading to disruptions that can reverberate across regional and national supply chains. Coastal communities in the border region, such as Corpus Christi and Galveston, face escalating risks from extreme weather events and the associated threat of storm surge. Projections indicate a doubling of storm surge risk by 2050 due to the elevated baseline created by sea level rise. Stakeholders must thoroughly assess the vulnerability of critical border infrastructure and assets in these high-risk areas. Investments in protective measures, including seawalls, flood barriers, and facility hardening, will be necessary to safeguard operations against the impacts of sea level rise and storm surge.

Transportation-Related and Greenhouse Gas (GHG) Emissions

Transportation activities in the Texas-Mexico Border Region generate emissions that impact the region's air quality and contribute to overall GHG emissions. Efforts made throughout Texas in recent decades have helped



Texas make huge strides in its overall air quality. For example, ozone concentrations in Texas decreased by 32% from 2000 to 2020. In the Texas-Mexico Border Region, only one county in Texas – El Paso – has had violations of the National Ambient Air Quality standards. El Paso shares an air basin with Ciudad Juárez in the Mexican state of Chihuahua. To address air quality challenges in the shared air basin, formal cooperation takes place through the Joint Advisory Committee for the Improvement of Air Quality in the Paso del Norte Bridge. This binational group is the only one of its kind along the U.S.-Mexico border and conducts work with others to improve air quality in the Texas-Mexico Border Region, including academic and research organizations and all levels of government.

Needs Assessment Results

Needs Assessment Methodology

This section describes the process used to identify and score RBCN based on their level of need. The methodology incorporates both quantitative data and stakeholder insights to evaluate corridor performance and determine which corridors require the most attention.

Needs Assessment Criteria and Thresholds

To evaluate the needs along the RBCN, a set of needs assessment criteria and thresholds was established, as listed in **Table 4-4**.

Table 4-4: Criteria and Thresholds Used for Assessing Needs

Goal	Criteria
Mobility, Reliability, and Connectivity	Existing and forecasted volume-to-capacity (V/C) ratios
	Travel Time Reliability Index (TTRI)
	Travel time delays
	Route directness and redundancy
Safety and Security	Multimodal connectivity
	Total crashes, severe crashes, and truck-related crashes
Asset Preservation and Technology Deployment	At-grade rail crossing incidents
	Current design standards (lane width and shoulders)
	Percent lane mileage with two or less lanes
	Frontage road availability
	Pavement conditions
	Bridge height restrictions
	Bridge conditions
Customer Service, Stewardship and Sustainability	Existence of ITS infrastructure
	Access to historic, cultural, and tourist activities
	EV charging inventory and proximity
	Access to rest areas and truck parking facilities
	Other benefits based on socio-economic factors

Source: HNTB analysis, 2024.



Scoring and Weighting Methodology

Scoring Based on Quantitative Criteria

Each quantitative criterion is split into three equal groups, or “tertiles,” based on the range of observed values across all corridors. Appendix D includes the results of the needs scoring methodology for the region’s corridors.

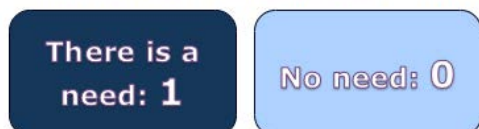
If high means “high need”, scoring is:



If high means “low need”, scoring is reversed:



When a criterion is either present or not present, it is scored as so:



1. Lowest tertile – the bottom one-third of values
2. Middle tertile – the middle one-third of values
3. Highest tertile – the top one-third of values

Depending on whether “higher” or “lower” values indicate greater need, scores are assigned as follows:

Higher values = higher need:



Higher values = lower need:



Scoring Based on Qualitative Criteria

Some criteria rely on qualitative input, such as stakeholder feedback. These are generally categorized as low, medium, or high. After determining the appropriate score (1, 2, or 3) for each criterion, the next step is to assign weights. This two-step process ensures that each goal and objective within the study is properly accounted for.

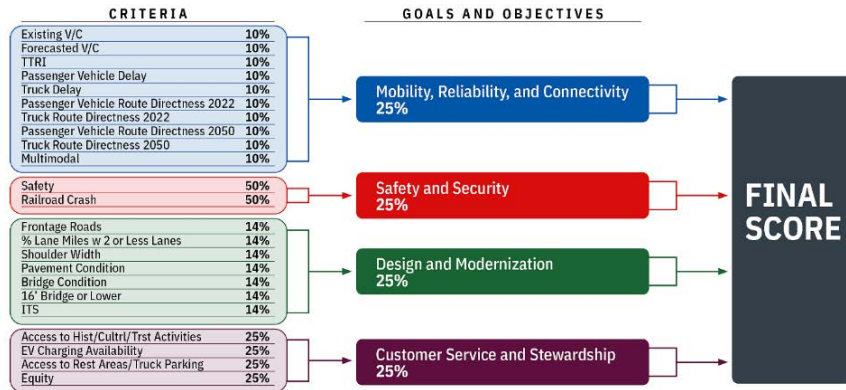
Within-Goal Weighting: Each goal and objective can have multiple criteria. For example, if the “Mobility, Reliability, and Connectivity” goal has 10 associated criteria, each criterion receives an equal portion of that goal’s total weight (e.g., 10% each if they are all viewed as equally important under that goal).

Across-Goal Weighting: Each of the four major goals/objectives in the study can be assigned an overall level of importance. If all four are considered equally important, each receives 25% of the total weight. Those 25% shares are then divided proportionally among the criteria within each goal. Alternatively, if stakeholders or decision makers believe one goal is more important than the others, its share can be increased accordingly.



Figure 4-33 provides a visual illustration of this process. Detailed needs assessment findings and weighted corridor scores are presented in Appendix D.

Figure 4-33: Scoring and Weighting Methodology



Source: HNTB Analysis, 2025

Final Corridor Scores

Once all criteria are scored and weighted, each corridor receives:

- » Four individual scores – one for each major goal/objective.
- » One combined “final score” – an overall measure derived from the individual goal/objective scores.

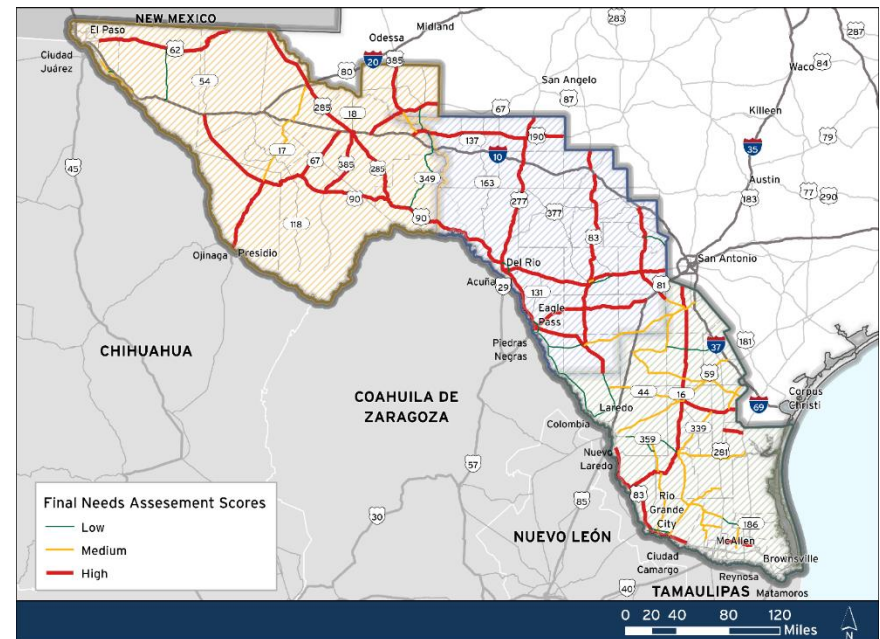
The final scores are then categorized into tertiles to identify corridors with Low, Medium, or High needs:

- » Low Need – Corridors in the bottom 33rd percentile
- » Medium Need – Corridors in the middle 34th to 66th percentile
- » High Need – Corridors in the top 67th to 100th percentile

Figure 4-34 shows the resulting need designations for each corridor. Stakeholder feedback (Appendix D) is also used to verify and refine these

designations, ensuring that the final assessment accurately reflects on-the-ground conditions and community perspectives.

Figure 4-34: Final Needs Assessment Scores



Source: HNTB Analysis, 2025

Summary of Current and Future Needs

This section summarizes current and future connectivity issues and needs of the Texas-Mexico multimodal transportation network, which have been described in detail in sections 4.2, 4.6, and the regional needs scoring presented earlier in this section. The regional needs scores presented in the following sections are recalculated exclusively for the region of interest, resulting in adjusted ranking thresholds.

The regional summaries presented in this section set the stage for identifying unmet needs and developing strategies and considerations for improving the border region transportation system.



Current and Future Needs in the West Region

Figure 4-35 illustrates the results for the West Region. As shown, US 90, US 62, US 385, and US 285 are high-need corridors in both the border region-wide and regional analyses. However, SH 17, identified as high-need in the border region-wide scoring, is classified as medium-need in the regional analysis, reflecting the localized prioritization approach.

Figure 4-35: West Corridors Need



Source: HNTB Analysis, 2025

Safety & Security

- » Improve truck safety on Del Rio's SL 79, US 62, US 285 near Pecos, areas with low bridge clearance, and at-grade crossings in El Paso.
- » Create a transportation system that is resilient to extreme heat and severe drought.

Mobility, Reliability, & Connectivity

- » Address traffic congestion on US 385 and US 62.
- » Improve services for buses, trains, and cyclists.
- » Increase capacity on US 62, SH 349, and RM 1111 to address worsening congestion.
- » Mitigate truck route congestion to prevent the avoidance of the most efficient freight corridors by 2050.

Asset Preservation & Technology Deployment

- » Expand technology upgrades like digital signs, EV support, and cameras to corridors that do not yet have them.
- » Address height restrictions on US 67 and US 90, which limit the ability to expand in response to increased traffic.
- » Expand coverage of traffic cameras and other Intelligent Transportation Systems (ITS) infrastructure.

Economic Competitiveness, Cross-Border Resiliency, & Sustainable Funding

- » Support the recovery of key industries such as high-tech products, motor vehicles, and industrial machinery supply chains through new site development.
- » Ensure the RBCN is not disabled so that it doesn't have a debilitating impact on national economic security, trade flows, and people's quality of life.

Customer Service, Stewardship, & Sustainability

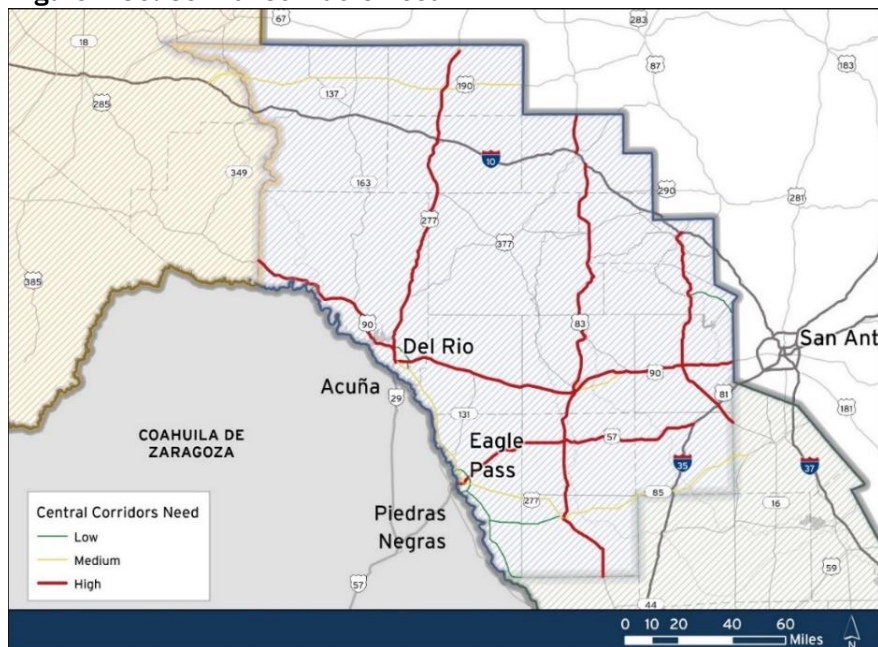
- » Increase route accessibility to cultural sites in the West Region to support tourism.
- » Expand EV charging infrastructure to meet future demand.



Current and Future Needs in the Central Region

The regional scoring methodology was similarly applied to the Central region, with corridor need scores ranked exclusively for this area. **Figure 4-36** presents the analysis results for the Central region. A notable difference between the regional and border-wide analyses is the reclassification of US 190 and US 277. In the regional analysis, US 190 from Schleicher County to Crockett County and US 277 from FM 2644 to Eagle Pass are identified as medium-need corridors, whereas both were classified as high-need in the border region-wide analysis. This highlights the impact of localized prioritization on scoring outcomes.

Figure 4-36: Central Corridors Need



Source: HNTB Analysis, 2025

Safety & Security

- » Reduce crash rates on high-risk corridors such as SH 16, US 277, US 57, SL 79, and US 90.
- » Improve communication with truck drivers regarding low-clearance bridges.
- » Conduct comprehensive safety assessments and implement targeted improvements to mitigate future risks.

Mobility, Reliability, & Connectivity

- » Address congestion and delays across key corridors.
- » Expand lane capacity in select areas, as approximately 69% of lane mileage consists of two or fewer lanes.
- » Enhance multimodal connectivity along North-South corridors.
- » Improve infrastructure to accommodate increasing congestion between Eagle Pass, Del Rio, and San Antonio, where key corridors are expected to experience significant increases in traffic volume.

Asset Preservation & Technology Deployment

- » Upgrade ITS infrastructure to improve traffic management and mobility.
- » Implement technology and engineering solutions to alleviate congestion and improve travel times.
- » Adopt a proactive pavement maintenance strategy to preserve the region's currently good road conditions.

Economic Competitiveness, Cross-Border Resiliency, & Sustainable Funding

- » Support the recovery of key industries — including high-tech products, motor vehicles, and industrial machinery supply chains — through new site development.



- » Ensure the RBCN remains operational to prevent disruptions to national economic security, trade flows, and quality of life.

Customer Service, Stewardship, & Sustainability

- » Improve accessibility to EV charging infrastructure along the I-10 and SL 79 corridors.
- » Invest in housing, traffic congestion relief, and equitable infrastructure improvements in Val Verde and Maverick counties, which have the highest concentration of transportation and warehousing jobs.

Current and Future Needs in the South Region

In the South Region, US 83 and SH 16 continue to be high need corridors in both regional and study area-wide needs scoring analysis. In the regional scoring analysis, some new corridors are identified as high need as opposed to the results from the Texas Border Region analysis that identified them as medium need. Those corridors are SH 97, US 59, SH 44 from SH 16 to US 83, US 83 from Laredo to Webb County border, and FM 649. **Figure 4-37** shows the result of regional scoring analysis in South Region.

Figure 4-37: South Corridors Need



Source: HNTB Analysis, 2025

Safety & Security

- » Address safety concerns with targeted measures, particularly focusing on crash hotspots around McAllen and general speeding issues.
- » Mitigate safety risks in the South Region through future programs and improved driving conditions.



Mobility, Reliability, & Connectivity

- » Reduce congestion on segments with high traffic volumes, particularly along US 83.
- » Close multimodal connectivity gaps to enhance regional mobility.
- » Evaluate the economic impact of the projected traffic volume increase in the region by 2050.

Asset Preservation & Technology Deployment

- » Address limited shoulder-width issues which are particularly prevalent in the South Region.
- » Incorporate technology solutions to efficiently alleviate congestion and improve travel times.
- » Adopt a proactive pavement maintenance strategy to preserve the region's currently good road condition.

Economic Competitiveness, Cross-Border Resiliency, & Sustainable Funding

- » Support the recovery of key industries — including high-tech products, motor vehicles, and industrial machinery supply chains — through new site development.
- » Ensure the RBCN remains operational to prevent disruptions to national economic security, trade flows, and quality of life.

Customer Service, Stewardship, & Sustainability

- » Expand and enhance EV charging infrastructure in the South Region, which currently has the strongest network across the border region.
- » Plan for future capacity needs in Webb, Hidalgo, Cameron, and Atascosa counties to accommodate the relatively high concentrations of transportation and warehousing jobs.

Unmet Needs Assessment

The goal of identifying unmet needs is to inform the strategies, considerations, and implementation plan which will provide valuable information to TxDOT in performing the following:

- » Prioritizing, phasing, and sequencing the program of projects based on existing and future transportation funding and strategic corridor goals.
- » Updating statewide and district planning systems, as well as project tracking tools.
- » Establishing the planning and programming status for the identified projects, as needed.

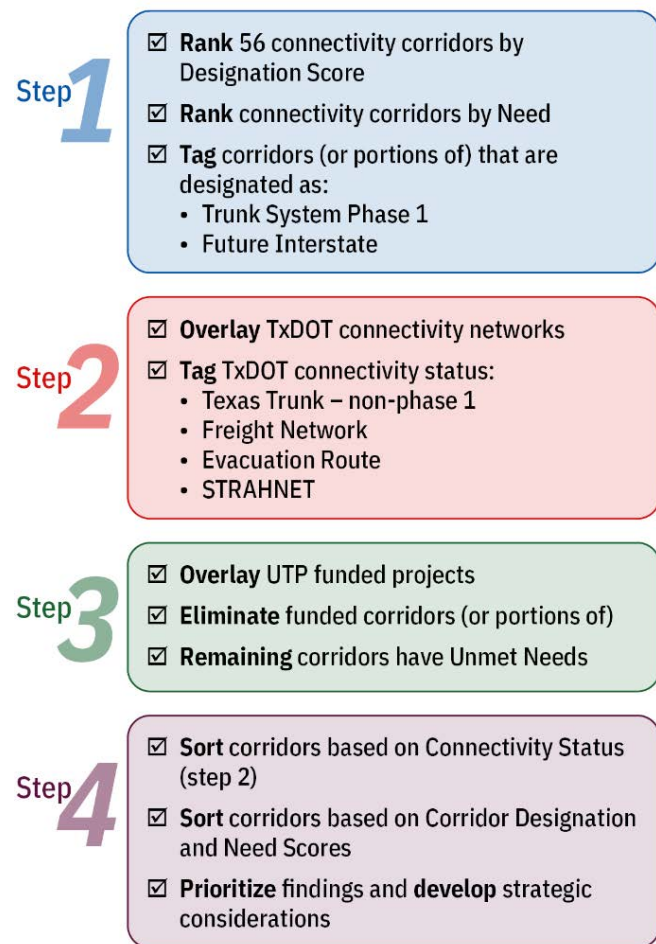
The study utilized a stepwise approach to identify unmet needs as shown in **Figure 4-38**.

- » **Ranking and Elimination:** Corridors were ranked by designation and needs scores, with those overlapping Future Interstates or the Texas Trunk Phase 1 System eliminated from further evaluation but still noted as unmet needs.
- » **Connectivity Tagging:** Remaining corridors were tagged based on their TxDOT Connectivity Network Status, including the Texas Freight Network, Energy Sector Network, Trunk System, and Strategic Highway Network, highlighting corridors that serve multiple transportation objectives.
- » **Funding Review:** Corridors with identified needs that are already funded for construction in the STIP or UTP were removed from further consideration.
- » **Priority Scoring:** Remaining corridors were assessed for their designation scores and alignment with TxDOT Connectivity objectives. Corridors with high or medium scores and multiple connectivity network alignments were prioritized.



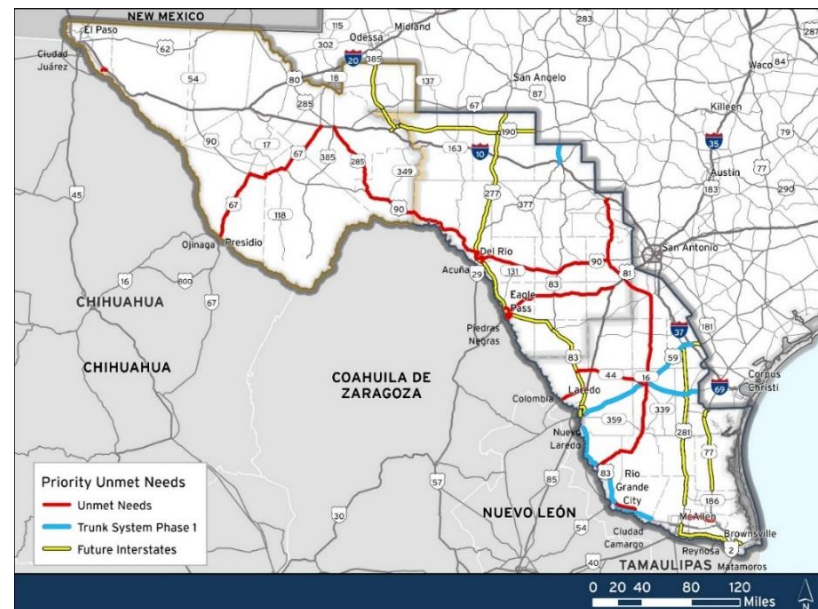
Figure 4-39 and **Figure 4-40** provide the resulting corridors and corridor segments that advance into the strategic findings phase discussed in Chapter 5. The remaining region-to-region corridors fall into a secondary tier (Appendix D) and will receive high-level overarching strategies for operational and safety improvements.

Figure 4-38: Unmet Needs Methodology



Source: HNTB Analysis, 2025

Figure 4-39: RBCN Corridors Selected for Strategic Considerations



Source: HNTB Analysis, 2025



Table 4-5: RBCN Priority Corridors Selected for Strategic Considerations

Priority Corridors – Unmet Needs	Limits
US 277, US 83	Ports to Plains Future Interstate (I-27)
US 59	Future Interstate (I-69)
US 281	Future Interstate (I-69)
US 77	Future Interstate (I-69)
US 67	Presidio to Fort Stockton
US 90	US 285 to Del Rio to San Antonio
US 57	Eagle Pass to I-35
SH 44	US 83 to Corpus Christi
SH 255	Colombia to I-35
SH 16	US 83 to San Antonio
SH 173	West San Antonio Loop I-10 to SH 16
SL 195	Valley Loop
SL 79	Del Rio Loop
SL 480	Eagle Pass Loop

Source: HNTB Analysis, 2025

West Region: Region-to-Region Unmet Border Connectivity Needs

Figure 4-40 depicts the geographic locations of the West Region corridors both priority and secondary priority classifications that are included in the Strategic Findings phase of this report.

Figure 4-40: Corridors Selected for Strategic Considerations



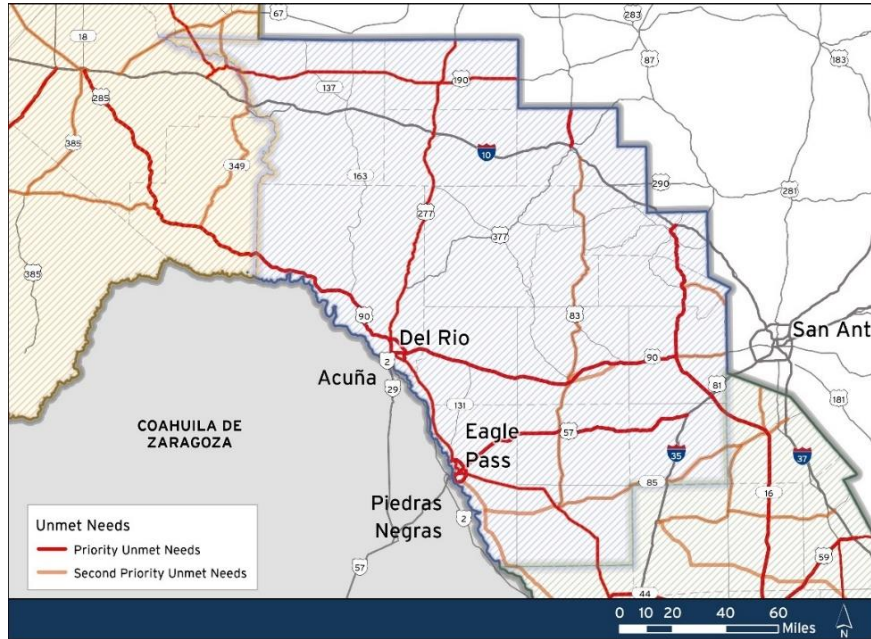
Source: HNTB Analysis, 2025

Central Region: Region-to-Region Unmet Border Connectivity Needs

Figure 4-41 depicts the geographic locations of the Central Region corridors, both priority and secondary priority classifications that will be included in the Strategic Findings phase of this report. For a full list of tables, reference Appendix D.



Figure 4-41: Corridors Selected for Strategic Considerations

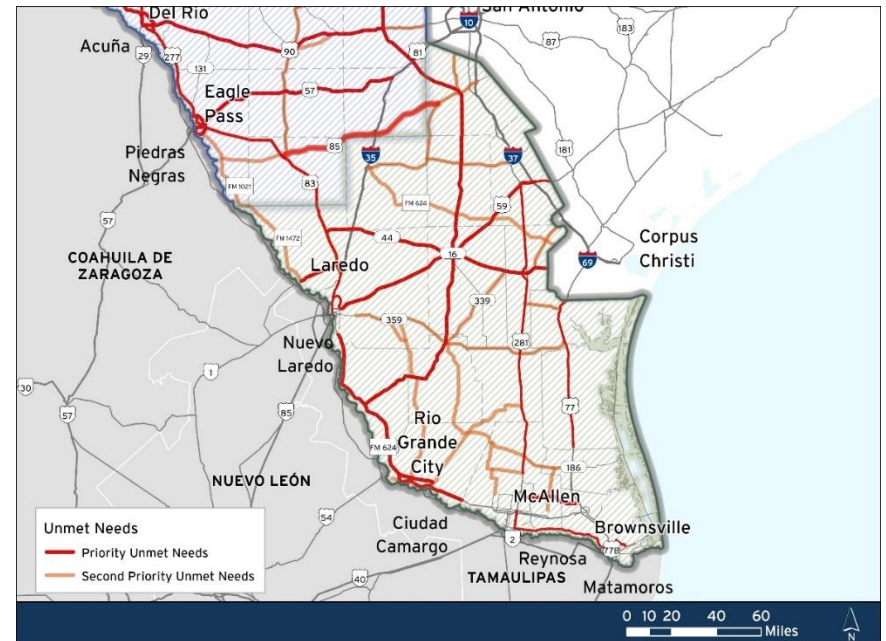


Source: HNTB Analysis, 2025

South Region: Region-to-Region Unmet Border Connectivity Needs

Figure 4-42 depicts the geographic locations of the South Region corridors, both priority and secondary priority classifications that are included in the Strategic Findings phase of this report.

Figure 4-42: Corridors Selected for Strategic Considerations



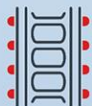
Source: HNTB Analysis, 2025



5



Strategic Stakeholder Findings



Strategic Stakeholder Findings

The following section presents the recommended infrastructure improvements derived from the study’s data-driven analysis and extensive stakeholder engagement.

Through close collaboration with local communities, industry representatives, and public agencies, the study identified infrastructure projects aimed at addressing immediate connectivity challenges. To support and effectively implement these projects, the plan also includes program and policy considerations designed to promote inclusive stakeholder engagement, secure funding, and guide investment prioritization. Together, these considerations offer TxDOT and its partners a strategic roadmap to enhance connectivity, bolster economic vitality, and improve the overall transportation experience throughout the Texas Border Region.

Project Considerations

Project considerations address connectivity gaps identified in the Texas-Mexico Border Region Connectivity Plan, focusing on tangible solutions to improve safety, mobility, and system efficiency. By reflecting the priorities and insights shared by stakeholders, the proposed projects serve as a cornerstone for fostering resilient and economically vibrant transportation networks along the Texas-Mexico border.

First and Last Mile Connectivity Projects

Improving multimodal first and last mile connectivity is critical to ensuring seamless and efficient movement of people and goods across Texas-Mexico Border Region. The information presented in **Table 5-1** (also visualized in the [Connectivity WebApp](#)) shows specific project considerations for enhancing infrastructure, transit, active transportation, highways, and freight rail for the first and last mile in each region. These considerations aim to alleviate congestion, improve safety, and enhance cross-border

mobility by addressing the unique challenges and opportunities of border crossing region.

Table 5-1: Project Considerations to Enhance Multimodal First and Last Mile Connectivity

Mode	Considerations
	El Paso Region
International Bridges/Crossings	<ul style="list-style-type: none"> Invest in additional processing lanes (infrastructure) and ANAM/CBP staff.
Highways	<ul style="list-style-type: none"> Prioritize congestion relief and safety improvements on major connectors (SL 375, I-10, US 54).
Transit	<ul style="list-style-type: none"> Improve connectivity, better transit options, and service times. Provide safe access to bus stops from bridges. Provide BRT service to international bridges (e.g., improve headways and travel times) and integrate metropolitan and rural transit service into a seamless fare system. Support cost-effective and equitable Transit-Oriented Developments.
Active Transportation	<ul style="list-style-type: none"> Provide shaded sidewalks on bridges and improve sidewalks from bridges to transit stops /other first destinations. Add lighting on the bridges. Provide dedicated bicycle lanes for bicyclists on, from, and to the international bridges.



Table 5-1: Project Considerations to Enhance Multimodal First and Last Mile Connectivity (Cont.)

Mode	Considerations
	El Paso Region
Freight Rail	<ul style="list-style-type: none"> Expand hours of rail operation. Prioritize safety improvements of at-grade crossings (specifically, at Zaragoza Road and near Texas Tech University campus). Development of West rail bypass project (south of Samalayuca and connecting at Santa Teresa).
	Presidio Region
International Bridge	<ul style="list-style-type: none"> Implement exit booth for trucks on US 67. Provide additional parking for transmigrants. Build USDA inspection facility and hire USDA inspectors to process agricultural trade. Establish FTZ in the region.
Highways	<ul style="list-style-type: none"> Prioritize investment supporting trucks (e.g., adding parking, capacity on bridge, and accommodating OS/OW loads on US 67). Investment in safety and roadway visibility improvements on US 67.
Active Transportation	<ul style="list-style-type: none"> Add shaded sidewalk on bridge and planned bicycle lane with striped buffer on US 67.
Freight Rail	<ul style="list-style-type: none"> Rail bridge will be operational in 2025. Plan for additional capacity and future funding as need arises.

Mode	Considerations
	Del Rio/Eagle Pass
International Crossings	<ul style="list-style-type: none"> Reconstruct Lake Amistad Dam. Construct new international bridge (Acuña II International Bridge). Expand the Camino Real International Bridge (i.e., two CMV lanes and four POV lanes). Implement Paisano Program to allow 24-hour operations at the Eagle Pass POE. Increase Lake Amistad Dam Crossing hours of operation.
Highways	<ul style="list-style-type: none"> Invest in (capacity and safety) major connectors (e.g., SH 239, US 377, US 277, US 57, and US 90). Invest in FM 1589 connecting to Puerto Verde. Build SL 480 connecting to US 57 and US 277.
Transit	<ul style="list-style-type: none"> Invest in better infrastructure, additional funding, additional support services, technology improvements, and expertise to support public transportation. Invest in internet infrastructure to enhance the security systems on the buses, fare and payment systems, and drivers' tablets.
Active Transportation	<ul style="list-style-type: none"> Provide dedicated bike lanes on international bridges. Invest in better bicycle infrastructure, sidewalks, and shelters or benches at bus stops.
Freight Rail	<ul style="list-style-type: none"> Eliminate at-grade crossings.



Table 5-1: Project Considerations to Enhance Multimodal First and Last Mile Connectivity (Cont.)

Mode	Considerations
	Laredo Region
International Bridges	<ul style="list-style-type: none"> Implement CBP hours 24/7 for CMVs. Extend SENTRI lanes at Gateway to the Americas to process motorcycles.
Highways	<ul style="list-style-type: none"> Add additional connectors between Mines Road and I-35. Address capacity issues on I-35 (e.g., Mile Marker 8, downtown, Checkpoint); Improve Mines Road (capacity and safety). Add westbound overpass for trucks to merge on FM 1472 from World Trade Bridge (Laredo Bridge IV). Add connector between US 59 and SH 359. Expand SH 255 connecting Colombia Solidarity Bridge to I-35. Continue Loop 20/Quatro Vientos to tie with Outer Loop. Construct Laredo Outer Loop to serve future Laredo Bridge 4/5.
Transit	<ul style="list-style-type: none"> Increase bus service reliability and frequency. Provide additional funding to support transit operations. Conduct micro-transit feasibility study.
Active Transportation	<ul style="list-style-type: none"> Obtain better pedestrian and bicycle data. Improve sidewalks and bicycle infrastructure.
Freight Rail	<ul style="list-style-type: none"> Eliminate or reduce fourteen (14) at-grade crossings in downtown Laredo.

Mode	Considerations
	Rio Grande Valley
International Bridges	<ul style="list-style-type: none"> Extend commercial zone to include Zapata County. Increase CBP staffing to address congestion, stop and go traffic on most connectors to international bridges. Add capacity/facilities to facilitate increase in southbound inspections. Add CMV-only lanes at existing border crossings. Restore Roma-Ciudad Miguel Alemán International Suspension Bridge. Replace Gateway International Bridge. Expand Veterans International Bridge at Los Tomates.
Highways	<ul style="list-style-type: none"> Provide truck parking Invest in connectors to international bridges (e.g., Roma Ciudad Miguel Alemán International and Anzalduas International Bridge). Prioritize the IBTC Prioritize East Loop International Trade Corridor Project.
Transit	<ul style="list-style-type: none"> Increase bus service frequency. Provide wayfinding signs. Provide additional funding to support transit operations.
Active Transportation	<ul style="list-style-type: none"> Improve sidewalks and wayfinding signs. Invest in park-and-ride facilities and the regional pedestrian/bicycle trail network.

Source: Jacobs analysis of existing conditions and stakeholder input solicited in 2024



Port-to-Port Connectivity Project Considerations

Strengthening highway connections between inland regions and maritime ports is essential for improving freight efficiency, reducing congestion, and ensuring supply chain resilience. **Table 5-2** outlines key infrastructure investments aimed at enhancing connectivity between key border regions and major maritime ports in Texas. These considerations (also visualized in the [Connectivity WebApp](#)) focus on increasing capacity, upgrading highways to interstate standards, and developing alternative routes to improve safety, reliability, and freight movement efficiency.

Additionally, improving highway connections between key border regions and ports is essential for supporting trade, reducing congestion, and enhancing supply chain efficiency. **Table 5-2** highlights priority infrastructure projects aimed at strengthening port-to-port highway connectivity (also visualized in the [Connectivity WebApp](#)). These considerations focus on expanding capacity, alleviating bottlenecks, improving safety, and developing alternative routes to support truck movement and cross-border trade.

Table 5-2: Projects to Enhance Port to Maritime Port Connectivity

Region	Highway Considerations
El Paso	<ul style="list-style-type: none"> Invest in alternatives to I-10 since snowstorms and sandstorms have required trucking companies to use alternative routes. Invest in US 90 as an alternative to I-10 to link El Paso to Port Houston.
Del Rio/ Eagle Pass	<ul style="list-style-type: none"> Expand SH 44 to connect the Port of Corpus to the future I-27 (via US 83 and US 277), I-35, I-69W, I-69C, and I-64E, i.e., one east-west road that connects five interstate corridors. Extend I-27 to Del Rio. Increase capacity on US 277 to eliminate safety concerns of oil and gas carriers. Upgrade US 90 to four lanes or higher and build a relief route around Castroville and around downtown Uvalde. Build overpasses on US 57 from Eagle Pass to San Antonio to remove traffic conflicts (in linking Eagle Pass to I-10 to Port Houston). Expand US 57 to bypass downtown San Antonio and connect to SH 130 and I-10.
Laredo	<ul style="list-style-type: none"> Expand and upgrade US 59 to interstate standards (future I-69) to connect Laredo to maritime ports in Texas. Prioritize expansion of US 59 from Laredo to Goliath to a 4-lane divided road to relieve pressure on I-35 and I-10 to Houston. Add connector between US 59 and SH 359 to improve connectivity and safety between Houston and Laredo. Expand SH 44 to connect the Port of Corpus Christi to I-69W, I-64C, US 59, and I-35.
Lower Rio Grande Valley	<ul style="list-style-type: none"> Build out US 77 (future I-69E) to interstate standards between Corpus Christi and Brownsville. Increase capacity (i.e., number of lanes) on US 281 (future I-69C) to enhance connectivity between I-2 and the Port of Corpus Christi. Establish OS/OW network by connecting the heavy weight corridors in Cameron County (i.e., Port of Brownsville and Port of Harlingen OW corridors) with the heavy weight corridors in Hidalgo County. Need additional OW corridors in Hidalgo and Cameron Counties. Future East loop project from I-69E (relief route connecting to Veterans International Bridge) is a high priority.

Source: Jacobs analysis of existing conditions and stakeholder input solicited in 2024



Table 5-3: Project Considerations to Enhance Port-to-Port Highway Connectivity

Region	Highway Considerations
El Paso	<ul style="list-style-type: none"> • Add connector from NM 136 (just north of Santa Teresa) to I-10. • Build El Paso Outer Loop to connect with Marcelino Serna to facilitate CMV processing. • Expand capacity of SH 20 southeast of El Paso (parallel to I-10) to accommodate traffic diversion during I-10 widening.
Presidio	<ul style="list-style-type: none"> • Increase attractiveness of US 67 with additional service stations/garages. • Improve (capacity and safety) US 90 as some stretches are considered narrow and unsafe. Also add rest stops or bathrooms along US 90. • Address two railroad crossings with low bridge clearance: one at Alpine (13'7") and one just south of Van Horn (14'3") which force trucks to use SH 17 north of Marfa to access I-10. • Improve safety of US 67 from Marfa to Presidio. The road is narrow and dark, making it dangerous to drive at night. Widening the highway and adding light fixtures would help with this issue.
Laredo	<ul style="list-style-type: none"> • Top priority is Mines Road (FM 1472) - suffers the most serious congestion between truck crossings. • Add connectors to I-35 to alleviate traffic on FM 1472 (Mines Road). Add connectors to I-35 to alleviate traffic on FM 1472 (Mines Road).

Region	Highway Considerations
	<ul style="list-style-type: none"> • Build Outer Loop to connect I-35 to US 83 and the future Laredo Bridge 4/5. A connection from US 83 to Loop 20 is also needed.
Lower Rio Grande Valley	<ul style="list-style-type: none"> • If CMV processing lanes are introduced at the Donna-Rio Bravo International Bridge, connectivity along the S FM 493 (D Salinas International Boulevard) would need improvements along with connectivity into the planned projects at SH 495 /SH 68 and/or the IBTC. • Build bypass to the north of Rio Grande City and Roma (to/from the US 83). • Implement additional OW corridors connecting to Port of Brownsville and Port of Harlingen. Connect the heavy weight corridors in Cameron County with those in Hidalgo County. • Connect SH 16 with US 83 via FM 755 to San Antonio. • Add highway capacity to accommodate overweight loads at Roma-Ciudad Miquel Aleman International Bridge. • Build connection between SH 68 and FM 493. • Extend SL 195 to FM 650 to connect to industrial park to bypass City of Roma.

Source: Jacobs analysis of data and stakeholder input solicited in 2024

Region-to-Region Connectivity Projects

Through the detailed data assessment and performance-based network prioritization provided in the previous chapter, a several corridors emerged as top candidates for strategic investment to enhance region-to-region connectivity. This Study recommends dedicating early-phase investments to these highest-priority corridors highlighted in **Table 5-4**.



Table 5-4: High Priority RBCN Corridors

Priority Corridors	Limits	Border Region Served	Interim	Ultimate
US 277, US 83	Ports to Plains Future Interstate (I-27)	Central and South	Widen to Divided Hwy (4Lns)	Grade Separation
US 59	Future Interstate (I-69)	South	Widen to Divided Hwy (4Lns)	Grade Separation
US 281	Future Interstate (I-69)	South	Widen to Divided Hwy (4Lns)	Grade Separation
US 77	Future Interstate I-69)	South	Widen to Divided Hwy (4Lns)	Grade Separation
US 67	Presidio to Fort Stockton	West	Maximize Super Two Opportunities	Min 16' Bridge Clearances
US 90 /US 285	US 285 to Del Rio to San Antonio	West and Central	Maximize Super Two Opportunities	Widen Undivided Hwy (4lns), Min 16' Bridge Clearances
US 57	Eagle Pass to I-35	Central	Maximize Super Two Opportunities	Widen Divided Hwy (4lns) Grade Separation
SH 44	US 83 to Corpus Christi	South	Widen to Divided Hwy (4Lns)	Grade Separation
SH 255	Colombia to I-35	South	Widen to Divided Hwy (4Lns)	Grade Separation
SH 16	US 83 to San Antonio	South	Widen Undivided Hwy (4lns)	Grade Separation
SH 173	West San Antonio Loop I-10 to SH 16	Central and South	Widen to 4-lane Expressway	Grade Separation
SH 97/123	Southeast San Antonio Loop (Jourdanton to I-10/SH 130)	Central and South	New Location/Existing - Widen to 4lns	Grade Separation
SL 195	Valley Relief Route (US 83 N. of Roma to I-2)	South	New Location Hwy (2-lanes)	4-ln Divided, Grade Separation
SL 79	Del Rio Loop US 90 to US 277)	Central	Widen Hwy 4 (lns)	4-ln Divided (Future Interstate)
SL 480	Eagle Pass Loop (US 277 to US 57)	Central	New Location Hwy (2-lanes)	4-ln Divided (Future Interstate)



Table 5-5: Regional Connectivity Corridor Key Origin and Destination Types

Priority Corridors	Border Region Connectivity Served			Border Region Served
	POE to POE	POE to Port	POE to Urban Area/ Urban Interstate	
US 277, US 83	X	N/A	X	Central and South
US 59	N/A	X	X	South
US 281	N/A	X	X	South
US 77	N/A	X	X	South
US 67	N/A	N/A	X	West
US 90 /US 285	N/A	X	X	West and Central
US 57	N/A	N/A	X	Central
SH 44	X	X	X	South
SH 255	X	X	X	South
SH 16	X	N/A	X	South
SH 173	N/A	X	X	Central and South
SH 97/123	N/A	X	X	Central and South
SL 195	X	X	X	South
SL 79	X	X	X	Central
SL 480	X	X	X	Central

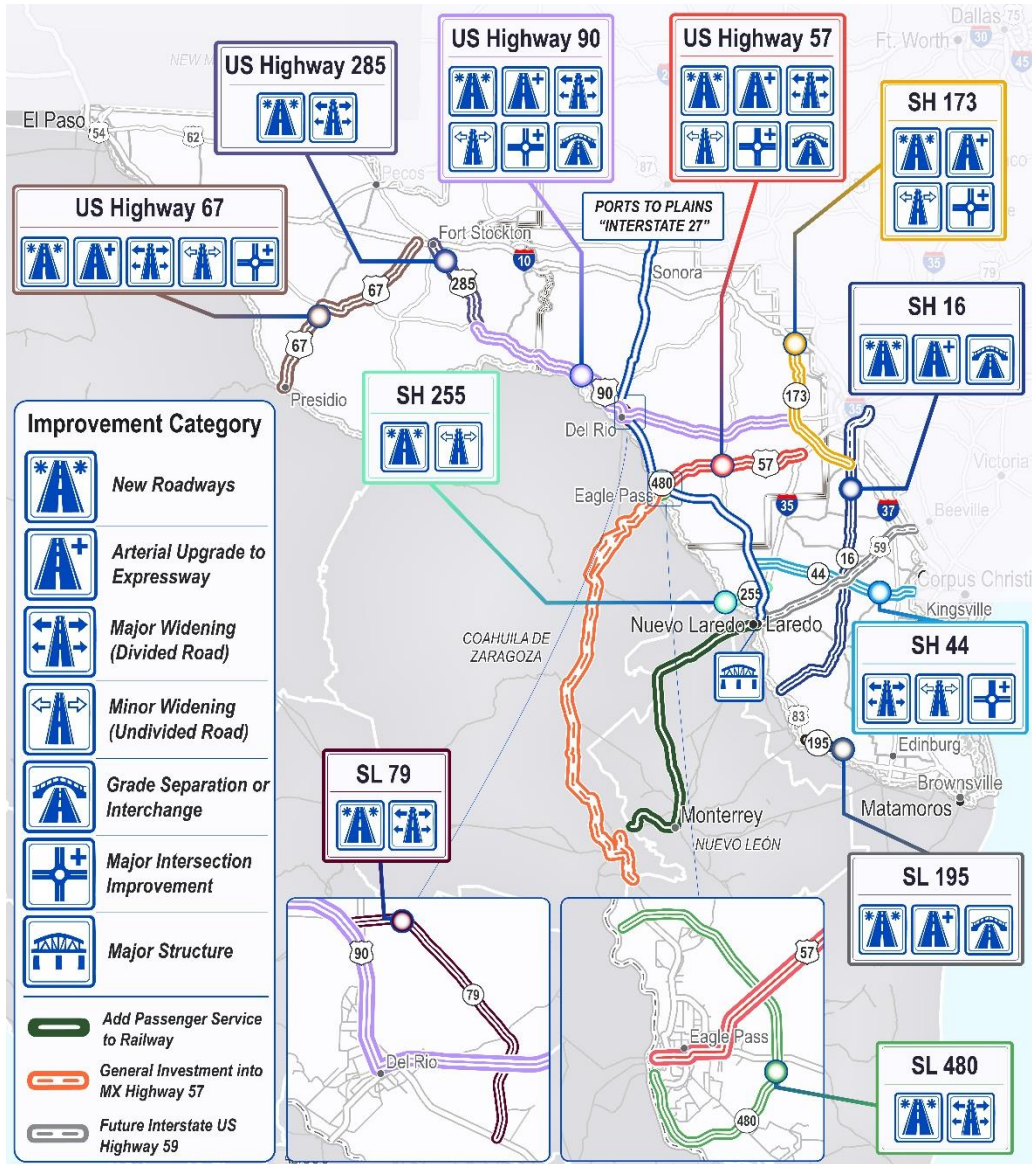
Source: HNTB analysis, 2025

Each of the priority corridors highlighted in the previous table links a variety of strategic origins and destinations across the Texas Border Region. The following table summarizes the types of regional facilities served by each corridor, illustrating how these routes support critical trade, travel, and community connectivity.

Figure 5-1 on the next page illustrates the high priority corridors in the Texas portion of the Texas–Mexico Border Region along with the recommended improvement types — such as new roadway segments, widening, and other upgrades — to bolster region-to-region connectivity. On the Mexican side, the figure displays the priority corridors as identified in the Plan Mexico document, highlighting areas targeted for investment improvements. Together, these mapped improvements provide a clear, binational strategy aimed at enhancing border region mobility and supporting economic growth on both sides of the border.



Figure 5-1: Priority Corridors, Considerations, & Planned Improvements

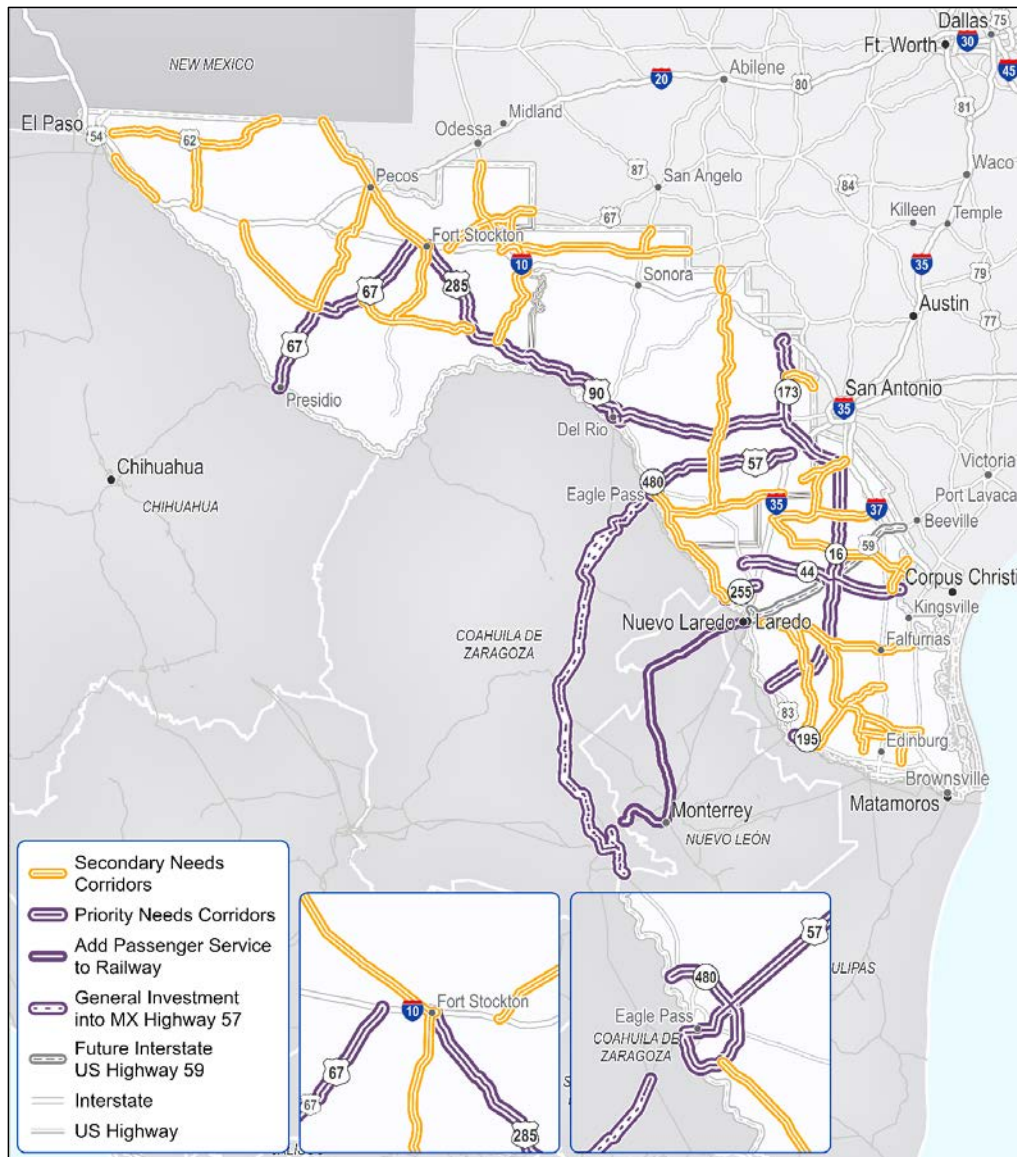


Source: HNTB and CPCS analysis, 2025

In addition to the strategic considerations for high-priority corridors, a set of foundational “Core Concepts” is proposed for the entire RBCN. These core concepts are not limited to high priority corridors; they also apply to the remaining BRCN, or secondary corridors, ensuring a consistent, system-wide approach to improvements. **Figure 5-2** illustrates the Secondary Corridors included under this broader vision.



Figure 5-2: Secondary Corridors



Source: HNTB and CPCS analysis, 2025

These core concept improvements strive to provide high-quality travel amenities along with operational and safety enhancements that, when implemented together, increase the appeal and usage of these routes — ultimately offering more efficient connections throughout the Texas-Mexico Border Regions.

Table 5-6 and **Table 5-7** list the recommended improvements, organized as Safety and Operational Core Concepts and ITS Core Concepts.



Table 5-6: Core Safety and Operational Concept Considerations

Time	Improvements	
Short (1-3 Years)	Horizontal Curve Warning Signs	
	Chevrons	
	Advisory Speed Limit Signs	
	Vertical Grade Signs	
	Curve Blocks View Sign	
	Install centerline rumble strip	
	Install shoulder rumble strip	
	Passing lane ahead and lane ends merge left sign	
	No passing zone signs	
	Install advanced warning signs for railroad crossing	
	Flashing beacon for railroad crossing	
	Mid (3-5 Years)	Improve design and application of barrier systems
		Add/Extend Guardrail
Provide Guardrail end treatment		
Flashing Beacon Signs		
Sequential Dynamic Curve Warning Sign		
Provide adequate sight distance		
Provide lighting at intersections		

Time	Improvements
	Raised Pavement Markers
	Design safer slopes
	Provide Turnouts
	Superelevation Improvement
	High Friction Surface Treatment
	Provide dynamic speed feedback system
	Add left turn lanes to existing rest areas
	Highway Rail Grade Crossing Safety System
	Provide Rest Areas
	Long (>5 Years)
Widen Shoulders (From 4 to 10 feet)	
Construct Texas Super 2	
Grade Separations	
Relief Routes	

Source: HNTB Analysis, 2025



Table 5-7: Core ITS Concept Considerations

Category	Tool Name/Description	Time
Crash Countermeasures	Animal Warning Systems	Mid
	Automated Visibility Warning Systems	Short
	Bicycle Safety Systems Short-term	Short
	Pedestrian Safety Systems	Short
	Highway-Rail Crossing Safety Systems	Long
	Road Geometry Warning System	Short
	Speed Warning Systems	Short
	Work Zone Safety Systems	Short
Traffic Management	Traffic Management Variable Speed Limit (VSL)	Long
	Vehicle Detection	Mid
	Planned Special Event Management Systems	Mid
Operations & Maintenance	Site Management During Rockslides	Short
Emergency Services	Next Generation 911	Long
	Smartphone Applications for First Responders	Mid

Category	Tool Name/Description	Time
Surface Transportation & Weather	Integrated Weather Monitoring/Prediction Systems	Long
	Dynamic Message Sign (DMS)	Short
Tourism & Traveler Information	Integrated Traveler Information Systems	Mid
	Power and Communication	Long
Other	Traffic Surveillance Cameras	Long
	POE Smart Parking and Other ITS Projects	Long
	Incident Management Support Truck	Short
	Traffic Incident Management Training	Short
	Establish Corridor Coordination Groups	Short

Source: HNTB Analysis, 2025

Several corridor studies have recently been completed across the Texas-Mexico Border Region, providing dozens of considerations based on stakeholder feedback, surveys, and site-specific challenges. The considerations in this Study are further strengthened by these in-depth findings, ensuring a comprehensive approach to corridor enhancements. Descriptions and links to the studies are provided in **Table 5-8**.



Table 5-8: Detailed Corridor Study Considerations

Study	Scope	Scale	Agency	Year Completed	Modes of Transportation	Plan/Study Link
I-10 Texas Corridor Implementation Plan	I-10	Corridor	TxDOT	2023	Multimodal and Freight	I-10 Report
Ports-to-Plains Corridor Interstate Feasibility Study Advisory Committee Report and Segment 3 Committee Report	Ports-to-Plains Corridor, Sector 3	Feasibility Study	TxDOT	2020	Roadway	Advisory Committee Report Advisory Committee Executive Summary Segment 3
US 67 Corridor Master Plan	US 67	Corridor	TxDOT	2020	Multimodal and Freight	US 67 Corridor Master Plan 020120
US 90 Texas Corridor Study	US 90	Corridor	TxDOT	2024	Multimodal and Freight	US 90 TX Corridor Study
US 57 Corridor Interstate Feasibility Study	US 57	Corridor	TxDOT	2022	Roadway	US 57 Corridor Study
US 83 Corridor Development Plan	US 83	Corridor	TxDOT	2023	Roadway	080423 US 83 Corridor Development Plan

Source: HNTB Analysis, 202



Program and Policy Considerations

The following policy considerations present key opportunities for TxDOT and its partners to enhance multimodal connectivity, improve efficiency, and address critical infrastructure and operational challenges in the Texas-Mexico Border Region. These considerations are developed based on findings from needs assessment and augmented and validated based on stakeholder input.

While these policies offer a roadmap for potential improvements, they do not represent an exhaustive list of possibilities. Rather, they highlight strategic areas where targeted interventions — such as border processing technology enhancements, rail investment coordination, transit service integration, and freight infrastructure investments — could significantly improve movement of goods and people in the region. By advancing these opportunities in collaboration with federal, state, and local partners, TxDOT can help strengthen the border region's role as a critical gateway for commerce and economic growth.

First and Last Mile Connectivity Programs and Policies

This section lists the recommended policies to address border connectivity needs and challenges related to the first and last miles connections that serve the international crossings.

Optimize Border Processing and Operations to Reduce Congestion

Stakeholders noted that the stop-and-go traffic on many highway connectors to international border crossings often stems from processing delays rather than inadequate road capacity. Investing in border processing facilities and additional CBP staff could significantly improve travel time reliability, potentially outweighing the impact of highway upgrades alone. Stakeholders also highlighted underutilized infrastructure — like closed processing lanes or limited operating hours — that can hamper cross-border trade and travel. For instance, the Santa Teresa Crossing in New Mexico

closes at 10:00 p.m., creating a bottleneck for nighttime traffic. One proposed solution is to establish a binational oversight agency to jointly manage port-of-entry operations, enhance efficiency, and improve coordination between U.S. and Mexican authorities.

Actions:

- » Advocating for increased CBP staffing at high-traffic ports and explore extended or 24-hour operation where feasible.
- » Working with border authorities to ensure all existing lanes are regularly staffed and better aligned with real-time demand.
- » Establishing a joint U.S.-Mexico agency to oversee port-of-entry operations, coordinate strategic investments, and streamline communication.

Roles and Responsibilities:

- » Federal Agencies (CBP, General Services Administration [GSA]): Assign and manage additional staff, oversee extended or new operating hours, and coordinate infrastructure improvements at border crossings.
- » TxDOT and State Partners: Collaborate with federal and binational entities, integrate border processing improvements into transportation plans, and track congestion metrics.
- » Local and Binational Working Groups: Provide daily operational feedback, help align investment priorities and facilitate coordination between the U.S. and Mexico for safety, efficiency, and project management.



Case Study: CBP's Donations Acceptance Program – Infrastructure & Personal Property Donations

The Donations Acceptance Program (DAP) enables partnerships between CBP and public and private sector stakeholders to explore and implement tangible solutions that facilitate trade and address enforcement challenges. DAP and its underlying legal authorities enable CBP to accept from stakeholders: (a) real property, including, but not limited to new facilities, improvement to existing facilities, and real estate; (b) personal property, including, but not limited to equipment, technology, product authentication tools, software, and money for procurement purposes; (c) non-personal services, including, but not limited to training, operations/maintenance, and the installation/deployment of equipment and technologies.

Since inception, CBP has entered 47 infrastructure, personal property, and IPR enforcement agreements, facilitating more than \$256 million in planned and realized investments in U.S. port of entry improvements and other mission enhancements. Examples of completed and ongoing projects and partnerships with Texas agencies are listed in **Table 5-9**.

Table 5-9: Projects to Enhance Port-to-Port Highway Connectivity

Partner Name	Port of Entry	Status
Cameron County	Los Indios Land Port of Entry	Completed
Cameron County	Los Tomates Land Port of Entry	Completed
City of Del Rio	Del Rio Port of Entry	Completed
City of Donna	Donna Port of Entry	Completed
City of El Paso	Ysleta Land Port of Entry	Completed

City of Laredo	World Trade Bridge	Completed
City of Pharr	Pharr Land Port of Entry	Completed
TxDOT	Paso Del Norte Land Port of Entry	Completed
Anzalduas-Hidalgo International Bridge Board	Anzalduas Land Port of Entry	Ongoing Small-Scale Project
Cameron County	Los Indios Land Port of Entry	Ongoing Small-Scale Project
TxDOT	Los Indios Land Port of Entry	Ongoing Small-Scale Project
TxDOT	Los Tomates Land Port of Entry	Ongoing Small-Scale Project
Anzalduas International Bridge	Anzalduas Land Port of Entry	Ongoing Large-Scale Project
Cameron County	Veterans International Bridge Land Port of Entry	Ongoing Large-Scale Project
City of Donna	Donna Land Port of Entry	Ongoing Large-Scale Project
City of Pharr	Pharr Land Port of Entry	Ongoing Large-Scale Project

Source: CBP, [Donations Acceptance Program - Infrastructure & Personal Property Donations](#)



Freight Rail

The study conducted several interviews with Class I Railroad representatives. They offered several operational and policy considerations that could address connectivity issues and increase the capacity of cross-border rail operations. The considerations are as follows:

- » **Proposed policy/process improvements** include the harmonizing of the mechanical inspection process through a reciprocity agreement, a streamlined process for crossing approvals through joint scheduling or live coordination, unified cargo processing, consistent application of rules and regulations among rail crossings, and international crews to cross trains (thereby eliminating the need for trains to stop at the international bridge to switch crews). A seamless border/21st Century border operations are needed.
- » **Proposed technology investments** include cameras, people detection equipment, and scanners to get approvals faster, to prevent trains from stopping, and to get trains to cross the border faster.
- » **Proposed operational improvements** include a Central Database capturing all information needed by all agencies in advance of the train arriving at the border to facilitate obtaining faster approvals for trains to cross. In El Paso, the Class I railroads interviewed mentioned that rail capacity can be increased through additional hours of operation. Trains are currently limited to crossing the bridges during daylight hours.

Transit

Enhanced coordination between different state agencies and local communities in Texas, such as Health and Human Services, TxDOT, Veterans Affairs, and education-related agencies. These agencies often operate in fragmented ways, and adhere to different regulations, some of which are federal. This lack of coordination hinders the ability to implement seamless public transit services, that could benefit from shared resources like joint insurance, fuel contracts, and compatible scheduling software. It was recommended that this coordination is driven at the state level, potentially through legislative action, to ensure that agencies can work together more effectively; ultimately benefiting the communities they serve.



Port-to-Port Connectivity Programs and Policies

This section lists recommended policies to address connectivity issues and challenges between existing border crossings and from border crossings to Texas and Mexico seaports.

Allow ocean-going containers handled at Texas ports to be transported into Mexico.

Currently, shipping containers handled at Texas maritime ports cannot be transported into Mexico without first going through a transloading facility. Transloading can be a time consuming and costly process where the transfers of goods require multiple handling tasks which requires labor and specialized equipment. Storage costs, distance to facilities, fuel, and availability of equipment are some of the other challenges faced by importers and exporters when transloading goods. By enabling the movement of 53-foot containers directly from a maritime port to the destination in Mexico, and vice versa, shippers and brokers would drastically reduce supply chain costs by minimizing or eliminating the need for transloading. Warehousing, storage, and handling costs would be greatly minimized which in turn facilitates reduced shipping costs.

Actions:

- » Permitting organizations in U.S. and Mexico should review and examine the benefits and challenges of enabling cross-border movement of 53-foot containers through a feasibility study and/or pilot program for a select number of shippers and brokers.
- » Coordination between CBP, DPS, permitting agencies and maritime ports to streamline the inspection process of containers from a maritime port through a border crossing such that additional inspections may not be warranted – further improving supply chain efficiencies.

Roles and Responsibilities:

- » Industry partners, CBP, local, and regional agencies can develop a pilot program to test out the efficiencies and challenges of implementing a 53-foot container crossing program where concerns such as traffic impacts, OS/OW limits, amongst other concerns can be further examined and validated.
- » Industry partners and port operators can provide data on handling costs, storage costs, and labor costs which can better inform permitting agencies on the efficiencies of minimized transloading of 53-foot containers.
- » CBP, Aduana, and maritime ports can examine a coordinated inspection effort which minimizes the need for multiple inspections of 53-foot containers.

Stakeholders also recommended that the OS/OW permits issued by the two port authorities issued by Brownsville and Harlingen port authorities, and HCRMA be interchangeable among these networks.

The Port of Brownsville and the Port of Harlingen issue permits for the movement of OS/OW vehicles on designated state highways. Permits issued by the Port of Brownsville allow vehicles to travel OS/OW between the Gateway International Bridge or the Veterans International Bridge at Los Tomates and the Port of Brownsville. Permits issued by the Port of Harlingen allow vehicles to travel OS/OW between the Free Trade International Bridge and the Port of Harlingen. HCRMA also issues permits for OS/OW vehicles on selected routes in Hidalgo County. Despite these provisions, the permits issued by the two port authorities (Brownsville and Harlingen), and HCRMA are not interchangeable among these networks. There is therefore a need to establish an OS/OW network that connects the heavy weight corridors in Cameron County (i.e., Port of Brownsville and Port of Harlingen OW corridors) with the heavy weight corridors in Hidalgo County.



Actions:

- » Conduct a needs assessment to quantify the benefits of having an interchangeable permitting system which minimizes the need for maintaining and operating multiple payment and accounting systems for each permitting agency.
- » Develop a revenue sharing program that ensures that all participating permitting agencies are equitably compensated the usage of their OS/OW corridors by commercial vehicle operators.
- » Encourage local support for OS/OW corridors such that community concerns regarding the movement of OS/OW goods movement are adequately addressed.

Roles and Responsibilities:

- » TxDOT, port authorities, and HCRMA should examine opportunities to develop an interoperable permitting system that facilitates the movement of OS/OW goods through major corridors and seamlessly connects one port to another – be it maritime or border crossing.

Region-to-Region Connectivity Program and Policy Considerations

Building on the identified infrastructure needs across the three border regions, this section focuses on the policy and program considerations vital to ensuring a cohesive and effective approach to region-to-region connectivity. By aligning strategies, securing resources, and fostering collaboration among various stakeholders, these considerations create a framework that not only supports the successful implementation of key projects but also addresses overarching coordination, funding, and planning needs. Ultimately, these policies and programs can help TxDOT, and its partners lay the foundation for a more resilient, equitable, and seamless transportation network – one that drives continued economic growth and quality of life along the Texas-Mexico border.

Revisit and Revise the Trunk Highway System Designation Criteria

The Trunk Highway System criteria were established in 1990, and while they provided a foundational framework for Texas’s transportation network, they may no longer fully address the state’s rapid growth, shifting population centers, and the rise in international trade—particularly along the Texas-Mexico border. As expanding urban areas reduce the overall trunk mileage, some rural communities risk losing critical connections. Updating the designation criteria would help align the trunk system with modern travel demands, better reflect current state and federal funding mechanisms, and ensure efficient, equitable distribution of resources. Additionally, revisiting the 11,500-mile cap could maintain or enhance key corridors to meet evolving connectivity needs statewide.

The process for updating the trunk highway designation would involve examining current and projected travel patterns, freight flows, and economic trends, and then aligning revised trunk routes with federal and state funding opportunities to ensure resources are deployed efficiently. Key considerations include balancing rural and urban connectivity needs, navigating any legislative or regulatory hurdles (such as for lifting or modifying the 11,500-mile cap), and building stakeholder consensus around updates to the functional classification.

By adopting modernized trunk system criteria and engaging stakeholders throughout the process, Texas can enhance border region and statewide connectivity and bolster economic activity. Updated routes would better match real-world travel demands, allowing more precise targeting of investments to improve safety, mobility, and trade efficiency.

Actions:

- » Build on findings from the recently completed 2024 Texas Highway Trunk System Study which reviewed the trunk system criteria, policies, and procedures; assessed trunk system designations; and engaged



stakeholders and planning partners to obtain input and concurrence to criteria and system designations.

- » Refine designation criteria: Incorporate updated metrics — such as truck volume, cross-border freight traffic, economic development opportunities, and state/federal funding alignment — into the Trunk System criteria.
- » Assess the 11,500-Mile cap: Review the original rationale and explore whether lifting or adjusting this cap might ensure more comprehensive statewide coverage, especially in fast-growing or underserved corridors.

Roles and Responsibilities:

- » TxDOT to continue efforts to reform the Trunk System criteria to align with the agency's current strategic goals.
- » Local & regional agencies can provide localized knowledge about transportation needs and growth patterns in border regions, especially in rural areas.
- » Freight & industry partners can offer insights into border region freight movements, truck requirements, and trade-related infrastructure needs.
- » Community organizations can also be involved to represent local voices, ensuring inclusive feedback on how potential corridor changes impact public safety, mobility, and economic well-being.

Bi-national Regional Stakeholder Working Groups (BRSWG) Structure for Connectivity-Focused Collaboration

High-priority corridors and first- and last-mile connections in the border region face unique congestion, safety, and reliability challenges. These challenges stem from the interplay of cross-border trade, multimodal movements of people and goods, and population growth. An Integrated

Case Study: Minnesota's Trunk Highway System Update Process

- » Minnesota's experience with its Trunk Highway System demonstrates how a state can reassess and refine its highway network in response to shifting demographics, evolving traffic patterns, and new economic drivers. Although the system is established in statute — like Texas — Minnesota has allowed for selective additions, turnbacks, and modifications over time. Through legislative measures and structured review processes, the state maintains enough flexibility to address emerging transportation needs without compromising overall system integrity.
- » In addition, Minnesota aligns trunk highway updates with broader funding and planning initiatives. The “Corridors of Commerce” program identifies and funds key freight and economic corridors, while Minnesota Department of Transportation’s (MnDOT) Statewide Multimodal Transportation Plan (Minnesota GO) and the 20-year Minnesota State Highway Investment Plan (MnSHIP) provide a strategic framework for prioritizing improvements. During the 2021 Legislative Session, new requirements for the Capital Highway Investment Plan (CHIP) were enacted, which direct MnDOT to recommend specific trunk highway segments for removal from the system, further ensuring that designations remain relevant and responsive to the state’s transportation needs.



Source: [MnDOT 2023-2032 capital highway investment plan](#), adopted December 2022



Corridor Management (ICM)¹⁸ -style approach can help address these issues holistically and data-driven. Rather than forming new committees, TxDOT can incorporate these efforts into the existing Bi-national Regional Stakeholder Working Groups (BRSWG) structure, allowing for more immediate coordination across agencies and jurisdictions without duplicating organizational efforts.

To do this, TxDOT can adapt the existing BRSWG committees or subgroups to serve as regional connectivity-focused working groups while maintaining the current membership and including targeted stakeholders, such as local port authorities and logistics providers, as needed to enhance corridor focus. The approach can also follow a phased implementation strategy. First, regional stakeholder engagement could be conducted by convening key participants within each of the three border regions under the BNRSC umbrella. These stakeholders can then identify corridors with the greatest potential for improvement, informed by the priority corridors identified in this present Study.

Next, the focus can shift to piloting advanced technologies such as real-time incident management systems, port gate updates, and border processing technologies along priority corridors experiencing heavy congestion or border delay. Integrating these pilots with BRSWG's ongoing work will ensure seamless communication and data-sharing practices. Once successful strategies are identified, they can be expanded to additional corridors, leveraging BRSWG's established relationships with local, state, and federal partners. Lessons learned from the pilot sites will also help refine corridor management practices and standardize protocols.

¹⁸ ICM is an advanced traffic management strategy that aims to optimize the capacity and efficiency of transportation corridors by utilizing existing and new technologies. ICM involves coordinating multiple

Actions:

- » Coordinate with existing BRSWG efforts to identify state and federal funding opportunities for technology rollouts and shared data platforms.
- » Address potential challenges such as data privacy, interoperability, and ongoing stakeholder engagement within BRSWG's established forums and governance processes.
- » Implement real-time data-sharing and coordinated incident management to improve travel time reliability.
- » Use data-driven insights to guide investment decisions and prioritize resource allocation.
- » Strengthen stakeholder engagement by maintaining alignment and avoiding unnecessary committee expansion.
- » Foster better coordination among agencies and jurisdictions to efficiently tackle cross-border mobility challenges.

Roles and Responsibilities:

- » *TxDOT* can lead coordination efforts, identify funding opportunities, and oversee technology rollouts and data-sharing platforms.
- » *BRSWG* would serve as the central governance body for policy alignment, stakeholder coordination, and issue resolution.
- » *Federal partners* offer funding support, regulatory guidance, and cross-border collaboration assistance.
- » *Technology providers* develop and deploy real-time data-sharing and incident management systems.

transportation modes, facilities, and agencies to manage traffic congestion and improve overall corridor performance.



- » *Logistics providers and port authorities* contribute operational insights, participate in pilot projects, and support infrastructure improvements.
- » *Stakeholders and community representatives* provide feedback on corridor management strategies and ensure local concerns are addressed.

Enhance Highway Safety and Mobility Through the Development of Modern Rest Stops

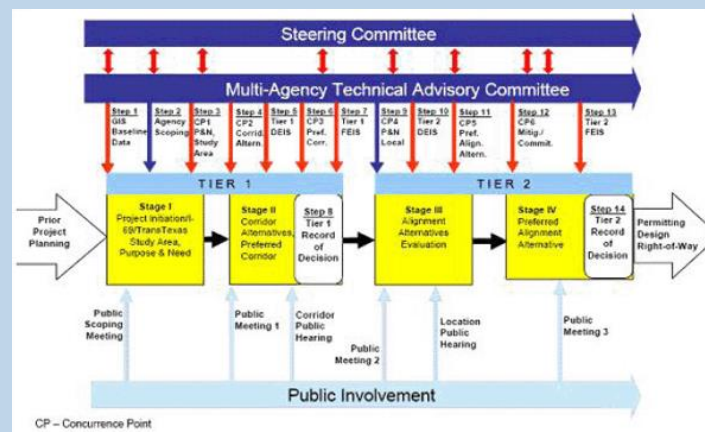
Upgrading existing rest stops and developing new facilities along key east-west highways in West Texas and north-south routes in central and southern border regions can significantly boost traveler safety, reduce fatigue-related crashes, and support freight mobility. Modern, well-equipped rest stops, featuring ample parking and amenities for both passenger vehicles and trucks, would improve overall travel efficiency by giving drivers a safe space to rest, refuel, and receive important travel information. By strategically placing investments along non-interstate routes in rural areas, these facilities can also enhance connectivity by encouraging travelers to use corridors they might otherwise avoid due to limited amenities.

To bring these enhancements to life, TxDOT and its partners can explore public-private partnership (P3) models that tap into private-sector expertise and funding. These partnerships would also require collaboration among local communities, private businesses, and trucking organizations, ensuring the investments align with real-world needs and complement broader transportation goals.

This initiative can also benefit from the establishment of regional working groups discussed in the previous consideration, as incorporating advanced technology solutions, such as real-time parking availability, traveler notifications, and enhanced security features, can help TxDOT actively reduce congestion and minimize safety hazards. The working groups can

Case Study: Multi-Agency Coordination for the I-69 Trans Texas Corridor Study

The I-69 Trans Texas Corridor Study underscores the value of multi-agency working groups for complex, large-scale transportation projects. By integrating the I-69 Corridor with the Trans-Texas Corridor Plan to create multimodal routes for people, goods, and services, the project required close collaboration among TxDOT, the Federal Highway Administration (FHWA), and multiple resource agencies.



A preliminary process manual and a Technical Advisory Committee provided a structured framework for interagency coordination, helping stakeholders align goals, streamline environmental reviews, and avoid mid-project revisions. As a result, participating agencies strengthened their relationships, accelerated decision-making, and mitigated potential delays.

This case study demonstrates how well-organized committees can ensure a unified, efficient approach to regional corridor improvements, ultimately benefiting both transportation agencies and the communities they serve.

Source: FHWA Case Study Library, [IH 69 Trans Texas Corridor Study – Quantm Corridor Optimization](#)



also monitor impacts of these investments on crash reduction, and driver satisfaction to inform adjustments to facility design and technology deployments.

Actions:

- » Identify sites along the priority corridors: TxDOT and its local partners can rely on data-driven analysis presented in this Plan and findings from the recent statewide Truck Parking Study to pinpoint highways and rural corridors most in need of additional or upgraded rest stops.
- » Incorporate advanced technologies: Real-time parking availability, travel notifications, and security monitoring technologies can be considered to enhance access and use of these facilities.
- » Explore funding mechanisms and P3 models: Assessing P3 arrangements can help finance, build, and maintain facilities. Additionally, TxDOT and regional working groups can investigate state and local funding opportunities and explore possible revenue-sharing agreements.
- » Engage stakeholders and local communities: Public meetings, focus groups, and workshops with community leaders, trucking associations, and local businesses can help gather input on preferred locations, services, and funding options. Engagement with local agencies can also streamline permitting processes.

Roles and Responsibilities:

- » *TxDOT* can oversee corridor analyses, site selection, and final approval of rest stop plans. TxDOT can also help local agencies identify and pursue state or federal funds and work with legislators and policymakers to enable conducive P3 environments.
- » *Local agencies* can assist TxDOT with environmental reviews and local zoning approvals and engage with local businesses to explore P3 opportunities and ensure local resident buy-in.

- » *Private-sector partners* can participate in building and operating rest stops under specified contractual agreements and/or develop or provide solutions for smart rest area solutions.
- » *Local businesses and community organizations* can support consideration of co-locating rest stops with restaurants, shops, or other amenities to enhance facility appeal.

Focus on Cornerstone Projects

Prioritizing “cornerstone” projects — those that unlock or amplify the benefits of related initiatives — can significantly accelerate Texas’s overall transportation improvements. While some interventions may appear modest in isolation, they can catalyze broader benefits by laying the groundwork for transit expansion, safety enhancements, active transportation, and other connectivity goals. For instance, upgrading border processing technologies may seem like a singular improvement, yet it can streamline the movement of goods and people across multiple corridors, reduce wait times, and minimize congestion for both freight and passenger traffic. This initiative can be bolstered by the work of border region connectivity working groups previously discussed in this section, which can coordinate and support the identification and implementation of such high-impact projects.

Actions:

- » Conduct a system-wide assessment: Use performance data and stakeholder feedback presented in this Plan to identify projects with the potential to enhance downstream initiatives.
- » Prioritize cornerstone projects in funding and scheduling: Integrate the identified high-impact projects into short-, medium-, and long-term planning documents, assigning them top priority in resource allocation.



Case Study: Presidio Multimodal Center

The Presidio multimodal facility is located along the north side of Bridge Street and on the western end of the City of Presidio, adjacent to the POE facility bearing the city's name. The entire site is 25.88 acres and has a range of accommodations for truck parking while also allowing for private economic development.

The Presidio site is proposed to be developed over two phases. Phase 1 develops the eastern side of the site and the first segment of the internal U-shaped access road that will serve the entire site. Phase 1 includes a 116-space two- to four-hour vehicle staging area with a restroom facility. Adjacent to the staging area is a 1.63-acre parcel designated for private development. This location for private development is ideal due to the visual access from Bridge Street. A temporary gravel parking lot with 230 spaces is proposed for the easternmost portion of the site, next to the residential neighborhood further to the east. Phase 2 completes the U-shaped access road, which connects to Bridge Street. The access road is designed with a queuing lane that extends from the point of exit to the entry point to mitigate potential truck congestion heading into Mexico.

Phase 2 includes two truck parking lots containing a total of 97 parking spaces. These lots are located along the western and northern boundary of the site. The land adjacent to the truck parking is undeveloped, resulting in minimal disruptions from truck movements.

Within the center of the access drive a 4.14-acre amenity park hosts a detention pond, walking paths, entry monument/sign, and restroom facility to provide recreation and comfort for all users. Phase 2 proposes replacing the temporary gravel parking lot with additional economic development parcels, increasing the combined economic development opportunity to 4.17 acres.

Source: SFMTA, [Presidio Yard Modernization Project](#), accessed February 2025



- » Develop multimodal support strategies: Coordinate across TxDOT divisions to ensure cornerstone projects complement different modes.
- » Collaborate with border region working groups: Leverage border region working groups to lead or support cornerstone projects, particularly those focusing on border region and cross-border connectivity improvements.

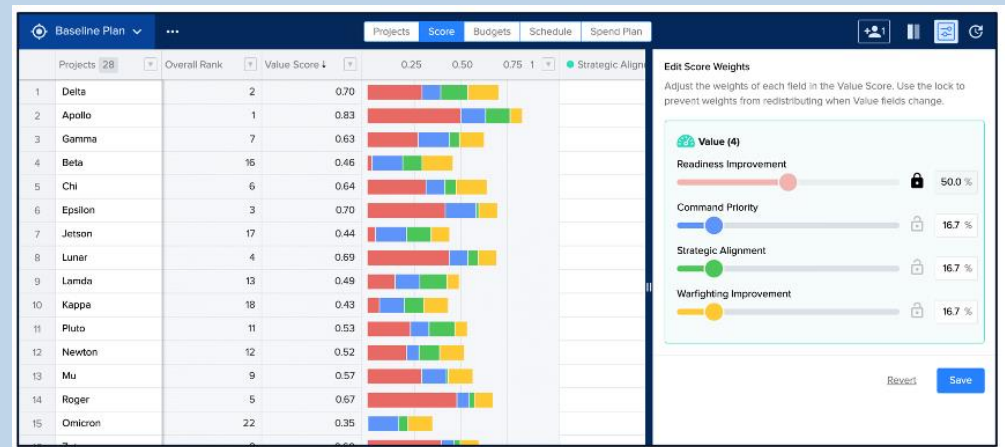
Roles and Responsibilities:

- » *TxDOT* can lead the identification of high-impact, cornerstone projects using its agencywide robust data and project prioritization frameworks.
- » *Border region working groups* can play a central role in identifying priority border projects and aligning them with broader connectivity efforts. These groups can serve as a conduit for local input, ensuring that improvements reflect on-the-ground needs.
- » *Local agencies and asset owner/operators* can help streamline approvals and regulations to fast-track implementation and work with residents, businesses, and other stakeholders to gain support and address potential concerns.
- » *Private-sector partners* can contribute expertise on technology solutions, resource management, and P3 models that can expedite project delivery.
- » *Private-sector partners* can contribute expertise on technology solutions, resource management, and P3 models that can expedite project delivery.

Case Study: TxDOT’s Data-Driven Project Prioritization Framework

TxDOT has developed a comprehensive, performance-based framework to prioritize high-impact transportation projects. The key to this approach lies in the Performance Metrics Data Integration System (PM-DIS), which preprocesses project information for Decision Lens – TxDOT’s primary scoring tool within the UTP. This system enables a data-driven, predictive method for evaluating projects, allowing sponsors to gauge potential performance outcomes before formal submission. Project selection focuses on metrics such as safety, system preservation, congestion relief, connectivity, economic development, and environmental considerations, ensuring alignment with both national and state planning guidelines.

Stakeholder collaboration underpins TxDOT’s method, with input from MPO directors, TxDOT leadership, and subject matter experts helping determine the relative weight of goals in a Multiple Objective Decision Analysis (MODA) scoring process. By integrating objective data with professional judgment and allowing for adjustments based on local conditions, TxDOT continuously refines this framework to keep pace with evolving analytical capabilities.



Source: FHWA Case Study Library, [A Systems-Based Performance Measurement Framework for Highway Capacity Decision Making \(CO2\)](#) and TxDOT, [Decision Lens Learning Library](#)



Conduct a study of key industry transportation needs to identify and prioritize freight improvements, program, and policies

TxDOT and its partners can spearhead a focused, industry-specific freight access studies to identify critical transportation improvements necessary for boosting regional economic vitality, particularly for the manufacturing sectors that depend on efficient, reliable cross-border trade such as high-tech, machinery, and auto manufacturing. By prioritizing industry needs, such as freight and workforce mobility, these detailed studies ensure that high-priority projects receive the attention and funding they deserve. Conducting such a study along the Texas–Mexico border would give TxDOT (and its partners) a data-driven roadmap to enhance infrastructure and connectivity where it counts most.

The present Texas-Mexico Border Region Connectivity Plan already provides an overview of key industries that rely on multimodal border infrastructure for growth, with details available in an interactive [StoryMap](#). These insights can help TxDOT determine which sectors deserve a deeper dive. By replicating the best practices from successful freight access initiatives, TxDOT can strengthen the economic potential of the Texas–Mexico Border Region and support its long-term prosperity.

Actions:

- » Conduct targeted outreach to top manufacturing sectors identified in the current study to gather detailed data on their freight flows, workforce commuting, and infrastructure constraints (e.g., border wait times, congestion points).
- » Review existing TxDOT and local plans to see how they address — or overlook — critical industry-specific needs.
- » Determine and prioritize projects (e.g., highway expansions, signal timing, cross-border rail enhancements) that would yield measurable benefits for key sectors.

- » Assess potential technology deployments (e.g., freight management systems, real-time traveler information) and develop a phased timeline for recommended improvements and identify relevant funding sources.

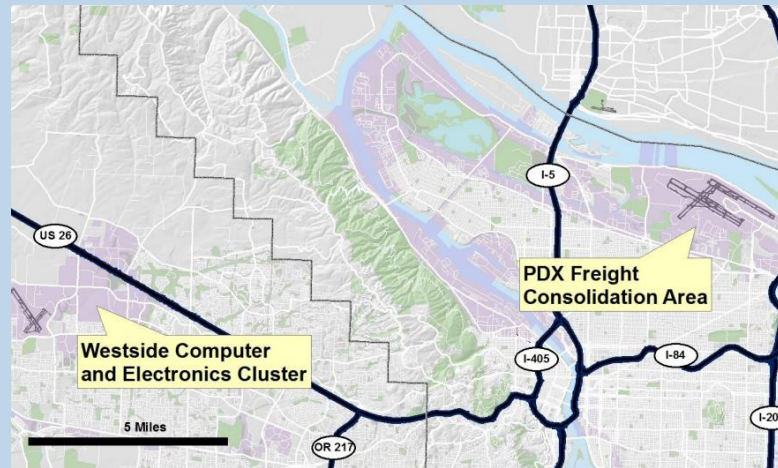
Responsibilities:

- » *TxDOT and its districts* can lead and oversee the study design, data collection, and policy evaluation and coordinate with state and federal funding bodies.
- » *Border authorities & local governments* can facilitate data sharing and support cross-jurisdictional initiatives and help implement infrastructure projects and policy changes.
- » *Industry representatives* can support these efforts through providing insights on operational challenges and technology needs.



Case Study: Greater Portland Export Initiative - Portland Region Westside Freight Access and Logistics Analysis

Portland's economy has historically depended on export industries, serving both domestic and international markets and generating revenue for the region. The computer and electronics (C&E) industry from Westside C&E manufacturers is now a key driver of this export economy, representing over half of the region's total export value. This study, conducted in 2013, aimed to provide recommendations to provide recommendations on to improve the movement of goods from the C&E industry to Portland International Airport. The illustration shows the study area with relevant corridors. The study noted that while C&E is the focus for growth, other industries growing would also contribute to C&E's long-term growth. This study focused on projects with the potential to significantly improve speed, efficiency, and reliability, and be feasible for near-term implementation. The study identified three projects that would benefit the Westside Freight Movement and could be implemented soon.



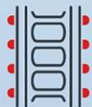
Source: Portland Region Westside Freight Access and Logistics Analysis, Greater Portland Export Initiative, 2013



6



A Call to Action



A Call for Action

The Texas-Mexico Border Region Connectivity Plan is a clarion call to action, uniting diverse stakeholders in a shared mission to transform the border region’s mobility landscape. This plan examined currently planned transportation projects and analyzed safety, connectivity, and mobility concerns. It is the product of detailed data analysis, and robust outreach through stakeholder working groups, and engagement with TxDOT Districts, ensuring that findings and considerations are grounded in real-world challenges and opportunities.

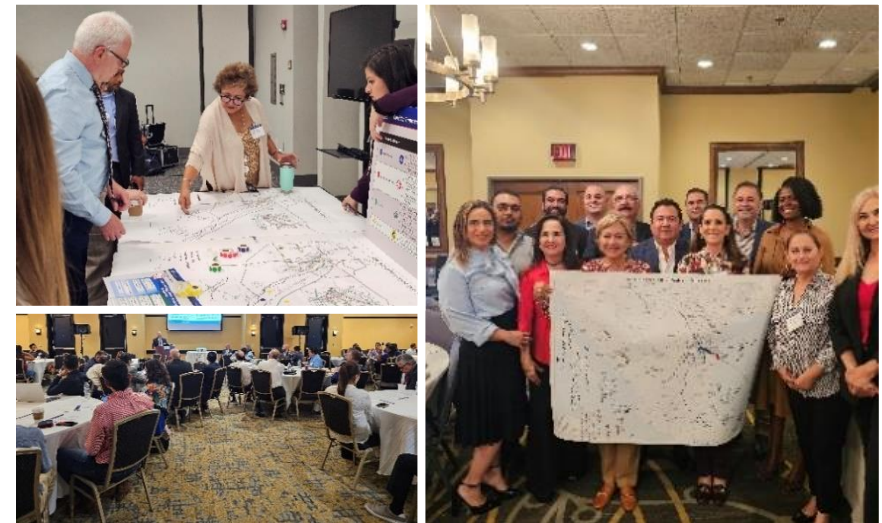
This Plan provides a roadmap for sustained, transformative progress in border region connectivity. By closing the loop with our stakeholders and integrating findings with the upcoming BTMP update, the Plan lays the groundwork for a more connected, prosperous future for the entire Texas-Mexico Border Region.

Continuing engagement with stakeholders: It is critical that the dialogue started with the stakeholders as part of the Texas-Mexico Border Region Connectivity Plan — from local communities to regional authorities — is maintained to ensure that evolving needs and emerging priorities are effectively addressed. Ongoing corridor working groups and technical committees will serve as the nexus for regular input, status updates, and course corrections, ensuring that our strategies remain relevant and responsive.

Informing the BTMP Update: The findings and considerations of this plan directly inform the ongoing update of the BTMP and will play a pivotal role in shaping BTMP 3.0. By integrating these insights into the broader BTMP framework, TxDOT can ensure that approach to border region planning stays consistent, forward-looking, and aligned with statewide priorities.

Advancing into the Future: This Plan provides essential guidance to TxDOT and its Divisions, Districts, and other partners for the planning, designing, funding, and construction of targeted improvements across the Texas-Mexico Border Region. While improvement limits and planning studies may evolve with District priorities, funding availability, and other considerations, the plan document sets a clear vision: a safe, reliable, and high-performing highway system that connects border region communities to greater economic opportunities. Recognizing that progressing these considerations to recommendations and implementation will be a decades-long initiative with no dedicated funding stream, we emphasize the need for strategic, collaborative efforts. Each project will compete for resources alongside statewide initiatives, demanding a balanced approach that maximizes federal, state, and local contributions.

Figure 6-1: Photos taken at stakeholder meetings and workshops



Source: Stakeholder Engagement Events in El Paso and Laredo, 2024



Texas-Mexico Border Region Connectivity Plan

Project Report
July 2025

