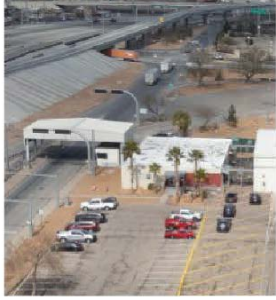


Texas House Bill 4422 Study

Final Report

Texas Department of Transportation

November 2024

Organization of Report:

Chapter	Sections	Topics & Requirements Addressed
01	**House Bill 4422 Overview** Study Purpose Study Area Study Technical Approach Report Organization	HB 4422 requirements Study regions and border crossings Stakeholder engagement and working group, data analysis, literature review Structure of report and requirements addressed
02	**Introduction** Importance of Texas-Mexico Border Importance of CMV Security and Safety at the Texas-Mexico Border	Population and trade, growth, economic impact, reshoring Border security and Operation Lone Star, Department of Public Safety, county-local agencies and enforcement, crossing oversight
03	**Transportation Efficiency** Borderwide Themes El Paso Region Laredo Region Rio Grande Valley Region **Subsections in Each:** Background Needs and Challenges Strategies and Recommendations	Transportation infrastructure, current and future transportation routes Transportation efficiency, streamlined CMV connectivity, traffic congestion Recommendations, costs, priorities, timelines
04	**Safety and Security** Borderwide Themes El Paso Region Laredo Region Rio Grande Valley Region **Subsections in Each:** Background Needs and Challenges Strategies and Recommendations	Border security and OLS initiatives Law enforcement, CMV oversight and inspection Safety of communities and traveling public Recommendations, costs, priorities, timelines
05	**Border Technology** Borderwide Themes El Paso Region Laredo Region Rio Grande Valley Region **Subsections in Each:** Background Needs and Challenges Strategies and Recommendations	Current and future technologies for security, safety, and roads Recommendations, costs, priorities, timelines
06	**Funding** Overview and Illustration of Recommendations Costs, Available Funding, Funding Needs Innovative Funding and State Funding Needed	Study recommendations and total costs, regions, priorities, timelines, lead agencies Funding strategies and use of public resources State funding requirements
07	**Trade Impacts and Next Steps** Impacts of Recommendations on International Trade Efforts Next Steps	Effect of recommended policies, programs and projects on bi-national trade Report to Governor, Lieutenant Governor and Legislature
Appx.	**Appendices** Acronyms HB4422 text Data Sources CMV Crossings Policy, Program & Project Recommendations Funding Sources	Acronyms Documentation of Legislation Sources, Crossings Recommendations Funding Options

List of Tables

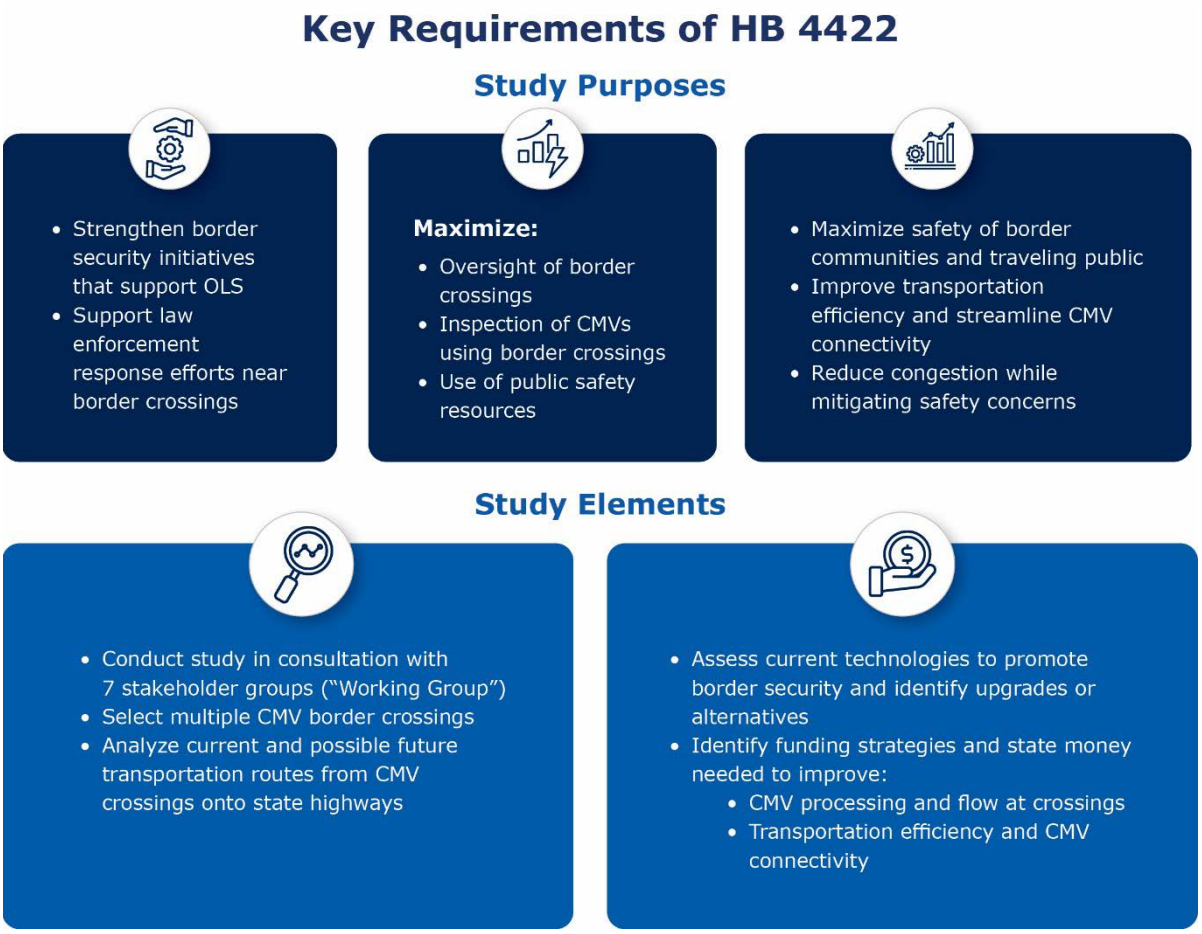
List of Figures

Chapter 1: House Bill 4422 Overview

House Bill 4422 Study Purpose

House Bill 4422 (HB 4422), passed unanimously during the 88th (R) Texas Legislative Session, charged the Texas Department of Transportation (TxDOT) to conduct this study on public safety, border security, and transportation infrastructure from Texas–Mexico border crossings onto the state highway system to ensure safe, efficient, and streamlined commercial motor vehicle (CMV) connectivity that amplifies Operation Lone Star (OLS) efforts. **HB 4422 requires the results of the study to be submitted to the governor, the lieutenant governor, and the legislature not later than December 1, 2024.**

Figure 1: Key Requirements of HB 4422



HB 4422 directed TxDOT to work in consultation with seven distinct organizations, including two other state agencies and a state research institute: the Texas Military Department (TMD), the Texas Department of Public Safety (TxDPS), and the Texas A&M Transportation Institute (TTI). The recommendations presented in this study require implementation by multiple state agencies, and responsibility for recommendations aligns with the mission of each agency.

Texas Department of Transportation Mission:

"Connecting you with Texas"

Priorities:

- Safety of the transportation system
- Delivery throughout the transportation life cycle
- Innovation that continues improvement
- Stewardship of resources

Texas Military Department Mission:

"Provide the Governor and the President with ready forces in support of state and federal authorities at home and abroad"

Vision:

Be America's premier state military organization comprised of professional mission-ready forces, fully engaged with our communities, and relevant through the 21st century.

Texas Department of Public Safety Mission:

"Protect and serve Texas"

4 Main Goals:

- Prevent crime and terrorism
- Save lives and protect property
- Maintain public order
- Provide effective, efficient and secure licensing services

Source: TxDOT (https://www.txdot.gov/about/leadership/mission.html), TMD (https://tmd.texas.gov/about-us), TxDPS (https://www.dps.texas.gov/section/about-dps/dps-mission-motto-vision-values-goals)

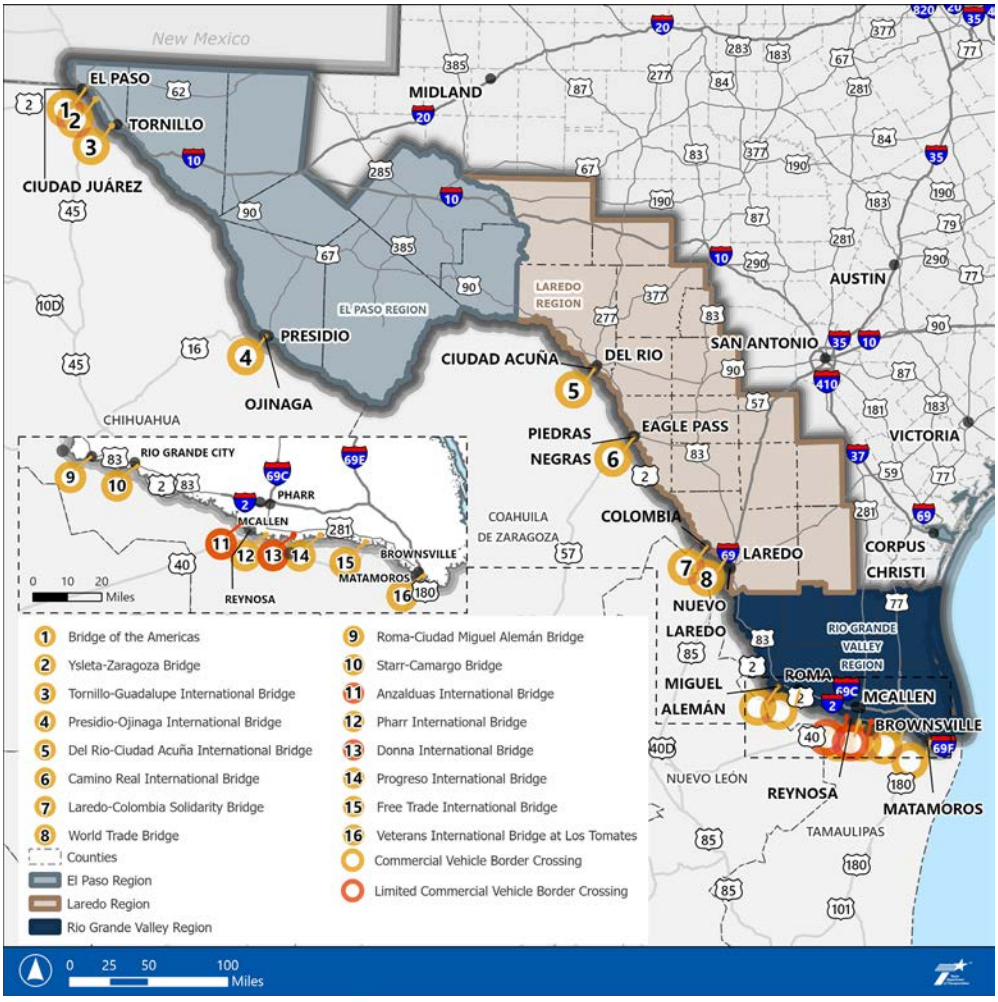
"The strengthened and newly formed partnerships have enhanced communication and dialogue, paving the way for improved transportation safety and security. As the commercial vehicle population continues to grow, our collaborative efforts will ensure safer and more secure border transportation. We value being a part of this study, as we improve relationships across local, county, and state agencies."

-Texas Department of Public Safety

Study Area

The study area encompasses territory extending 60 miles from the border and includes 31 Texas counties, eight of which have a CMV border crossing, as shown in **Figure 2.** The study area is divided into three regions – El Paso (ELP), Laredo (LRD), and the Rio Grande Valley (RGV) – and borders four Mexican states: Chihuahua, Coahuila de Zaragoza, Nuevo León, and Tamaulipas. All 16 CMV border crossings were analyzed in this study. Fourteen CMV crossings process loaded and empty trucks southbound and northbound; two crossings are limited to empty trailers southbound. Tables of attributes for CMV crossings appear in **Appendix D**, with elements such as ownership, volumes, lanes, and operating hours.

Figure 2: Study Area and CMV Border Crossings



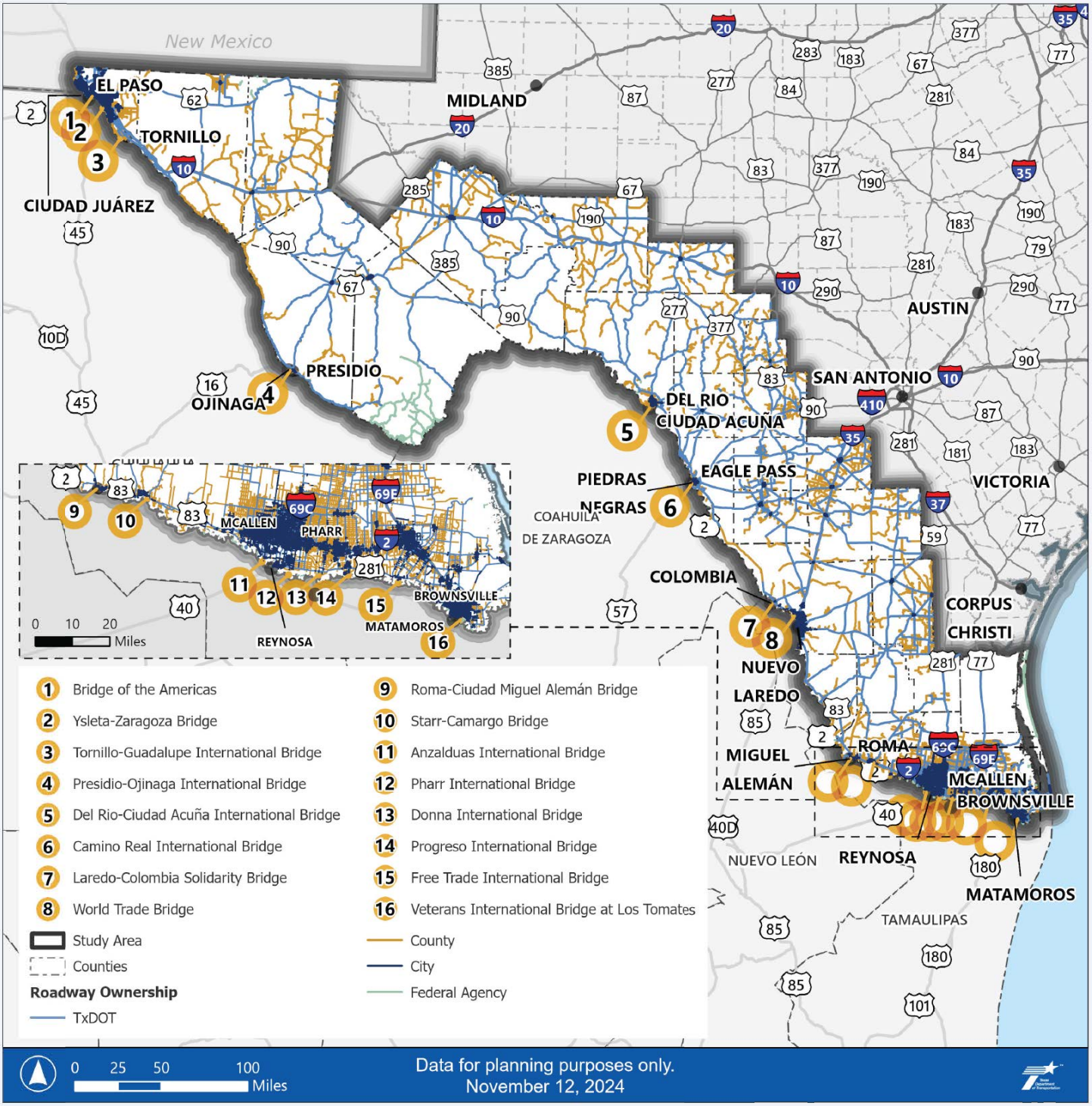
Study Area Roadway Network

- Study area roadway network **total 27,329 miles**
- Ownership mainly divided between **TxDOT**, **counties**, and **cities**
- Local cities and counties responsible for **2/3 of roadway mileage**

Table 8: Roadway Mileage by Owner

Owner	Centerline Miles	Percent
TxDOT	8,461	31%
County	10,205	37%
City	8,099	30%
Other Federal Agency	563	2%
Total	27,329	100%

Figure 4: Roadways by Ownership

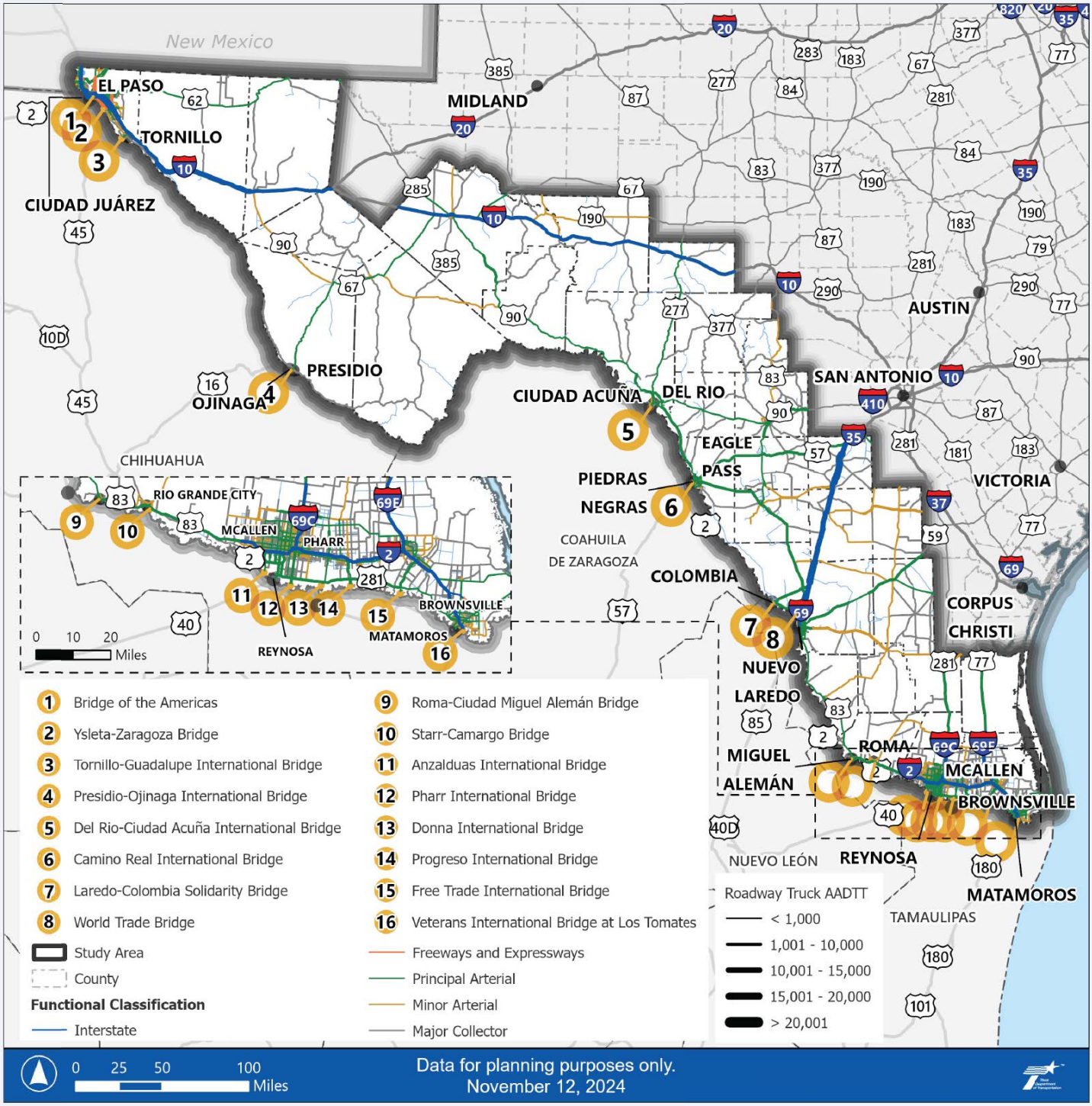


Road Network Functional Class and CMV Volume

- Functions range from local collectors and arterials to high-capacity interstate highways
- Functions reflect uses by passenger and commercial vehicles
- CMV roadway volumes shown by Average Annual Daily Truck Traffic (AADTT)
- CMV volumes are total demand on network: domestic and cross-border traffic

Prominent CMV Routes (Examples)	
I-10	US 57
I-35	US 59
I-69C/US 281	US 277/US 83
I-69E/US 77	-

Figure 5: Roadway Functional Class and Total CMV Volume (AADTT 2022)



Source: TxDOT Roadway Inventory Annual Average Daily Truck Traffic

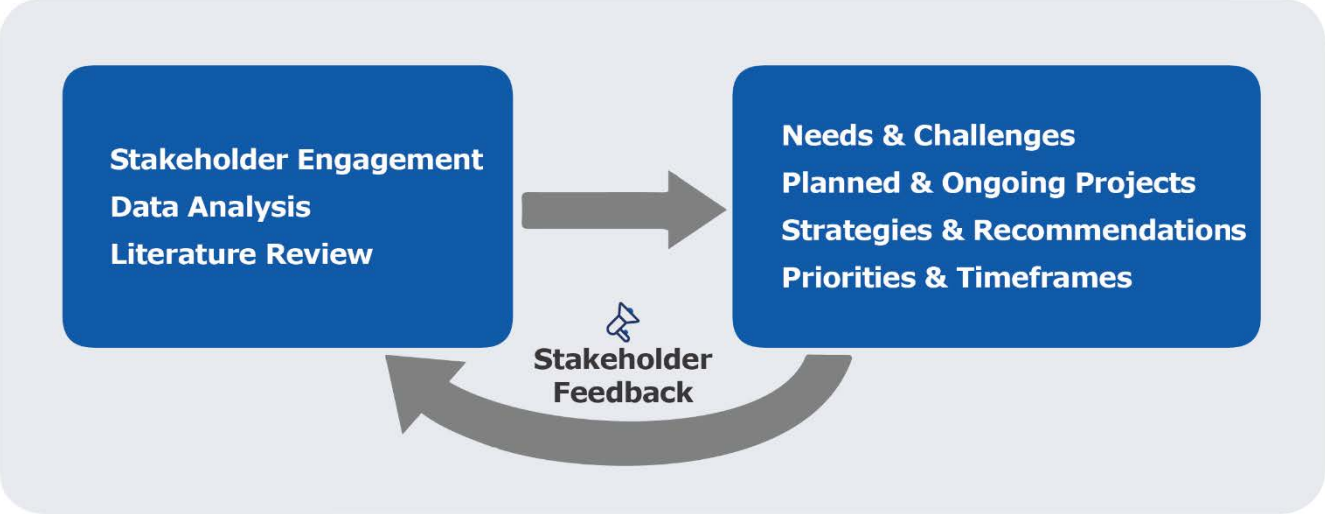
Study Technical Approach

The HB 4422 Study used three principal sources of information to analyze topics and fulfill the requirements of the bill:

1. **Stakeholder Engagement** conducted border-wide, included input from U.S. and Mexican agencies and organizations and an advisory Working Group mandated by HB 4422, which is further described below.
2. **Data Analysis** drawing from over two dozen data sources pertaining to border security and Operation Lone Star, law enforcement, transportation performance and projects, and technology. The findings from the analysis appear in Chapters 3, 4, and 5. Documentation of sources appears in **Appendix C**.
3. **Literature Review** encompassing relevant existing studies of border security, public safety, and transportation in and beyond Texas.

Findings from these sources were combined and organized into this report and reviewed with Working Group members, as well as with other stakeholders, as shown in **Figure 3**. The strategies and recommendations developed in this report come from stakeholders and have been vetted and prioritized by the Working Group.

Figure 3: House Bill 4422 Study Process

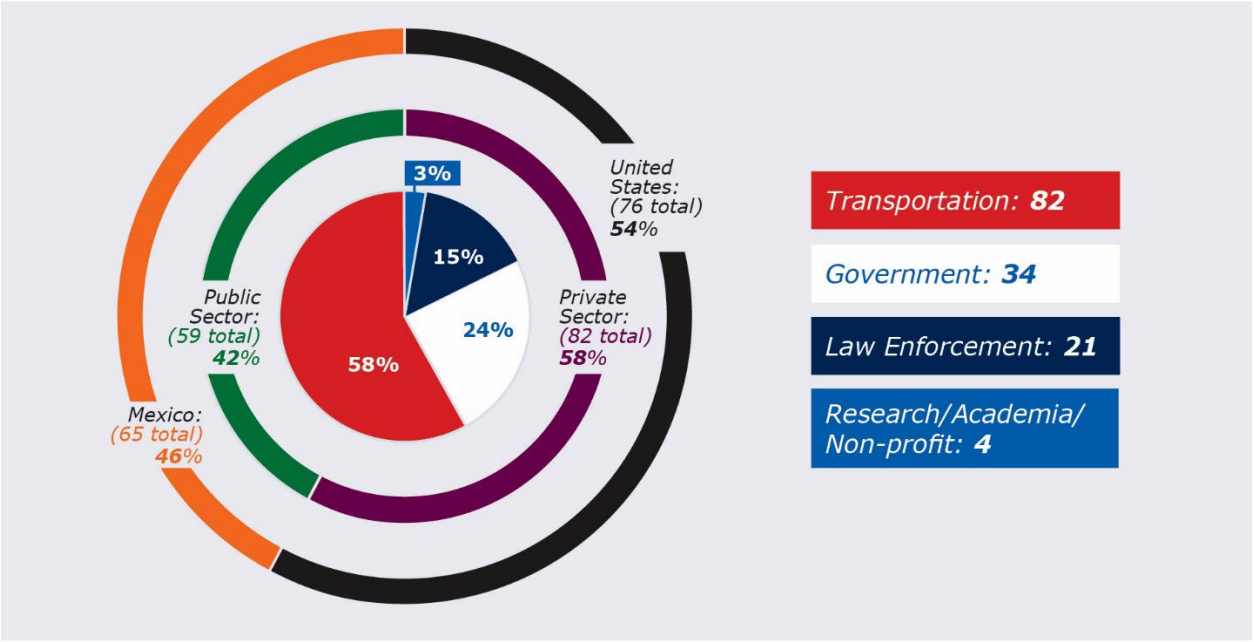


House Bill 4422 Stakeholder Engagement

The House Bill 4422 study convened a diverse and comprehensive group of stakeholders to develop strategies and recommendations aimed at enhancing border security through improvements in public safety, technology, and transportation infrastructure near Texas-Mexico border crossings. The study's primary goal was to provide recommendations on border safety, border security, and transportation infrastructure from Texas-Mexico border crossings to ensure safe, efficient, and streamlined CMV connectivity to amplify Operation Lone Star. ***Law enforcement from state, county and local levels was crucial for the recommendations that resulted from this study, as shown in the composition of the Working Group and Figure 4.***

Engaging a broad spectrum of stakeholders was essential to ensure the study's outcomes are relevant and actionable for all involved parties. This collaborative approach helped identify Texas' needs and opportunities, particularly as the state considers the benefits and impacts of advancing policies and infrastructure to improve public safety and security and streamline the connectivity of the commercial vehicle transportation network. The study engaged 141 agencies and organizations, with attendance from 355 unique stakeholders. **Figure 4** identifies the stakeholder types by category. This robust engagement process underscores the collaborative nature of the effort and the sound foundation among border stakeholders upon which comprehensive and effective strategies were developed to fulfill the legislative mandate of HB 4422.

Figure 4: Stakeholder Engagement Summary

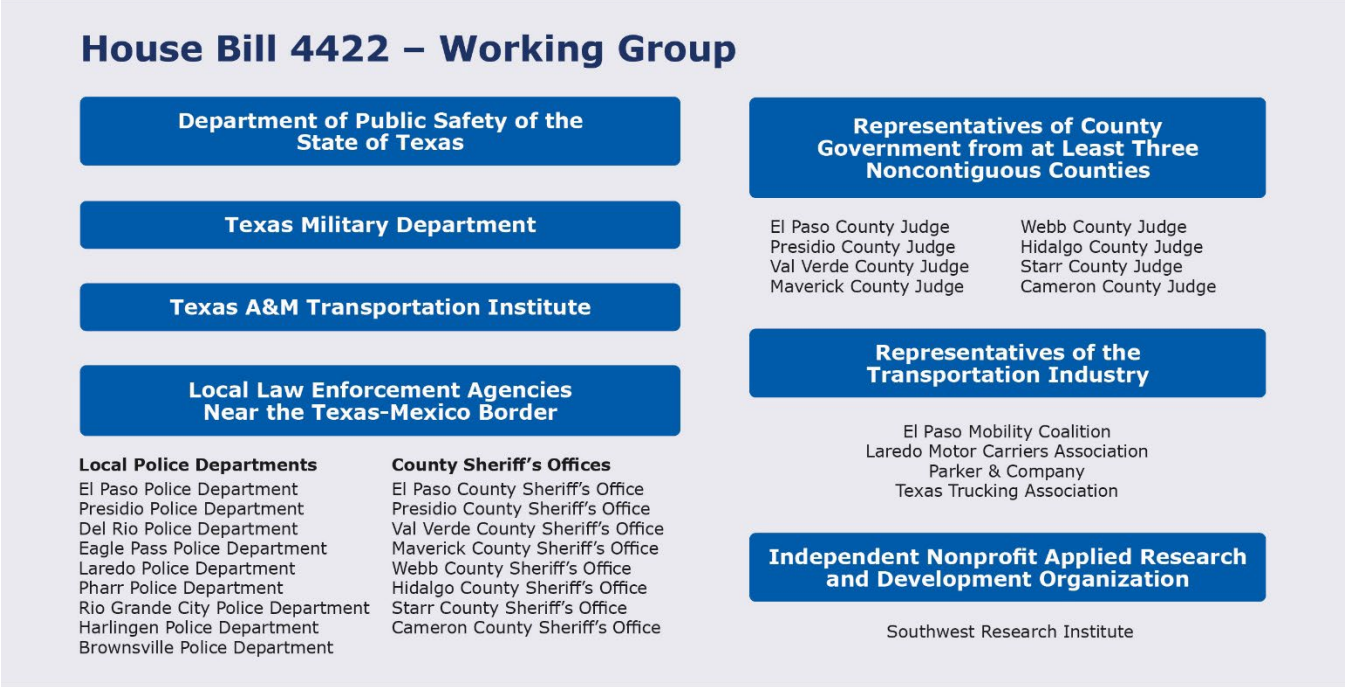


HB 4422 Working Group

A Working Group was established for TxDOT to conduct this study in consultation with seven specific entities, as directed in HB 4422. **Figure 5** lists the entities mandated by the bill along with the corresponding agencies and organizations involved.

The Working Group convened every other month for a total of seven meetings to provide input to TxDOT at key milestones and incorporate consideration of multiple perspectives. In addition, one-on-one interviews were conducted with Working Group members. The Working Group helped (1) guide the study, (2) advise on current issues and (3) ensure recommendations are implementable.

Figure 5: Working Group Membership



Binational Stakeholders

Engaging Mexican stakeholders was a crucial aspect of the HB 4422 study, emphasizing the binational nature of border security, public safety, and CMV efficiency. Given the shared border and interconnected CMV transportation routes, their involvement enabled a comprehensive understanding of local issues and facilitated coordinated solutions. The significant participation of Mexican private sector transportation stakeholders underscored the importance of their involvement in addressing cross-border challenges, sharpening the relevance of the study's outcomes and supporting the development of effective policies and system-related strategies on both sides of the border. The HB 4422 study included four binational roundtables: three in the Mexican cities of Ciudad Juárez, Nuevo Laredo, and Reynosa, and one in Presidio, Texas. Input at these roundtables was gathered from over 90 stakeholders, representing 72 organizations including transportation industry leaders, manufacturers and local community representatives.

Additional Stakeholder Engagement

State and local transportation and law enforcement officials discuss border issues at a roundtable in the Rio Grande Valley, Source: WSP

Input was sought from existing TxDOT committees and organizations such as the Border Trade Advisory Committee (BTAC) and the Texas Freight Advisory Committee (TxFAC), allowing for expanded stakeholder engagement. Building from recommendations from such organizations as well as from the Working Group, the HB 4422 study made targeted connections and conducted interviews with representatives from the transportation, technology, and public safety sectors, and with regional stakeholders involved in economic development and trade.

Literature Review

An extensive literature review to synthesize existing research relevant to HB 4422 was conducted. This review examined prior research, public source documents, and case studies, providing a thorough understanding of the current landscape and identifying best practices and innovative solutions applicable to the Texas-Mexico border context. While much of the relevant literature originated from Texas, research from around the country was included, especially regarding technology and practices at other U.S.-Mexico and U.S.-Canada border locations.

The literature review was organized around three types of topics pertinent to this study – border security, public safety, and transportation – with focus areas within each, as shown in **Table 1**. A total of 130 unique sources were collected and summarized for the HB 4422 study, with highlights from each topic presented below.

Table 1: Literature Review by Type of Topic and Focus Area

Focus Area	Type	Focus Area	Type
Risk Detection and Identification	Border Security	**Use of Local and State Public Safety Resources**	Public Safety
Operational Environment Assessment	Border Security	**Multiple Areas (Border Security and Public Safety)**	Border Security and Public Safety
Risk Classification, Prioritization, and Mitigation	Border Security	**General Transportation Planning**	Transportation
Oversight of Border Crossings	Public Safety	**Corridor Transportation Planning**	Transportation
Inspection of Commercial Vehicles Using Border Crossings	Public Safety	**Transportation Planning and Trade**	Transportation

The following page summarizes documents reviewed by topic.

Border Security

Twenty pieces of research literature from state and federal entities such as TxDOT, Texas A&M Transportation Institute, and U.S. Customs and Border Protection were analyzed. Key areas addressed included current transportation routes, funding strategies, public safety enhancements, and commercial vehicle connectivity. Notable reports include the South Texas High Intensity Drug Trafficking Areas report, which provides insights into criminal activity along the border, and the U.S. Department of Transportation report on improving cross-border mobility and trade, which assesses coordination efforts and stakeholder engagement.

Public Safety

The review of public safety literature included 26 items, primarily from state and federal sources. These reports focused on supporting law enforcement response, enhancing transportation infrastructure, and ensuring public safety near border crossings. Key areas of interest included the inspection of commercial vehicles, oversight of border crossings, and risk detection and identification. Notable studies include CBP's Cargo Reinspection Program Report and the Texas DPS report on Commercial Vehicle Policies and Procedures.

Transportation

The literature review for transportation involved analyzing 64 pieces of literature from diverse sources, including local, state, and federal studies. Key sources included TTI, local MPOs, and departments of transportation. These studies provided insights for transportation planning and corridor studies focused on infrastructure, potential technologies, border crossing delays, economic impacts, and trade. Notable reports include studies by Caltrans on the impacts of border crossing delays and TTI case studies on travel time benefits for manufacturers in the Secure Border Trade project. Additionally, 20 pieces of literature focusing on technology and international studies, identifying potential and emerging freight technology advancements to improve border crossing efficiency and security were analzyed.

Organization of Recommendations

The policy, program, and project recommendations of this study are based on stakeholder feedback with input, review, and prioritization by the HB 4422 Working Group.

Policies are specific courses of action that, if adopted, will shape the way Texas approaches public safety, border security, and transportation infrastructure for CMVs along the Texas-Mexico border.

Programs are collections of initiatives or activities to achieve desired outcomes, among which may be a series of projects.

Projects are well-defined, cost-estimated infrastructure or technology improvements, and may include staffing requirements.

Each of these types of recommendations are categorized into four timeframes:

0-2 years	2-4 years	4-10 years	10+ years
Immediate Term *2025-2026*	**Short-Term** *2027-2028*	**Medium-Term** *2029-2034*	**Long-Term** *2035 and beyond*

Recommendations are organized into four categories and are numbered accordingly:

- **Overarching** recommendations address high-level, border-wide concerns.
- **Transportation Efficiency** recommendations address infrastructure and operational concerns. Four of these recommendations are groups of specific transportation projects related to new CMV routes, new and improved interstates, additional CMV lanes, and new CMV border crossings.
- **Safety and Security** recommendations address public safety and border security concerns.
- **Technology** recommendations address technological solutions to border concerns.

Recommendations and costs are detailed for each of the three border regions and are further organized with the following key dimensions. The full set of policies and programs is presented in **Appendix E**:

- **Priorities** are specified as High, Medium, or Low priority based on feedback from stakeholders.
- **Lead Agencies** are identified for each recommendation and frequently involve more than one party. TxDOT, TxDPS, and local government agencies along the border ("localities") figure prominently, along with other public agencies, private sector interests, and the State of Texas.

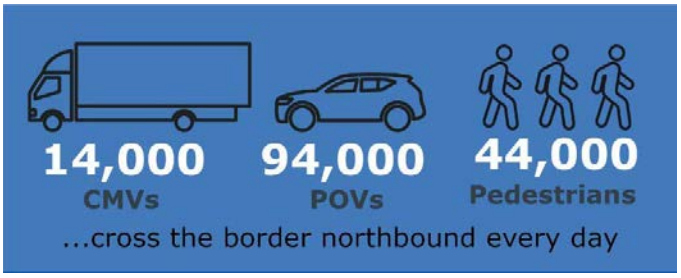
Recommendations are discussed throughout this report, and the following appendices catalog each recommended policy, program, and project:

- **Appendix C** lists data sources for project recommendations and other study elements.
- **Appendix E** lists all policy and program recommendations.
- **Appendix F** lists all project recommendations.

Chapter 2: Introduction

Importance of Texas-Mexico Border

The Texas-Mexico border is a complex environment stretching 1,254 miles along the path of the Rio Grande River and comprising 64% of the United States border with Mexico. Traffic in people and goods is large, growth in population and trade is continuous, and the economic effects and prospects for the region and the state are substantial. In 2023, 5.1 million CMVs crossed the Texas-Mexico border northbound, along with 34 million privately-owned vehicles (POVs) and 16 million pedestrians. These volumes equate to 14,000 CMVs, 94,000 POVs, and 44,000 pedestrians traveling northbound across the border into Texas every day.

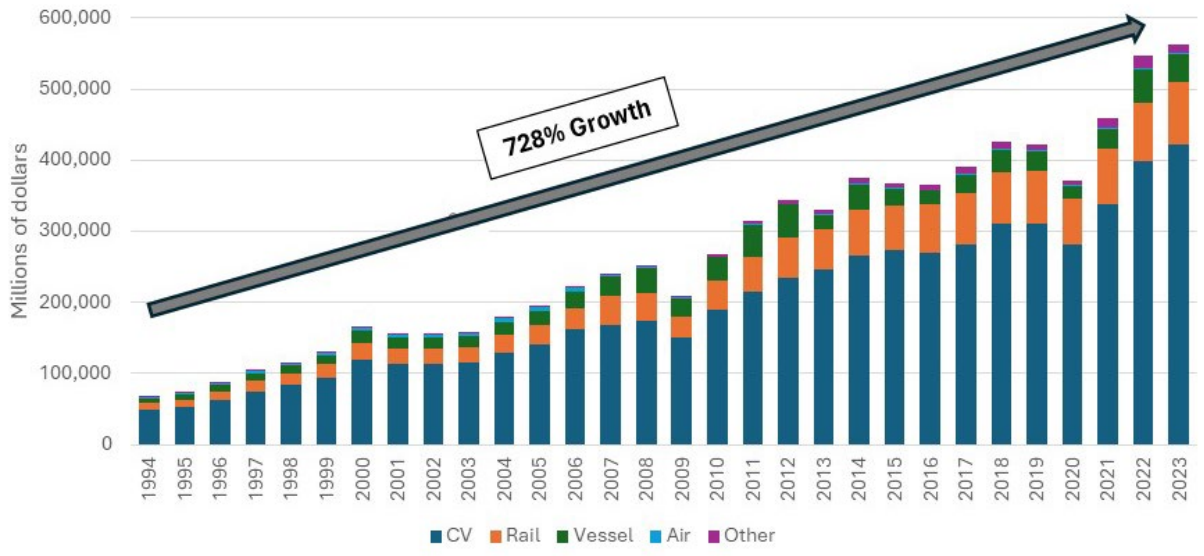


Population in the four Texas metropolitan statistical areas[1] (MSAs) along the border totaled 2.5 million people in 2023 according to the U.S. Census Bureau. Since 1990 – shortly before the North American Free Trade Agreement (NAFTA) took effect in 1994 – regional population has grown 80%, adding 1.1 million people. Regional employment grew by 560,000 jobs in the same 1990-2023 time period and grew 114% - more than doubling, according to the U.S. Bureau of Labor Statistics. In 2050, Texas-Mexico trade is expected to generate an associated 2.5 million jobs in Texas.[2]

U.S. merchandise trade with Mexico grew 696% since NAFTA, from $100 million in 1994 to $799 billion in 2023, according to the U.S. Bureau of Transportation Statistics. Texas-Mexico cross-border trade grew even faster at 728% over the same time period, reaching $562 billion in 2023 (**Figure 6**) with Texas processing 70% of the nation's trade with Mexico. CMVs crossing the border are carrying a diverse array of goods, ranging from machinery and automotive products to produce, beverages and fuels.

[1] Brownsville-Harlingen, El Paso, Laredo, and McAllen-Edinburg-Mission
[2] TxDOT 2024 International Trade Corridor Plan

Figure 6: Texas-Mexico Cross-Border Trade Since NAFTA



Source: TTI/Bureau of Transportation Statistics. TransBorder Freight Data. [TransBorder Freight Data (bts.gov)]

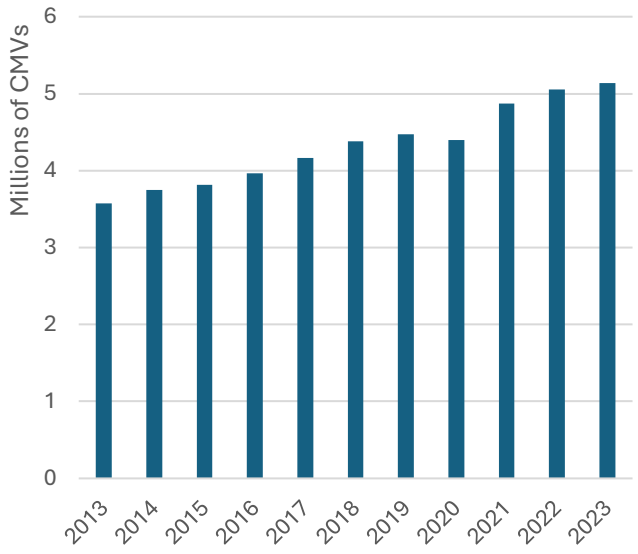
The economic impact of this trade in Texas is significant. U.S.-Mexico trade crossing the Texas-Mexico border by CMVs and rail brought $67.3 billion to state Gross Domestic Product (GDP) in 2019[3], and is expected to more than quadruple to $298.9 billion in GDP by 2050. Mexico represented one-third of all Texas international trade in 2023 at $272.2 billion: more than three times greater than the state's trade with Canada, and more than four times greater than trade with China, respectively the state's second and third largest trading partners that year.[4]

The growth trend in cross-border traffic has been vigorous. In the last 10 years (2013-2023), the number of northbound commercial vehicles has risen by more than 1.5 million or 44% (**Figure 7**). Recovery from the 2020 pandemic was rapid, buoyed by the passage of the U.S.-Mexico-Canada Agreement (USMCA) which went into effect in July of that year. The TxDOT Border Transportation Master Plan (BTMP) projected CMV volumes to increase

[3] TxDOT 2024 International Trade Corridor Plan
[4] U.S. Census State Imports and Exports 2023. The value of trade crossing the Texas-Mexico border exceeds the value of Texas trade with Mexico, because Texas crossings also carry traffic to and from other states.

more than two-and-a-half times by 2050, and if no improvements are completed, border crossing times could become as long as 13 hours. Further, since those projections were released in 2021, global industry in the post-pandemic period has continued to focus on supply chain risk reduction and nearshoring (locating production closer to consumption) as a means to accomplish it.

Figure 7: Northbound CMV 10 Year Trend



Source: TTI/Bureau of Transportation Statistics, Border Crossing Data, Border

Mexico is widely expected to be the chief beneficiary of nearshoring and became the largest trading partner of the United States for the first time in 2023 – as it already was for Texas - largely on the strength of northbound shipments. Laredo surpassed Los Angeles as the nation's top port for total value of trade in 2023, buoyed by the strength of its exports as well as its imports.[5] Expansion of nearshoring is viewed as a major economic opportunity among stakeholders, yet also a leading concern in the El Paso and Laredo regions, as the expected growth in cross-border CMV volumes must be managed for its effect on community safety, security and transportation efficiency.

Trucks queueing at border crossing, TxDOT

[5] U.S. Census Bureau

Importance of CMV Security and Safety at the Texas-Mexico Border

Border Security and Operation Lone Star

An analysis of security on the Texas-Mexico border is a key component of this study. Border security related to CMVs impacts not only the study area but the entire state of Texas. Texas shares a border with four Mexican states, each posing different security challenges at their respective border crossings: Chihuahua, Coahuila de Zaragoza, Nuevo Leon, and Tamaulipas.

Operation Lone Star (OLS) is a comprehensive, state-led initiative in Texas aimed at enhancing border security, reducing illegal border crossings, and addressing various public safety concerns along the Texas-Mexico border. This initiative involves coordinated efforts between multiple state agencies, including TxDPS, TMD, and other law enforcement entities. OLS is a multifaceted approach, combining law enforcement activities, enhanced surveillance and technology deployment, and community engagement and outreach efforts. The four focus areas of OLS are described in **Figure 8**.

The goal of this study is to enhance border security outcomes through ensuring safe, efficient, and streamlined CMV activity that supports overall OLS efforts. This report provides recommendations relative to border security, safety, and CMV connectivity to address OLS goals at international border crossings and within the 60-mile Texas study area (**Figure 2**).

Figure 8: Operation Lone Star Focus Areas

Statewide Activity

TxDPS is a statewide law enforcement agency responsible for ensuring public safety and providing various services to Texans. TxDPS response efforts include roadside inspections and inspections at fixed facilities at Texas-Mexico border crossing facilities. The following are some key roles of TxDPS:

The Commercial Vehicle Enforcement (CVE) division is a program within the Texas Highway Patrol. The CVE division is responsible for regulating and ensuring the safe operation of CMVs on Texas roadways. CVE officers inspect CMVs, including trucks, buses, and other large vehicles to ensure they comply with state and Federal safety and hazardous material regulations. These inspections focus on drivers and the mechanical components of vehicles such as brakes, tires, lights, and cargo securement, to ensure vehicles are safe to operate on public roads. They also enforce weight limits on CMVs to prevent overweight trucks from causing damage to roads and bridges. They use portable scales and permanent physical weigh stations to check the weight of vehicles, enforce compliance with weight restrictions, and verify CMVs are properly licensed and registered to operate within the state.

Figure 9: TxDPS Inspectors Conducting a CMV Inspection at Veterans International Bridge at Los Tomates

The State of Texas receives Motor Carrier Safety Assistance Program (MCSAP) funds, which are administered by the Federal Motor Carrier Safety Administration (FMCSA). This program aims to improve highway safety by providing grants to states to support CMV safety enforcement activities. Funded through MCSAP, states conduct safety inspections of CMVs, roadside inspections, compliance reviews of motor carriers, and other activities to ensure compliance with Federal safety regulations. In an effort to enforce the FMSCA Regulations, the Texas Administrative Code adopts these regulations for interstate drivers and vehicles. The director of TxDPS incorporates the FMCSA Regulations by reference, which are Title 49, Code of Federal Regulations Parts 40, 380, 382, 395-387, 390-393, and 395-397 as written through September 1, 2022, for intrastate drivers and vehicles.[6]

TxDPS is a member of the Commercial Vehicle Safety Alliance (CVSA), which is comprised of local, state, provincial, territorial, and Federal CMVs safety and industry officials. CVSA is the official organization responsible for development and distribution of training

[6] texreg.sos.state.tx.us

materials addressing the North American Standard Inspection process. CVSA works to ensure inspectors performing inspections and/or affixing CVSA decals are certified under a training program approved by CVSA. A CMV is eligible for a CVSA decal if it successfully passes a Level I, Level V, or Level VI Inspection. CVSA decals are valid for the month of issuance plus two additional months.[7]

CMV inspections are conducted by certified members of TxDPS who have successfully completed the approved CVSA training as described above. There are eight levels of inspection:

- Level I is a 37-step comprehensive inspection procedure of the driver and vehicle.
- Level II is a driver and walk-around vehicle inspection.
- Level III is a driver-only inspection.
- Level IV special inspections are a one-time examination of a particular item.
- Level V is a vehicle-only inspection.
- Level VI is a radioactive material inspection.
- Level VII is a jurisdictionally mandated inspection.
- Level VIII is an inspection conducted electronically or wirelessly.

During the inspection process, CMVs and their drivers may be placed out of service (OOS) if critical violations are discovered in systems such as brake systems, cargo securement, coupling devices, driveline/driveshaft, exhaust systems, frames, fuel systems, lighting devices (i.e. headlamps, tail lamps, stop lamps, turn signals and lamps/ flags on projecting loads), steering mechanisms, suspensions, tires, van and open-top trailer bodies, wheels, rims and hubs, and windshield wipers. The driver may also be placed OOS if they are found to be operating without the proper driver credentials, in possession of drugs or alcohol, or in violation of hours-of-service rules.

Roadside CMV inspections are the main focus for the TxDPS commercial vehicle enforcement program, which aims to ensure uniform, safe, and thorough inspections.[8] To ensure safety at the Texas-Mexico border, TxDPS has several goals, including:

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[7] www.cvsa.org
[8] https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/2022-09/Texas%20FY21%20Final%20CVSP.pdf

- Ensuring public safety and security
- Preventing premature and unnecessary deterioration of state highway infrastructure
- Ensuring CMV and driver compliance with state and Federal regulations
- Promoting vital and safe commerce both within Texas and throughout the United States

TxDPS inspections also occur at Texas-Mexico border crossing facilities to ensure the safe movement of cargo across the border.

County and Local Activity

Local law enforcement agencies play a critical role in ensuring CMV safety and security within their jurisdictions. They are often the first responders to incidents involving CMVs, including accidents, traffic violations, and suspicious activities. They play a vital role in enforcing traffic laws, conducting routine patrols, and identifying potential safety hazards posed by CMVs operating on local roads and highways. Some local law enforcement agencies have CVE certified officers, who have Memorandums of Understanding (MOUs) with TxDPS to conduct CMV inspections. The following local law enforcement agencies have jurisdiction including a CMV border crossing:

Local law enforcement agencies have jurisdiction within the 60-mile Texas border zone:

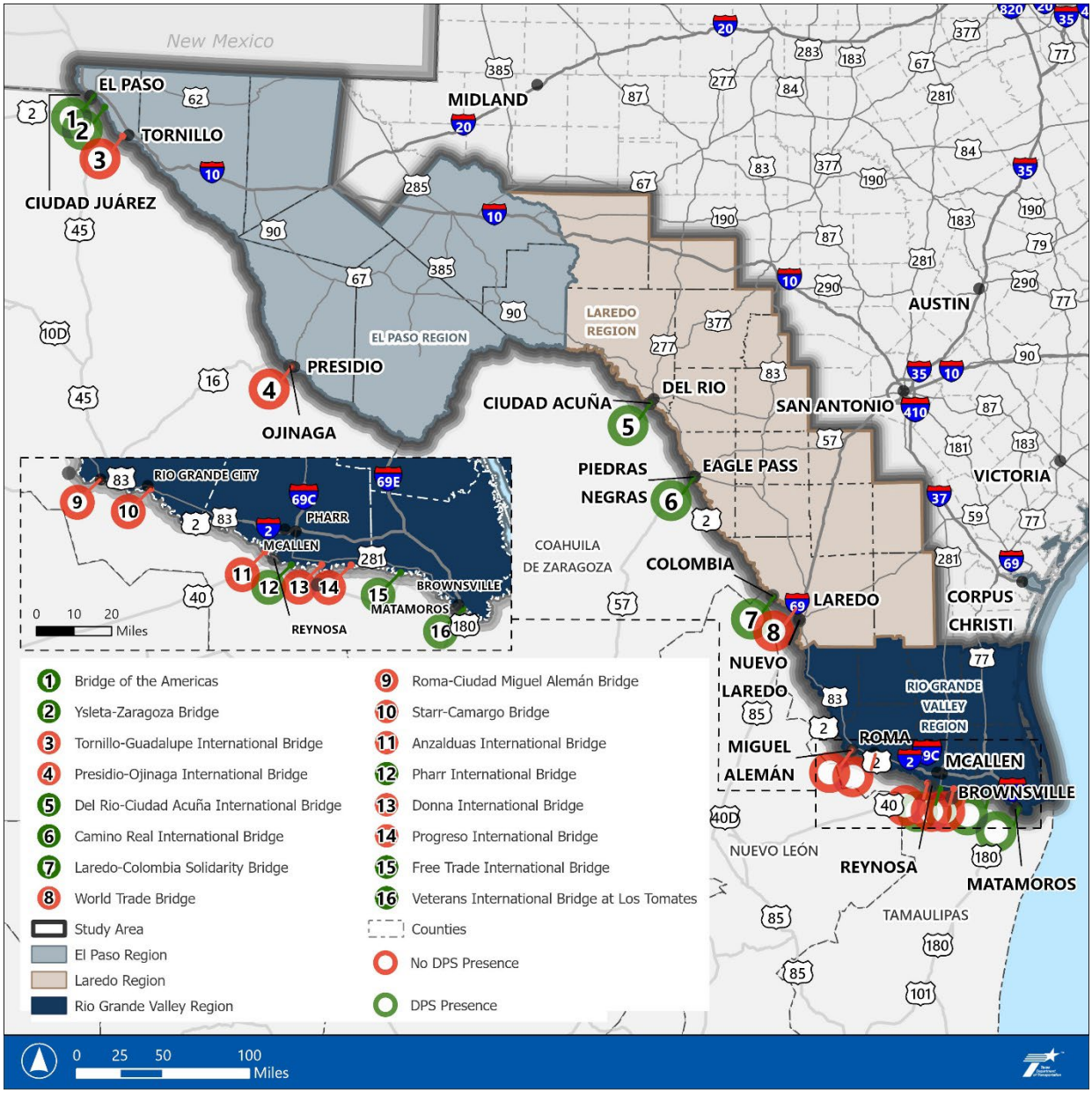
- El Paso County Sheriff's Office
- El Paso Police Department*
- Presidio County Sheriff's Office
- Presidio Police Department
- Val Verde County Sheriff's Office
- Del Rio Police Department
- Maverick County Sheriff's Office
- Eagle Pass Police Department
- Webb County Sheriff's Office
- Laredo Police Department*
- Starr County Sheriff's Office
- Roma Police Department
- Rio Grande City Police Department*
- Hidalgo County Sheriff's Office
- Mission Police Department*
- Pharr Police Department
- Cameron County Sheriff's Office
- Harlingen Police Department
- Brownsville Police Department*

*Local law enforcement agencies that have an existing Memorandum of Understanding (MOU) with TxDPS, allowing them to serve as local agents in CMV enforcement.

Commercial Motor Vehicle Border Crossings

Only 8 of the 14 northbound CMV border crossings have a TxDPS presence, as shown in **Figure 10**, and TxDPS is the only State of Texas entity with a presence at these facilities. Physical infrastructure and operational technologies are documented in this report for each of these State-owned facilities.

Figure 10: CMV Crossings with TxDPS Presence



Chapter 3: Transportation Efficiency

Border-wide Themes

Background

Cross-border CMV traffic reflects a logistics system operating in and through border communities. CMVs in communities move between freight facilities such as factories and warehouses located on either side of the border. Facility location shapes the selection of crossings and routes, while the stages of crossing involve hand-offs between freight carriers and transfers of trailers and cargo. The logistics of crossing are part of the challenge for efficient and streamlined CMV transportation, and for safe and secure operations in the communities that host them.

Northbound CMV border crossings involve several steps and often involve multiple drivers, CMVs, and trailers. **Figure 11** outlines the series of steps cargo takes when crossing northbound into Texas from Mexico.

3 Drivers of CMV Crossing Demand

Logistics Facilities:
Factories, warehouses, and carrier terminals create CMV traffic. U.S. and Mexican facilities are tied together in an interactive, interdependent binational supply chain logistics system.

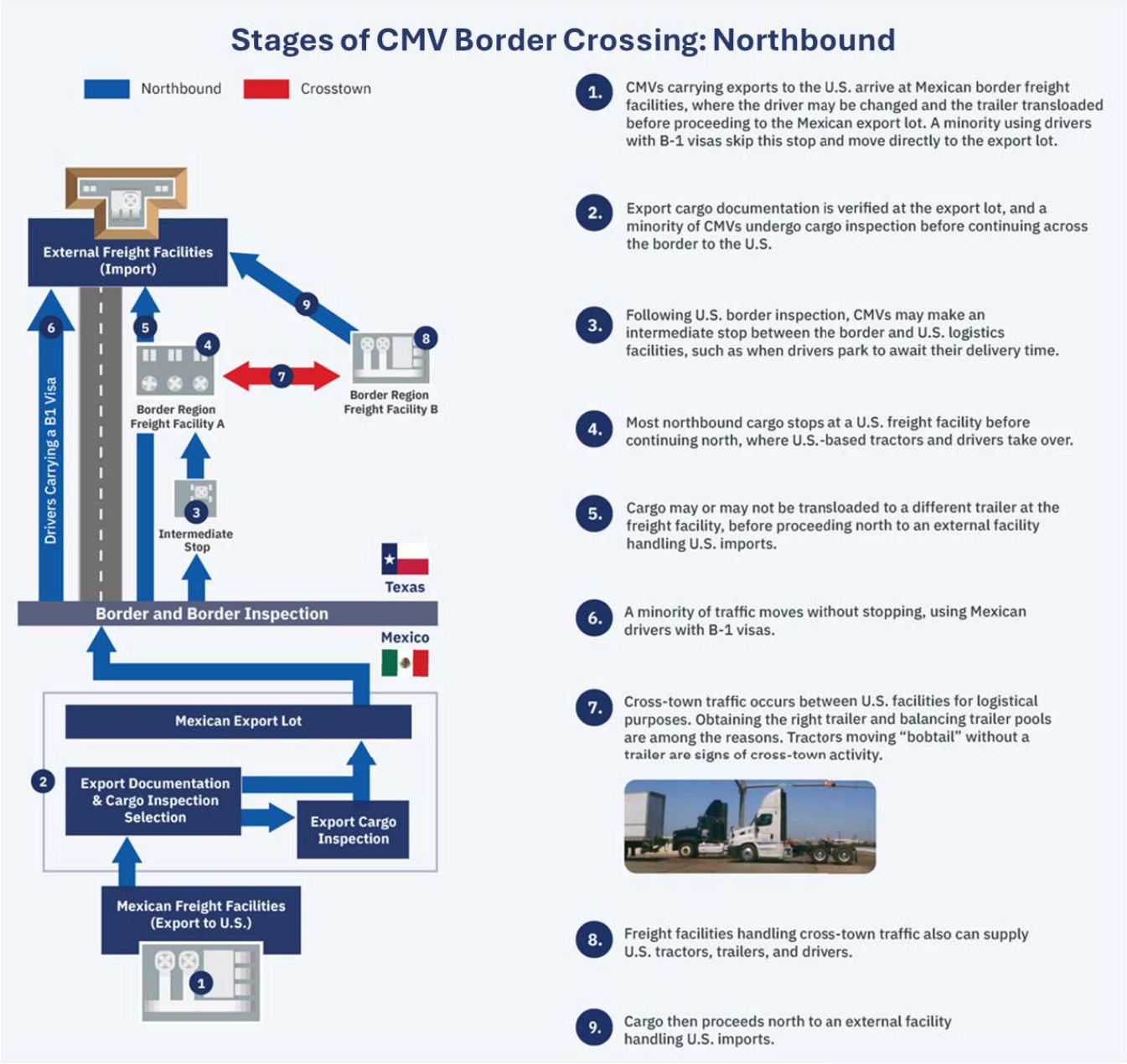
Routing:
Shippers and forwarders select CMV crossings and routes – not carriers. Decision factors include cost, productivity ("truck turns"), bridge ownership, inspection, enforcement, and conditions in Mexico.

Nearshoring:
Mexico is benefiting from post-pandemic business strategies to reduce supply chain risk by moving manufacturing closer to U.S. markets, accelerating cross-border traffic growth and aided by the USMCA.

Key Logistics Characteristics

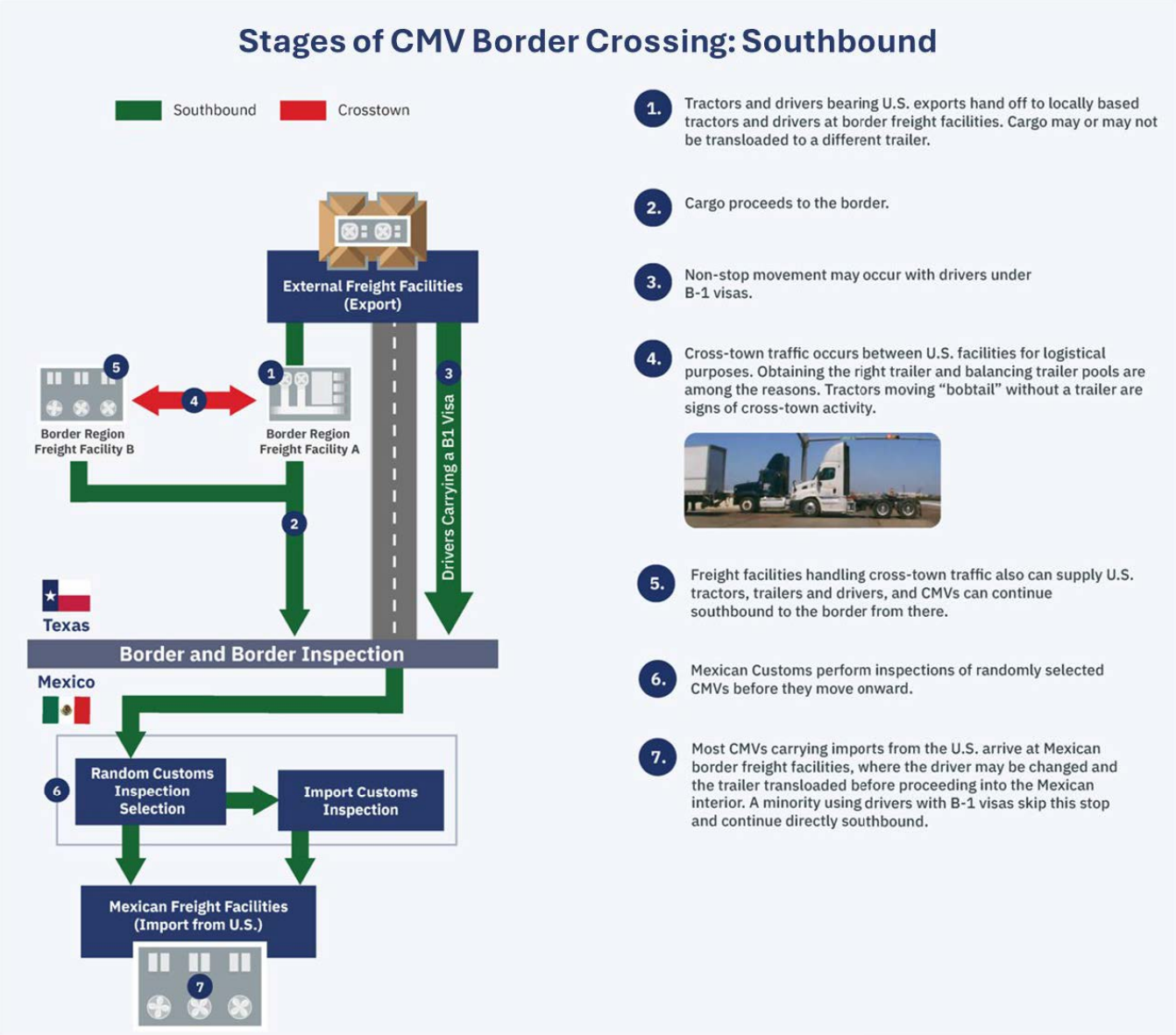
- Most CMVs crossing the border use locally based Mexican drivers crossing 2-3 times daily
- Delays in either direction affect the return trip.
- Same tractors and drivers pass through crossing stations repeatedly, but with different trailers
- Trailers are less likely than tractors to have monitoring technology

Figure 11: Stages of CMV Crossing: Northbound



Southbound CMV border crossings also involve several steps, sometimes including transfer to another driver, CMV, or trailer before beginning the crossing process. **Figure 12** outlines the series of steps cargo takes when crossing southbound into Mexico from Texas.

Figure 12: Stages of CMV Crossing: Southbound



Crossings and Communities

Most border crossings are located in the midst of Texas communities, reflecting a long history of daily interaction with towns across the border. Crossings were generally not located with an eye to managing high volumes of international trade in CMVs. Many are towns with small populations and correspondingly limited municipal resources. The largest is the city of El Paso, with nearly 700,000 people; the next largest, Laredo, is less than 40% of El Paso's size. The majority of border crossing communities have populations of less than 100,000—many of them much less.

Twelve out of sixteen CMV crossings are owned by Texas cities and counties, while the State of Texas owns Presidio-Ojinaga International Bridge. El Paso's Bridge of the Americas is owned by the International Boundary and Water Commission (a federal binational entity), while the Starr-Camargo Bridge in Rio Grande City and the Progreso International Bridge are privately owned. Northbound tolls are charged at the 14 northbound CMV crossings. The tolls accrue to the owners and contribute to city and county revenues for those in the public sector.

Needs and Challenges

Eight key transportation needs and challenges were identified by stakeholders and through data analysis.

Transportation Needs and Challenges Identified by Stakeholders

1. Effect of Boundaries and Ownership on System Efficiency
2. Disconnect of Routing Control from Real-Time Conditions
3. Alternate Routes: Types and Limitations
4. New Routes Proposed in All Border Regions
5. Significance of Local Roads
6. Fulfilling National Role with Local Budgets
7. Concern for Managing Growth
8. Specialized Cargo

1. Effect of Boundaries and Ownership on System Efficiency

Counties, municipalities, Mexican states, bridge owners and even criminal groups have separate jurisdictional boundaries and different incentives. These can be at cross-purposes, impeding the ability of border logistics to function as an efficient and secure binational system. Working Group members voiced a desire for broader coalition along the border in part to manage such issues.

2. Disconnect of Routing Control from Real-Time Conditions

The selection of border crossings and transportation routes is made by shippers, customs brokers, or freight forwarders. CMV drivers have limited flexibility to adjust when conditions are difficult. Crossing selection can take half a day or more to reset, undermining the usefulness of real-time information from sources like apps and variable message signs. Stakeholders speculate that industry players might agree to a generic border crossing option on customs paperwork which would add a degree of flexibility that does not exist today.

3. Alternate Routes: Types and Limitations

Alternative routes can be main routes supporting one another; local arterials offering options when preferred routes are compromised; routes developed or designated for main route relief; or routes enabling CMV diversion from neighborhoods. All border regions are employing these network strategies. Alternative routes are not managed in real time to redirect traffic, creating interest in a border-wide Border Communications Center (BCC) from stakeholders and the Working Group.[9] In addition, congestion and a lack of alternate routes can create impediments for emergency vehicles, which BCCs can help to manage; incidents involving hazardous materials are a case in point. Finally, patrol routes typically are not alternate routes but have an important function in local safety and security.

Inspection Station at Camino Real International Bridge, Source: HNTB

[9] The term Border Communications Center refers to recommended expansion of Traffic Management Centers (TMCs) to a border-wide scope and an enlarged role in coordinating with TxDPS in security and safety functions.

4. New Routes Proposed in All Border Regions

New routes of several types and purposes are proposed in all regions:

- Development of new interstate highways to improve efficiency and safety. Example: I-27 between Laredo, Eagle Pass and Del Rio.
- Planned new crossings. Example: Puerto Verde Global Trade Bridge in Eagle Pass, with a new SL 480 connection diverting CMVs from the town center.
- New crossings linked to fresh development in Mexico, improving binational system efficiency. Puerto Verde also is an example of this.

5. Significance of Local Roads

Two-thirds of the transportation network is owned and managed by counties and local communities

Local roads are the CMV access routes connecting to crossings in the majority of locations. They are routinely involved in the CMV crossing cycle and in the crosstown travel between freight facilities. The burden for developing connections falls to local agencies, even though these roads are part of a binational system.

6. Fulfilling National Role with Local Budgets

County and municipal budgets are inadequate to meet the growing demands of supporting national gateways, whether for transport or law enforcement. The nation benefits while border communities bear a disproportionate burden. Budgets are locally funded, shared with everyday needs like schools and sanitation, and are scaled to modest populations, not national logistics. Responsibility for two-thirds of the border road network nevertheless falls to border counties and communities.

7. Concern for Managing Growth

Managing expected growth from nearshoring is a looming concern for stakeholders in El Paso and Laredo, affecting efficient movement of goods, vehicle inspections, and safety. Nearshoring was less concerning in the Rio Grande Valley, due to multiple crossings and lower CMV congestion. In addition, private development of industrial facilities commonly occurs with limited engagement of local agencies, forcing them to respond after the fact rather than allowing them to proactively prepare for new CMV traffic.

8. Specialized Cargo

There are three categories of specialized cargo moving through the border region: Oversize, Overweight (OS/OW) and Hazardous Materials (HAZMAT). In order to move these shipments in the U.S., Mexican drivers are required to have training and background similar to drivers licensed in the U.S. Permits for moving OS/OW shipments are issued by individual border authorities or by the Texas Department of Motor Vehicles (TxDMV) for cargo moving beyond the border region. Differences in regulations between the U.S. and Mexico, as well as between Mexican states, can impede companies making alternate crossing decisions.

Routing for both OS/OW and hazardous shipments around the border areas varies in completeness and connectivity. The identification of the routing and the appropriate signage is inconsistent across the three zones. Similarly, **the availability of technology to detect violations at the border and outward within the zones is limited, non-operational or non-existing.**

Strategies and Recommendations

Transportation efficiency recommendations identified in the Texas border zone total over $28 billion with $1.6 billion in funding identified, leaving a funding need of $26.8 billion. The table below depicts funding requirements by time period.

Table 2: Identified Border-wide Transportation Efficiency Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$720,235,532	$285,489,065	$434,746,468
Short-Term (2-4 years)	$1,552,728,801	$660,277,862	$892,450,938
Medium-Term (4-10 years)	$8,631,849,430	$319,919,713	$8,311,929,717
Long-Term (10+ years)	$17,455,506,477	$339,961,553	$17,115,544,924
Grand Total:	**$28,360,320,240**	**$1,605,648,193**	**$26,754,672,047**

Transportation Efficiency Policy Recommendations

Policy strategies for the immediate term (0-2 years), short term (2-4 years), medium term (4-10 years), and long term (10+ years) related to transportation efficiency are summarized below, ordered by priority. In addition to the transportation-specific recommendations listed below, two overarching short-term recommendations were identified to address interdisciplinary issues at the Texas-Mexico border.

O01. Address Disproportionate Burdens

HIGH PRIORITY - SHORT TERM – LED BY STATE OF TEXAS, TXDOT, TXDPS, LOCALITIES, CBP, U.S. DEPT. OF HOMELAND SECURITY

Pursue, at every level, sources for standing funds that recognize the economic service provided by border communities, enabling them to perform effectively while reducing the adverse burdens they bear. Imbalance between local resources and national service is suboptimal for both.

O02. Strengthen Binational Coalitions Border-wide

HIGH PRIORITY - SHORT TERM – LED BY LOCALITIES

Strengthen, or form, coalitions to pursue funding with a unified voice. Border regions have needs in common. Coalition or federation could aid the pursuit of funds. Inclusion of law enforcement will build support for safety and security objectives.

E01. Asset Management

HIGH PRIORITY - SHORT TERM - LED BY TXDOT, LOCALITIES

Establish a border-wide asset management program to keep an inventory of existing State assets and their condition. Assets to be monitored and maintained include roads, ITS, TxDPS facilities, and TxDPS equipment.

E02. Border Communications Center-TxDPS Coordination

HIGH PRIORITY - IMMEDIATE TERM – LED BY TXDOT, TXDPS, LOCALITIES

Establish coordination between BCCs and TxDPS to ensure efficient and effective enforcement and response strategies. Interagency coordination between TxDPS and existing centers can begin now.

E03. Facility Access

HIGH PRIORITY - IMMEDIATE TERM - LED BY LOCALITIES

Ensure that industrial clusters with single points of access are provided with multiple access routes to prevent bottlenecks and ensure smooth traffic flow. Industrial facilities with diverse access prevent inefficiency and congested, unsafe conditions.

E04. HAZMAT Signage

HIGH PRIORITY - IMMEDIATE TERM - LED BY LOCALITIES, TXDOT

Incorporate hazardous materials (HAZMAT) considerations to existing signage programs to develop clear and effective signage, guide drivers, and improve safety on HAZMAT designated routes. Existing signage programs can be augmented to incorporate and ensure HAZMAT routing.

E05. Effective Crossing Capacity

HIGH PRIORITY - SHORT TERM - LED BY LOCALITIES, TXDOT, CBP, TXDPS

Explore methods to increase effective crossing capacity, such as by adding CBP and TxDPS staff, extending operational hours, and/or providing off-peak access to businesses to reduce congestion and improve efficiency.

E06. Right-of-Way Acquisition

HIGH PRIORITY - SHORT TERM - LED BY LOCALITIES, TXDOT

Acquiring new rights-of-way (ROW) facilitates the creation of new connections and routes. Securing rights-of-way ahead of time is a prudent policy in planning for growth.

E07. Directional Connectivity

MEDIUM PRIORITY - LONG TERM - LED BY LOCALITIES, TXDOT

Continue to develop new interstates and connecting routes that balance east-west and north-south connectivity to improve the overall transportation network and enhance CMV movement. New north-south routes serve crossings and avoid town centers; east-west routes connect them.

E08. BCC Communications

MEDIUM PRIORITY - MEDIUM TERM - LED BY TXDOT, TXDPS, LOCALITIES

Ensure that BCCs communicate with each other in real time and maintain open lines of communication with law enforcement agencies, cross-border commercial operators, and the shipping community. This will allow shippers and brokers to be more flexible and responsive to changing conditions.

E09. Routing Flexibility

MEDIUM PRIORITY - MEDIUM TERM - LED BY US DEPT. OF HOMELAND SECURITY, LOCALITIES

Enable flexibility in border crossing assignments by shippers and customs brokers, allowing drivers to choose alternative crossings in the event of closures or significant congestion. CMV drivers cannot change route rapidly. Stakeholders urge new methods to introduce flexibility.

E10. Monitor HAZMAT Trends

MEDIUM PRIORITY - IMMEDIATE TERM - LED BY TXDOT

Monitor trends to identify and enforce designated HAZMAT corridors, ensuring that these routes are optimized for safety and efficiency. HAZMAT traffic trends indicate where designated corridors are adequate or need improvement.

E11. Study Toll Policy

MEDIUM PRIORITY - SHORT TERM - LED BY TXDOT, LOCALITIES

Study effect of tolling policies at individual crossings on network performance and supply chain impacts. Can toll policies bring efficiency while protecting toll revenues for the owners of crossings?

E12. HAZMAT Route Redundancy

MEDIUM PRIORITY - MEDIUM TERM - LED BY LOCALITIES, TXDOT

Provide redundant HAZMAT routing options in areas prone to congestion and where the presence of HAZMAT is prevalent to enhance safety and reliability. Redundant CMV routes are especially important for community safety when HAZMAT is present.

E13. CMVs & General Mobility

MEDIUM PRIORITY - IMMEDIATE TERM - LED BY LOCALITIES

Recognize that initiatives improving passenger and pedestrian mobility can provide benefits for CMV operations.

Transportation Efficiency Program Recommendations

Programmatic strategies for the immediate term (0-2 years), short term (2-4 years), medium term (4-10 years), and long term (10+ years) related to transportation efficiency are summarized below, ordered by priority. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple specific infrastructure projects, listed in **Appendix F**.

E14. New CMV Routes

HIGH PRIORITY - $5,070.2M NEED - LED BY LOCALITIES, TXDOT

Develop new routes for CMVs crossing the border that avoid densely populated areas, improve connectivity, and reduce congestion and risk to residents. Most crossings lead into town centers. All regions have active strategies to redirect CMV traffic.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
4 projects, $69.5M	5 projects, $162.4M	12 projects, $1,013.3M	32 projects, $3,825.0M

E15. New & Improved Interstates

HIGH PRIORITY - $10,743.6M NEED - LED BY TXDOT

Prioritize the development and completion of key interstate projects such as I-10, I-35, I-27, I-2, and I-69 to improve regional connectivity and support economic growth. Interstates provide high capacity, safe and efficient CMV routes for a streamlined system.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $61.1M	3 projects, $675.0M	31 projects, $4,414.1M	31 projects, $5,593.4M

E16. CMV Lanes

HIGH PRIORITY - $9,832.1M NEED - LED BY TXDOT, LOCALITIES

Design and construct CMV-friendly lanes that feature wider shoulders, provide separation from passenger activity, and facilitate cross-town CMV traffic. Lanes designed for CMVs streamline movement, support safety, allow space for law enforcement.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $1.1M	2 projects, $53.0M	55 projects, $2,693.6M	147 projects, $7,084.4M

E17. Border-wide BCCs

HIGH PRIORITY - $191.0M NEED – LED BY TXDOT, TXDPS, LOCALITIES

Expand Border Communications Centers (BCCs) to cover the entirety of the border and include dedicated monitoring of CMV traffic for better oversight and control. BCCs border-wide bring visibility into CMV activity for security and operations management. Includes capital and operating costs.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 effort, $191.0M	-

E18. New & Expanded CMV Crossings

HIGH PRIORITY - $915.2M NEED - LED BY PRIVATE ENTITIES, LOCALITIES, TXDOT

Establish new CMV border crossings that facilitate the separation of commercial and passenger traffic, promoting smoother cross-border transport and encouraging/reflecting commercial development in new areas on both sides of the border. New crossings create alternate routes and respond to demands from new development.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $303.0M	-	-	4 projects, $612.2M

E19. HAZMAT Routing

MEDIUM PRIORITY - $1.5M NEED - LED BY TXDOT

Develop a study to identify needs and expand authorized routing for HAZMAT and oversize/overweight (OS/OW) cargo to ensure safe and efficient transport of these types of goods. A study of authorized routing can identify systematic ways to perform safely and efficiently.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 study, $1.5M	-	-

E20. Permits Clearinghouse

MEDIUM PRIORITY - $0.6M NEED - LED BY TXDMV, LOCALITIES

Create a centralized electronic clearing house for OS/OW border permits accessible to law enforcement. Permits are issued by multiple agencies. Centralized information would assist law enforcement.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 effort, $0.6M	-	-

E21. Study Permit Harmonization

MEDIUM PRIORITY - $0.5M NEED - LED BY TXDMV, LOCALITIES

Develop a planning study to harmonize the permitting systems for OS/OW cargo across different issuing agencies at the border to streamline processes and reduce delays. Harmonization of permitting could aid efficiency if issuing agencies can find areas of agreement.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	-	1 study, $0.5M

El Paso Region

Background

Situated on the border with the State of New Mexico and the state of Chihuahua, Mexico, the El Paso region (ELP) hosts four border crossings that service CMVs: (1) Bridge of the Americas (BOTA) (El Paso County), (2) Ysleta-Zaragoza Bridge (El Paso County), (3) Tornillo-Guadalupe International Bridge (El Paso County) and (4) Presidio-Ojinaga International Bridge (Presidio County). The first three are all within reasonable proximity to each other and the City of El Paso. Within the El Paso region, roadway terrain is generally level. The primary exception to this is Loop 375 between Canutillo and northeast El Paso, where the regional expressway traverses through the Franklin Mountains and Franklin Mountain State Park. The other exception is US 67 accessing Presidio, which traverses the Chinati Mountains between Presidio and Marfa, Texas.

Of the three border crossings near El Paso, Ysleta-Zaragoza Bridge yields the most cross border CMV production with 640,667 northbound crossings in 2023, more than 7 times the next busiest CMV crossing in the El Paso region, BOTA (89,772 in 2023) and more than 50 times the production of CMV annual processing of Presidio (11,395 in 2023). Ysleta-Zaragoza Bridge has several key attributes that make it attractive: (a) it is closer to the El Paso outskirts, truck servicing facilities, parking, staging and key arterials than the other crossings; (b) the Pan American Drive entry routing provides nearly 4 miles of queueing capacity off of major interstates; (c) truckers have easier connectivity options northbound and southbound entering / exiting Ysleta-Zaragoza International Bridge than BOTA; and (d) the services for trucks and freight staging on the Mexican side closest and most concentrated to the Ysleta-Zaragoza Bridge.

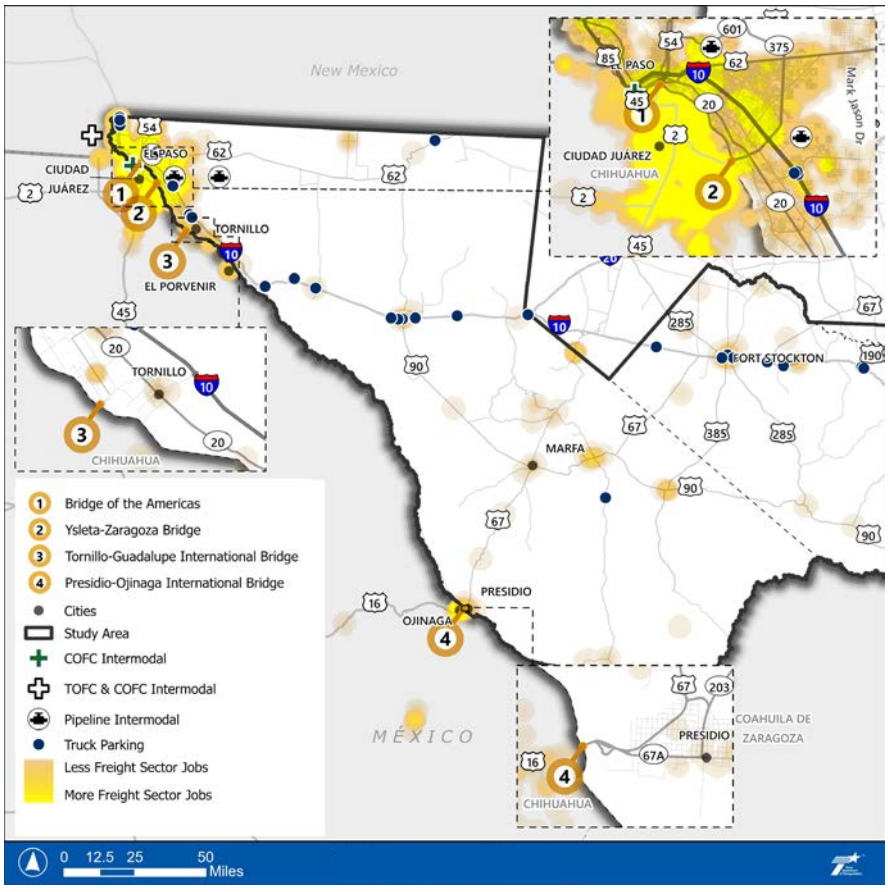
Figure 13: CMV Crossings in the El Paso Region

El Paso Region Freight and CMV Activity

The concentration of freight-related jobs, employment and establishments aligns very closely with the city limits of El Paso and the region directly within and outside of the Loop 375 corridor, as shown in **Figure 14.** Other, less dense concentrations of freight-related economic activity are along I-10 and at intersections between state highways. All the operational multimodal facilities in the El Paso region are related to pipelines. Union Pacific Railroad owns a dormant trailer on flatcar (TOFC) and container on flatcar facility (COFC) located in El Paso; all operations formerly run here have been moved to Santa Teresa, New Mexico.

Figure 14 also aligns with the availability of truck services in the El Paso region. On the west side of El Paso, major truck travel centers (truck stops) in the El Paso region are located in Anthony, Texas at the Antonio Street Exit from I-10. Likewise, east of El Paso, Love's, Flying J and Petro are each located off Horizon Boulevard adjacent to I-10. Other heavy truck servicing, diesel and repair businesses are located along the I-10 corridor, I-375 and principal arterials and collector roads within El Paso. On the Mexican side, the extensive yellow shading in **Figure 14** exposes extensive motor freight sector jobs with very close proximity to the Ysleta-Zaragoza border crossing. The proximity of these services, jobs and good connectivity to Loop 375 and I-10 on the outskirts of the City of El Paso greatly enhances the attractiveness of Ysleta-Zaragoza as the first choice for CMV crossings.

Figure 14: Freight Terminals, Freight-Related Employment, and CMV Parking Facilities – El Paso Region



Source: TxDOT, USDOT, Data Axle (US employment); INEGI (Mexico employment)

As shown in **Figure 15** evidence of the two-stage CMV travel patterns permeate traffic data[10] in the El Paso region. In particular, Mexican truckers serving as drayage providers across the border in both the north and southbound direction only travel a short distance within the United States when traveling across the border northbound. On average, for northbound trucks crossing the border, the first stop is less than 15 miles from the border crossing at all border crossings. Service patterns that are occurring include the transloading of freight from one trailer or container to another as well as the dropping of one loaded trailer and hooking (picking up) of an empty or loaded trailer for the driver's return backhaul.

Stops at Freight Facilities

- Concentrated in the El Paso Metro area
- Parallel to I-10
- Outliers include Presidio, Fabens, Marfa, Fort Stockton

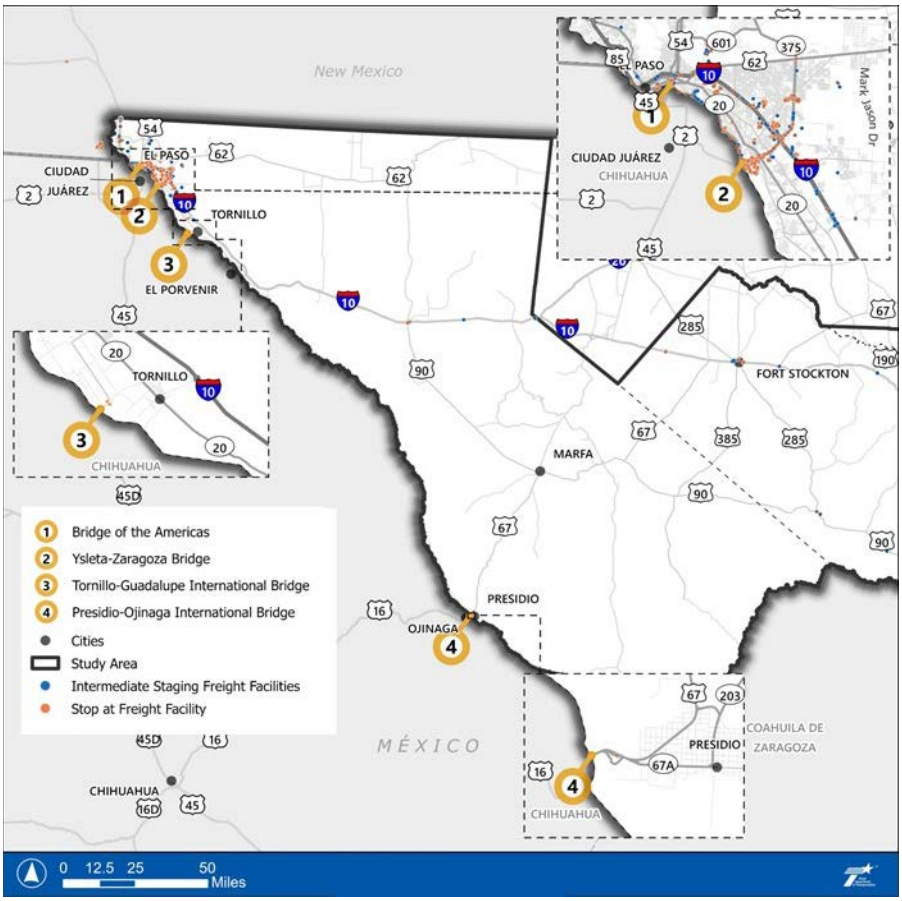
Intermediate / Parking Stops

- Along Loop 375
- Adjacent / near I-10
- 1st stop < 15 miles border on average
- 2nd stop < 30 miles from border on average
- Similar Southbound / Northbound patterns

Why It Matters

- These locations can be focus areas for security-related monitoring and truck parking

Figure 15: CMV Stops at Freight Facilities and Intermediate Staging Stops – El Paso Region

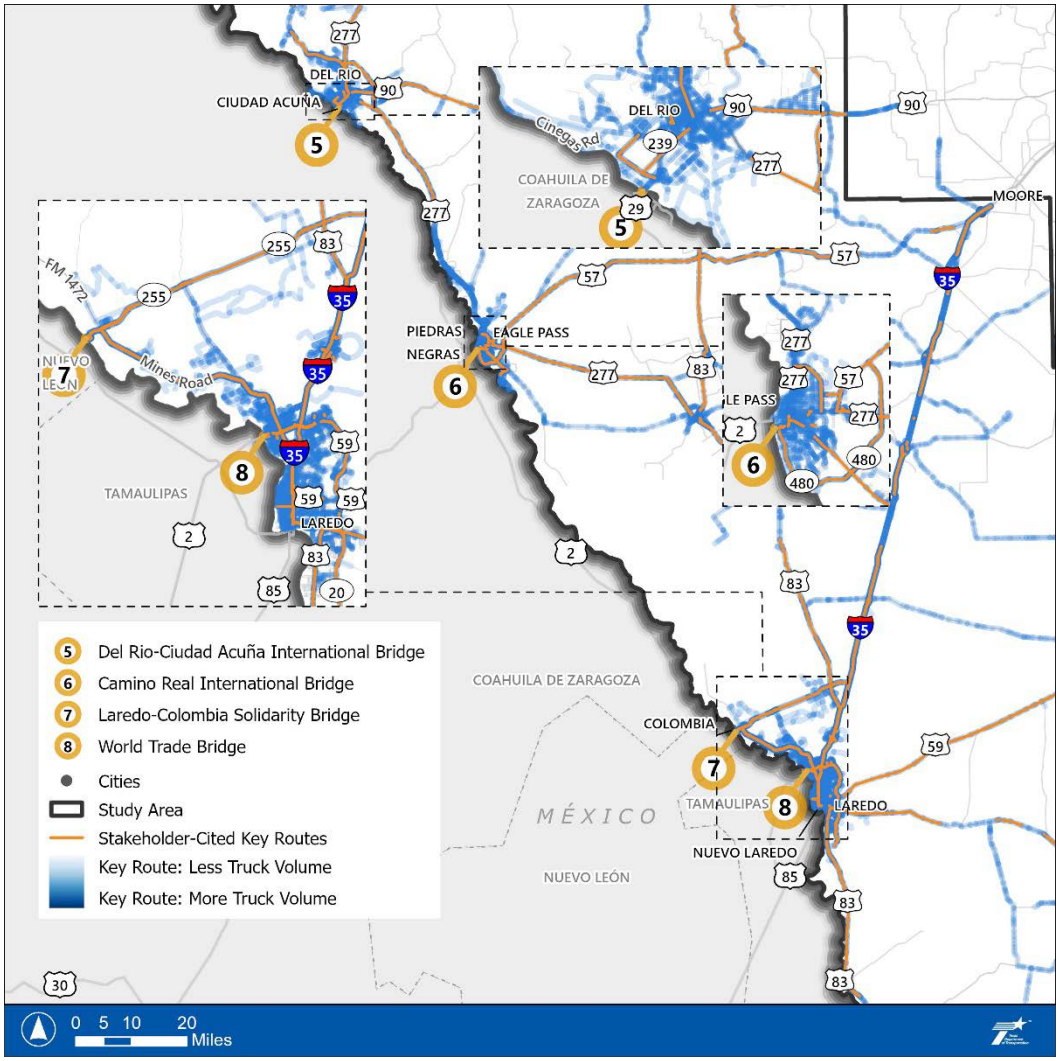


Source: WSP Analysis of 2022 INRIX Trip Path Data

[10] The data are not capturing stops in Presidio due to limited coverage in a relatively low volume area. CMVs do make stops in Presidio, typically within a few miles of the crossing.

All functional roadway classes, and in many cases roads and streets controlled by local government, play a critical role in servicing CMV international trade. Moreover, the El Paso region network use is not confined to CMVs using border crossings in the El Paso region as significant volume comes into and out of the El Paso region from border crossings all across Texas and at nearby Santa Teresa in New Mexico. **Figure 16** corroborates these conclusions with both direct stakeholder feedback and data, where in almost every instance, the key routes identified through Working Group and stakeholder interviews align with those highlighted in the INRIX data.

Figure 16: Key CMV Routes – El Paso Region



Source: WSP Analysis of 2022 INRIX Trip Path Data

Needs and Challenges

Mobility

The El Paso region generally has good connectivity and alternate routes for drivers to choose from when congestion occurs. To the extent congestion occurs near Loop 375, drivers are much more able to avoid local roads and use interstates or primary arterials roadways to bypass congestion. This is less true when CMVs are east of Loop 375 along I-10, where frequent congestion offers no alternative than to either stay on I-10 or travel a local arterial. The same pattern applies west of El Paso, where I-10 parallels the Franklin Mountains.

Recurring Delay
(congestion predictably occurs)

- Loop 375 immediately west of Ysleta-Zaragoza bridge – both directions
- I-10 between BOTA and Ysleta-Zaragoza
- Loop 375 intersection with US 62
- I-10 / US 54 Interchange
- I-110 Southbound to BOTA
- Certain I-10 segments east of Tornillo

Non-Recurring Delay
(frequent unexpected delay)

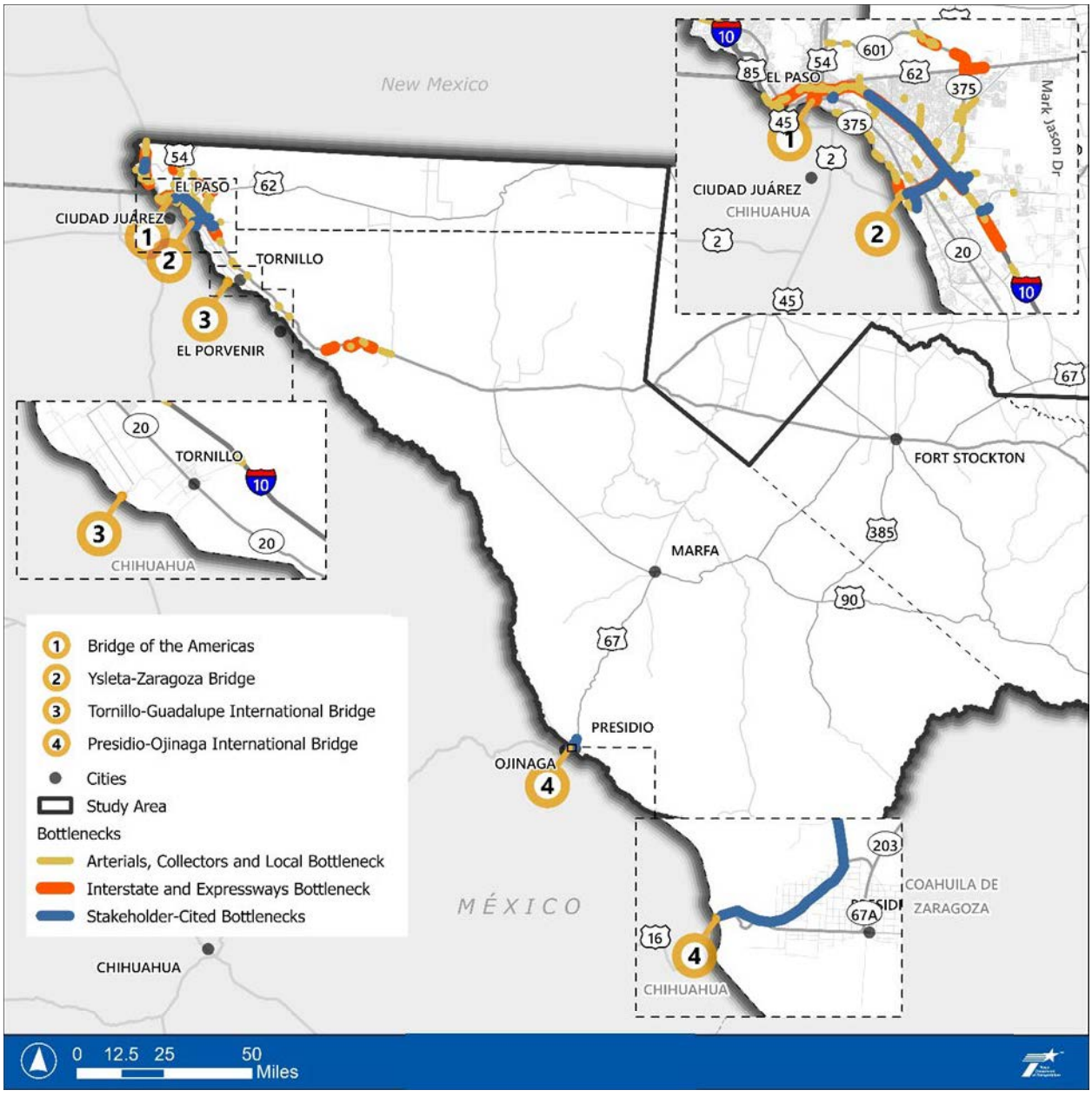
- Many overlapping locations with recurring delay
- I-10 through downtown El Paso toward New Mexico
- I-10 segments east of loop 375

As **Figure 17** shows, traffic congestion data and stakeholder input on key bottleneck locations generally align in the El Paso region.

2019 Average NB Crossing Time (minutes)

Source: TxDOT Border Transportation Master Plan, 2021

Figure 17: CMV Bottlenecks – El Paso Region



Source: WSP Analysis of INRIX XD Data

CMV-Involved Crashes

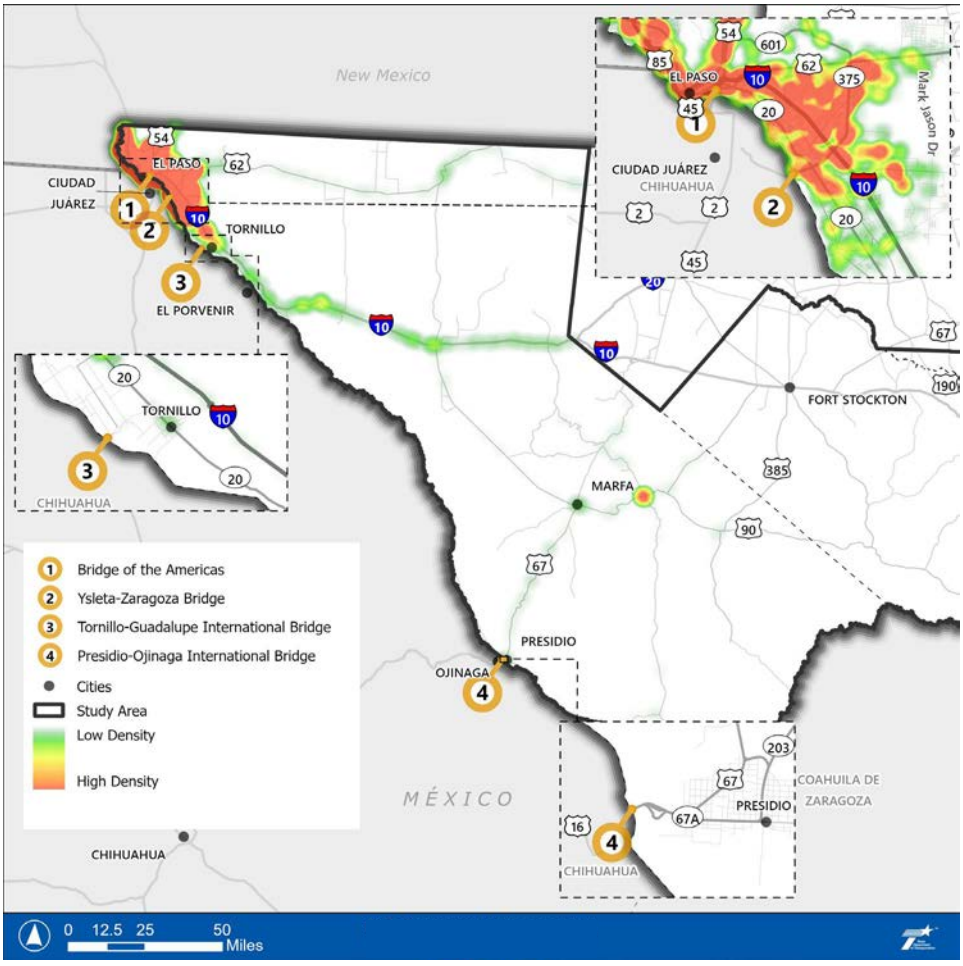
Areas of present safety concerns and locations where recommendations relating to TxDPS presence and roadway design considerations apply can be highlighted by an analysis of CMV-related crashes. Understanding crash severity, change over time, location, vehicle type, and contributing factors of crashes are essential to understanding how and why CMV-related crashes affect the El Paso region.

Crashes in the El Paso region increased from 2018 to 2023, totaling 98,743 crashes over the entire period and peaking in 2023 at 19,067 crashes. On average, this region accounts for 29% of crashes in the Texas border zone regions (El Paso, Laredo, and Rio Grande Valley).

Most CMV-involved crashes in this region resulted in no injuries (73%). It is important to note that over this six-year period, 565 CMV-related crashes resulted in fatalities. Consistent with the increase in total crashes, the total number of fatalities also increased over time, rising from 89 in 2018 to 102 in 2023; fatalities in the El Paso region peaked in 2021 at 115.

CMV-related crashes are the most prevalent on major roadways and highways, with I-10 accounting for 16,525 crashes in the El Paso region, or 17% of all crashes in the El Paso region (**Figure 18**). SH 20,

Figure 18: CRIS Crash Data (CMV-Involved Only) – El Paso Region

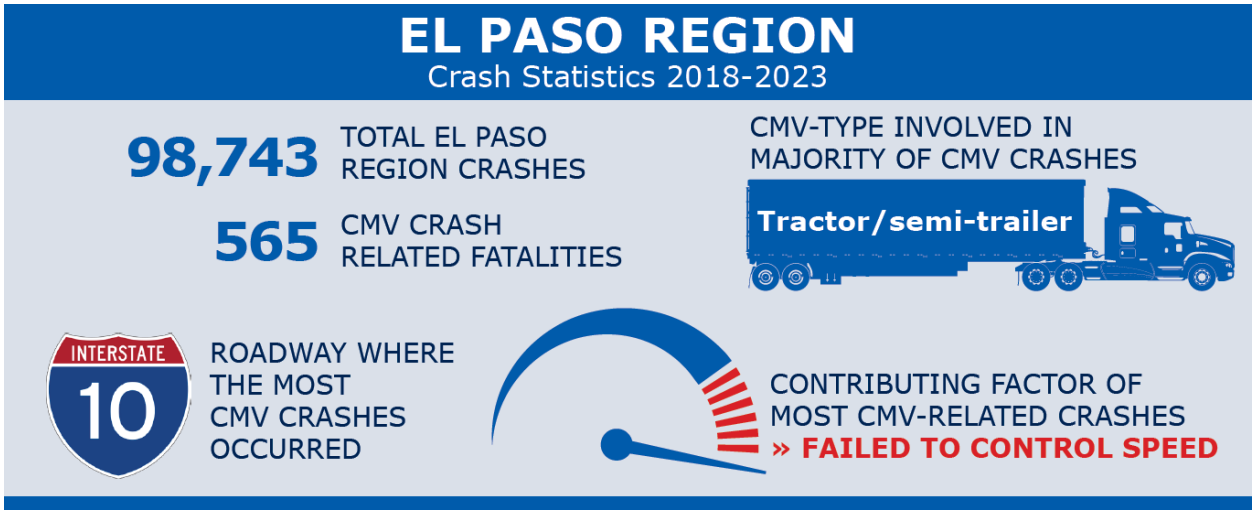


Source: TxDOT Crash Record Information System, Accessed 2024

SL 375, and US 62 are other roadways with the highest share of CMV-related crashes, combining for an additional 17% of crashes. Crashes along I-10 and US 62 are also increasing in frequency, demonstrating a need for roadway and safety considerations. The image below pictures a heat map of all CMV crashes in the El Paso region.

The majority (95%) of CMV-vehicle type data is reported as 'No Data'; however, the most prevalent CMV-type for reported crashes is 'tractor/semi-trailers,' accounting for 5,643 crashes between 2018 and 2023.

'Failed to Control Speed' is the most common contributing factor for CMV-related crashes in the region, totaling 24,951 crashes, or 25% of the total. Other common contributing factors in CMV-related crashes include 'Driver Inattention,' 'Changed Lane When Unsafe,' and 'Failed to Yield Right of Way-Turning Left.'



The maps below picture CMV-involved crashes within a two-mile radius of border crossings throughout the El Paso region.

Figure 19: CMV-Involved Crashes within a Two-Mile Radius of Bridge of the Americas

Figure 20: CMV-Involved Crashes within a Two-Mile Radius of Presidio-Ojinaga International Bridge

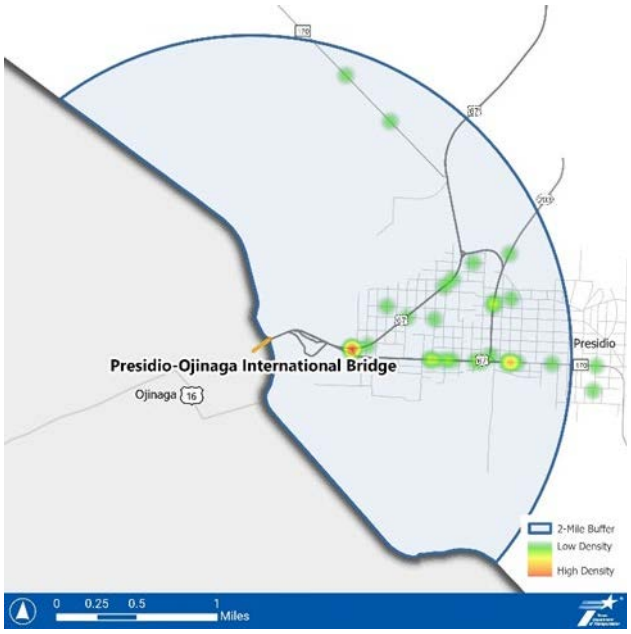


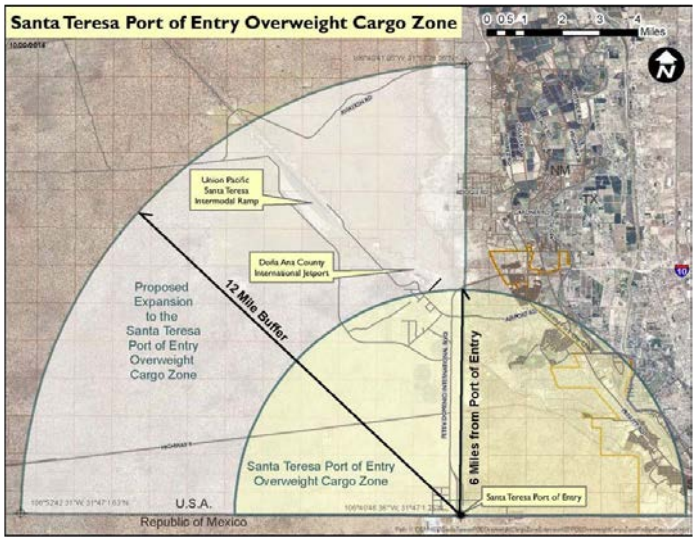
Figure 21: CMV-Involved Crashes within a Two-Mile Radius of Tornillo-Guadalupe International Bridge

Figure 22: CMV-Involved Crashes within a Two-Mile Radius of Ysleta-Zaragoza Bridge

Specialized Cargo

Within the El Paso region, Santa Teresa/San Jeronimo in New Mexico is designated as the OS/OW crossing for the El Paso region. Situated 42 miles south of Las Cruces, the second-largest city in New Mexico, this border crossing is located just a 20-minute drive from El Paso, Texas. Critically, Santa Teresa is a land crossing, not a bridge over the river; this makes it the preferred OS/OW route. The next closest OS/OW bridge to the City of El Paso is Presidio-Ojinaga International Bridge located 277 miles away on US roads and approximately 390 miles away if traversing roads within Mexico.

Figure 23: Santa Teresa Overweight Cargo Zone



Surrounding both the Santa Teresa and Columbus crossings is a 12-mile overweight cargo zone that offers a unique advantage for trucks entering New Mexico from Mexico (**Figure 23**). This zone allows these trucks to carry cargo weighing up to 96,000 pounds, facilitating the efficient transportation of goods across the border. Although Santa Teresa is not in Texas, it functions as part of the El Paso Port of Entry.

Strategies and Recommendations

Recommendations identified in the El Paso region total nearly $6.9 billion with $500 million in funding identified, leaving a funding need of $6.34 billion. As **Table 3** shows, 45% of immediate and short-term (0-4 years) recommendations have identified funding. Medium term (5-10 years) and long term (beyond 10 years) recommendations have no funding sources specified.

Table 3: Identified El Paso Region Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$0	$0	$0
Short-Term (2-4 years)	$1,098,769,068	$500,000,000	$598,769,068
Medium-Term (4-10 years)	$4,147,939,434	$0	$4,147,939,434
Long-Term (10+ years)	$1,631,361,374	$0	$1,631,361,374
Grand Total:	**$6,878,069,876**	**$500,000,000**	**$6,378,069,876**

Not included in the figures above in **Table 3** are projects that are under construction or are fully funded. In the El Paso region, there are projects under construction and others fully funded in the 2025 UTP that could potentially benefit CMV routes and transportation efficiency in the area. These projects span short-to long-term efforts. Highlights include, but not are limited to:

- The widening of portions of I-10,
- The widening of SL 375,
- The reconfiguration of US 62 to a Super-2 highway, and,
- The upgrade of roadways, such as FM 1110, that connect I-10 with SH 20.

Among projects that have not been fully funded and are being planned in the short term, the primary and largest scope project that accounts for the great majority of planned work over the next 1-4 years in the El Paso region involves expanding I-10 between FM 1966 and .5 miles east of Campbell Street from 3/5 lanes in each direction to 5/7 lanes. In addition, the project will add 2-lane frontage roads in each direction, improve on-ramps and operations as well as add bike and pedestrian paths. This project is intended to relieve congestion through a key highway corridor running directly through central El Paso.

For medium term planned projects, much of the project value is programmed to enhance I-10, including extensive lane widening, frontage road additions, adaptive lanes,

intersection improvements, flyovers, transit lanes as well as bike / pedestrian amenities. Likewise for El Paso region planned projects for the long term, multiple projects above $100 million in value are for I-10. Widening US 67 and upgrading to super-2 configuration is the highest value long term project at $332 million. US 67 at Presidio is the only highway for 60 miles and alternative routing is not defined in this project; paving the unpaved portions of FM 169 to the east and possibly FM 2810 to the west could create emergency relief routes in the view of local stakeholders, although these concepts would require further evaluation.

Importantly, TxDOT has allocated funding for many smaller projects on various highways in the region across the short, medium and longer term. This includes a wide range of scopes including but not limited to rail / highway grade separations, interchange reconfigurations, lane widening and new connections.

Transportation Efficiency Program Recommendations – El Paso Region

The 13 policy recommendations identified in the Border-wide Themes section also apply to the El Paso region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the El Paso region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple specific infrastructure projects, listed in **Appendix F**.

E14. New CMV Routes

HIGH PRIORITY - $465.9M NEED - LED BY LOCALITIES, TXDOT

Unfunded needs within the El Paso region include seven capital projects and two corridor studies in Alpine and Presidio.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	6 projects, $415.4M	3 projects, $50.5M

E15. New & Improved Interstates

HIGH PRIORITY - $3,380.3M NEED - LED BY TXDOT

Prioritize the development and completion of key interstate projects on I-10 to improve regional connectivity and support economic growth. Interstates provide high capacity, safe and efficient CMV routes for a streamlined system.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	2 projects, $588.1M	13 projects, $2,216.0M	4 projects, $576.3M

E16. CMV Lanes

HIGH PRIORITY - $2,467.3M NEED - LED BY TXDOT, LOCALITIES

Design and construct CMV-friendly lanes that feature wider shoulders, provide separation from passenger activity, and facilitate cross-town CMV traffic. In El Paso, I-110 is an example corridor.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 project, $10.0M	38 projects, $1,452.9M	17 projects, $1,004.4M

E17. Border-wide BCCs

HIGH PRIORITY - $63.7M NEED – LED BY TXDOT, TXDPS, LOCALITIES

Expand Border Communications Centers to cover the entirety of the border and include dedicated monitoring of CMV traffic for better oversight and control. BCCs border-wide bring visibility into CMV activity for security and operations management. Includes capital and operating costs.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 effort, $63.7M	-

E18. New & Expanded CMV Crossings N/A

There are no planned new CMV crossings in the El Paso region.

E19. HAZMAT Routing

MEDIUM PRIORITY - $0.5M NEED - LED BY TXDOT

Develop a study to identify needs and expand authorized routing for hazardous materials (HAZMAT) and oversize/overweight (OS/OW) cargo to ensure safe and efficient transport of these types of goods. Study cost split evenly across three regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 study, $0.5M	-	-

E20. Permits Clearinghouse

MEDIUM PRIORITY - $0.2M NEED - LED BY TXDMV, LOCALITIES

Create a centralized electronic clearing house for OS/OW border permits accessible to law enforcement. Permits are issued by multiple agencies. Study cost split evenly across three regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 effort, $0.2M	-	-

E21. Study Permit Harmonization

MEDIUM PRIORITY - $0.2M NEED - LED BY TXDMV, LOCALITIES

Develop a planning study to harmonize the permitting systems for OS/OW cargo across different issuing agencies at the border to streamline processes and reduce delays. Harmonization of permitting could aid efficiency. Study cost split evenly across regions.

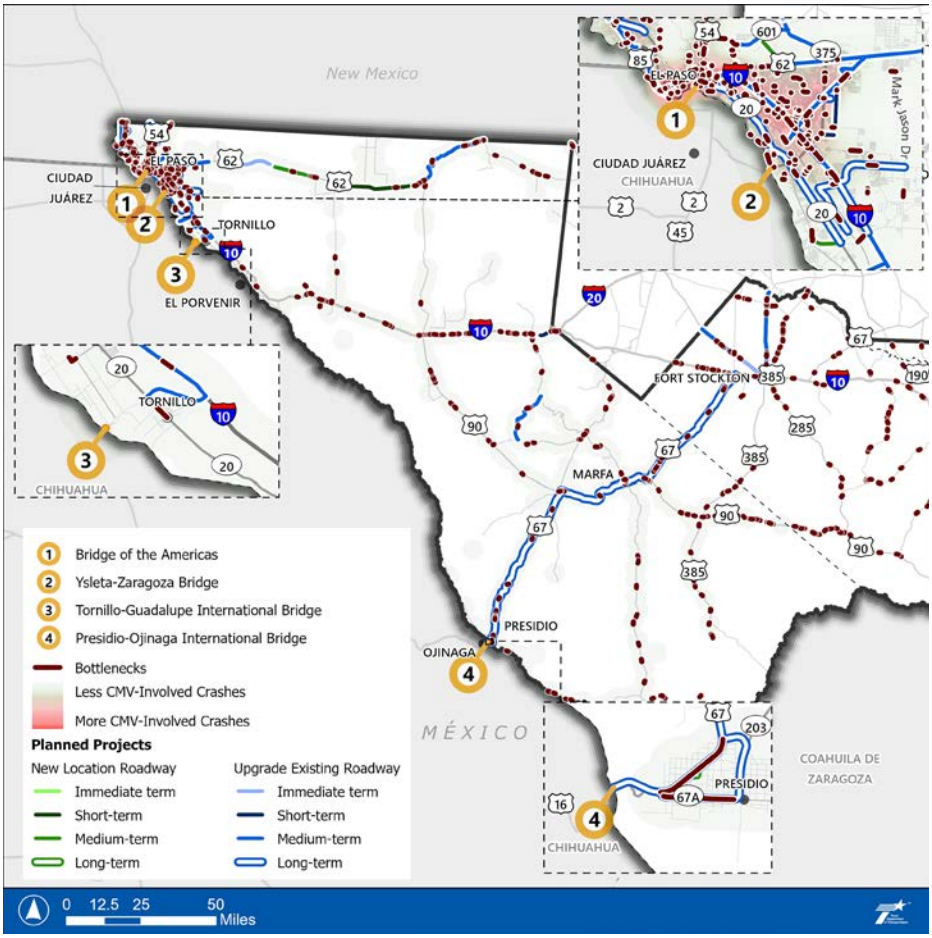
FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	-	1 study, $0.2M

Alignment of Recommendations and Needs

Figure 24 merges three layers of key data: (1) Planned Projects, (2) Bottlenecks, and (3) Crash Density. What is readily apparent in this exhibit is that where there are problems such as bottlenecks or frequent crashes, there are planned projects that will help address the problem areas. In some cases, short term projects such as I-10 widening have funding identified while others have not yet identified funding sources. As noted earlier, these project locations also correlate closely with direct stakeholder feedback on where relief is needed.

Figure 24: Planned Projects, Bottlenecks, and Crash Density in the El Paso Region



Laredo Region

Background

The Laredo region extends approximately 180 miles along the border, through mostly rural territory on generally level terrain, abutting shallow portions of the Rio Grande River particularly between Del Rio and Eagle Pass. The Laredo region includes four crossings that service CMVs: (1) Del Rio-Ciudad Acuña International Bridge in Del Rio (Val Verde County); (2) Camino Real International Bridge in Eagle Pass (Maverick County); (3) Laredo-Colombia Solidarity Bridge in Laredo (Webb County); and (4) World Trade Bridge in Laredo (Webb County), the most heavily-used facility within the Laredo Port of Entry, which ranks first among all U.S. international land, sea, and air gateways

A significant and unique characteristic of the Laredo region is that it borders three Mexican states: Coahuila for Del Rio and Eagle Pass, Nuevo León through a relatively narrow band of territory that reaches the Laredo-Colombia Solidarity Bridge, and Tamaulipas for the World Trade Bridge.

Figure 25: CMV Crossings in the Laredo Region

Laredo Region Freight and CMV Activity

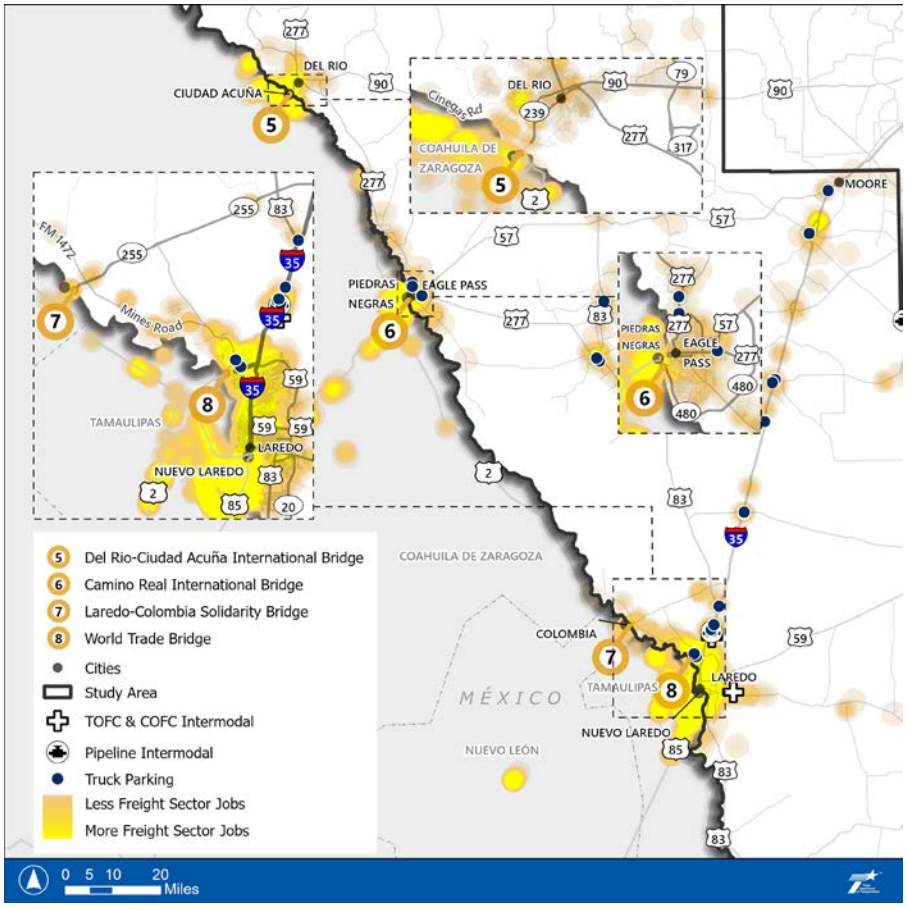
The volume of CMV traffic and the value of the freight crossing northbound has increased dramatically in recent years, bolstered by the development of Mexican industries and binational supply chains. The bulk of freight crossing northbound in the Laredo region is comprised of manufactured products, auto parts, heating and air components, electronics, and other specialized cargo. A primary source of this volume is the city of Monterrey, in the state of Nuevo León, Mexico and facilities along the border around Nuevo Laredo.

Within the Laredo region, extensive highway and rail infrastructure has developed to support trade with Mexico, along with some of the busiest clusters of warehouses, carrier

terminals and other logistics facilities in the country. This activity can be mapped to demonstrate the proximity of transportation infrastructure and warehouse and logistics employment (indicating activity clusters), as shown in **Figure 26.**

Generally, the highest concentration of activity is seen: (1) close to the border crossings; (2) near major state or interstate highways; and (3) within defined industrial and warehousing areas. The most significant volume is at Laredo, along FM 1472/Mines Road near the World Trade Bridge and expanding towards the Laredo-Columbia Solidarity Bridge), and along I-35 moving towards San Antonio. Additionally, there is a large intermodal rail presence in the city of Laredo, which is experiencing significant growth, generating intermodal truck drayage trips within the city and across the border and impacting FM 1472/Mines Road with at-grade rail crossings.

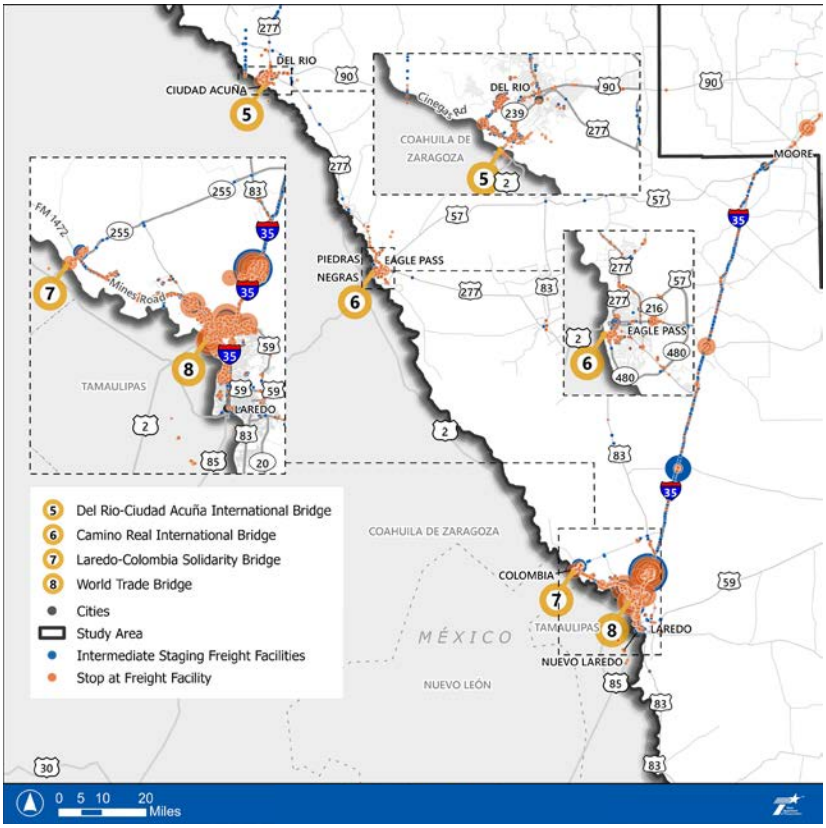
Figure 26: Freight Terminals, Freight-Related Employment, and CMV Parking Facilities – Laredo District



Source: TxDOT, USDOT, Data Axle (US employment); INEGI (Mexico employment)

Much of the northbound CMV traffic stops in the Texas border region at warehouses and logistics facilities, where cargo is transferred from Mexican to US equipment and/or drivers or delivered to US customers. Other northbound CMV traffic moves with drivers carrying a B1 visa, which continues out of the border region into greater Texas and beyond. Both kinds of northbound CMV traffic may stop at initial or intermediate locations in the border region for short-term parking, fueling, or other services. These locations are mapped in **Figure 27** based on truck location data and are generally consistent with the freight activity clusters activity mapped in **Figure 26**.

Figure 27: CMV Stops at Freight Facilities and Intermediate Staging Stops – Laredo Region



Source: WSP Analysis of 2022 INRIX Trip Path Data

Stops at Freight Facilities

- Located near each border crossing
- Largest clusters in Laredo along FM 1472/Mines Road and I-35 Corridor, nearby Columbia Solidarity Bridge and World Trade Bridge

Intermediate/Parking Stops

- Distributed around each border crossing, with highest concentrations along I-35 Corridor

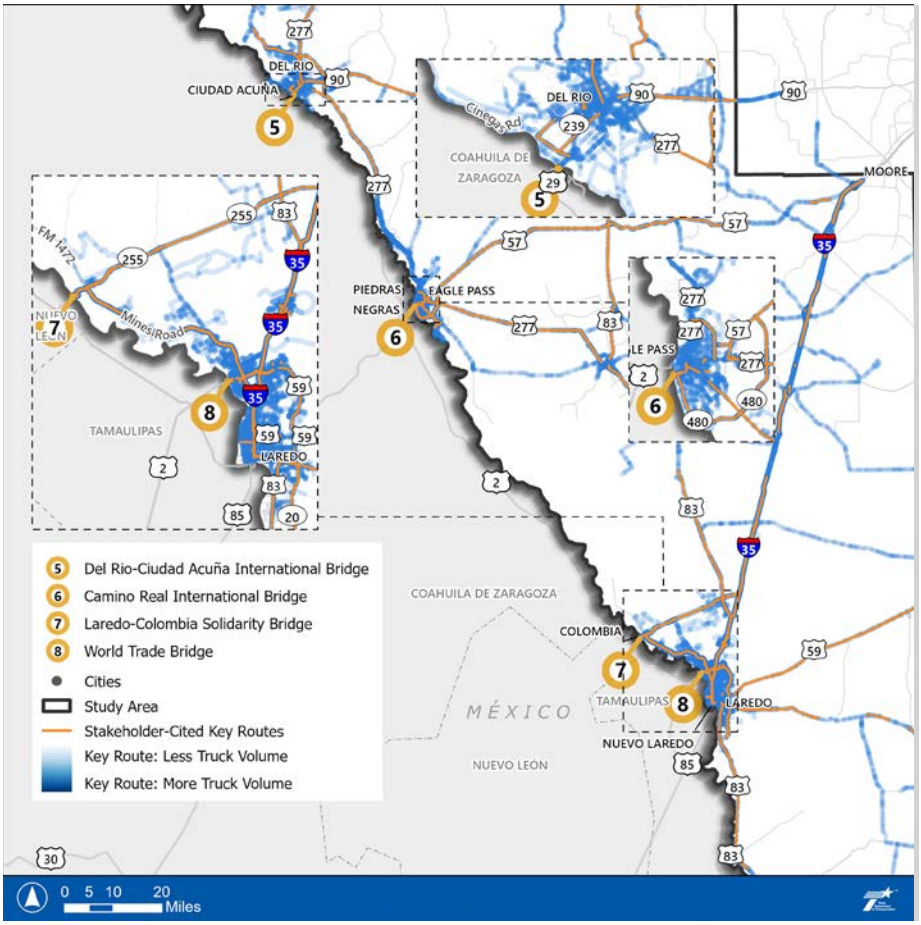
Why It Matters

- These locations can be focus areas for security-related monitoring and truck parking

Stakeholders identified key routes serving each border crossing, and analysis of INRIX CMV data quantified the truck volumes on these and other routes. **Figure 28** shows the leading CMV routes serving each crossing in the Laredo region.

- For Del Rio-Ciudad Acuna International Bridge crossings, the highest truck volumes are on Loop 239 / US 277 business, Frontera Road, US 277, US 377, and US 90, all of which were reported as key routes by stakeholders.
- For Camino Real International Bridge crossings, the highest truck volumes are on South Monroe Street, US 57, Loop 480, and US 277, along with FM 1021, all reported as key routes by stakeholders.
- For Laredo-Colombia Solidarity Bridge crossings, the highest truck volumes are on SH 255, FM 1472/Mines Road, I-35, and US 59.
- For World Trade Bridge crossings, the highest truck volumes are on I-69W, FM 1472/Mines Road, I-35, US 83, US 59 / SH 20 (the Bob Bullock Loop), SH 359, and Las Tiendas Road (between Mines Road and SH 255). All of the routes in Laredo, except Las Tiendas Road, were reported as key routes by stakeholders.

Figure 28: Key CMV Routes - Laredo Region



Source: WSP Analysis of 2022 INRIX Trip Path Data

Needs and Challenges

Mobility

Mobility needs and challenges arise with respect to two operations: the border crossing itself, and travel in the Texas border region to and from the crossings. With respect to crossings, within the Laredo region, average northbound CMV crossing times ranging from 8 to 30 minutes.

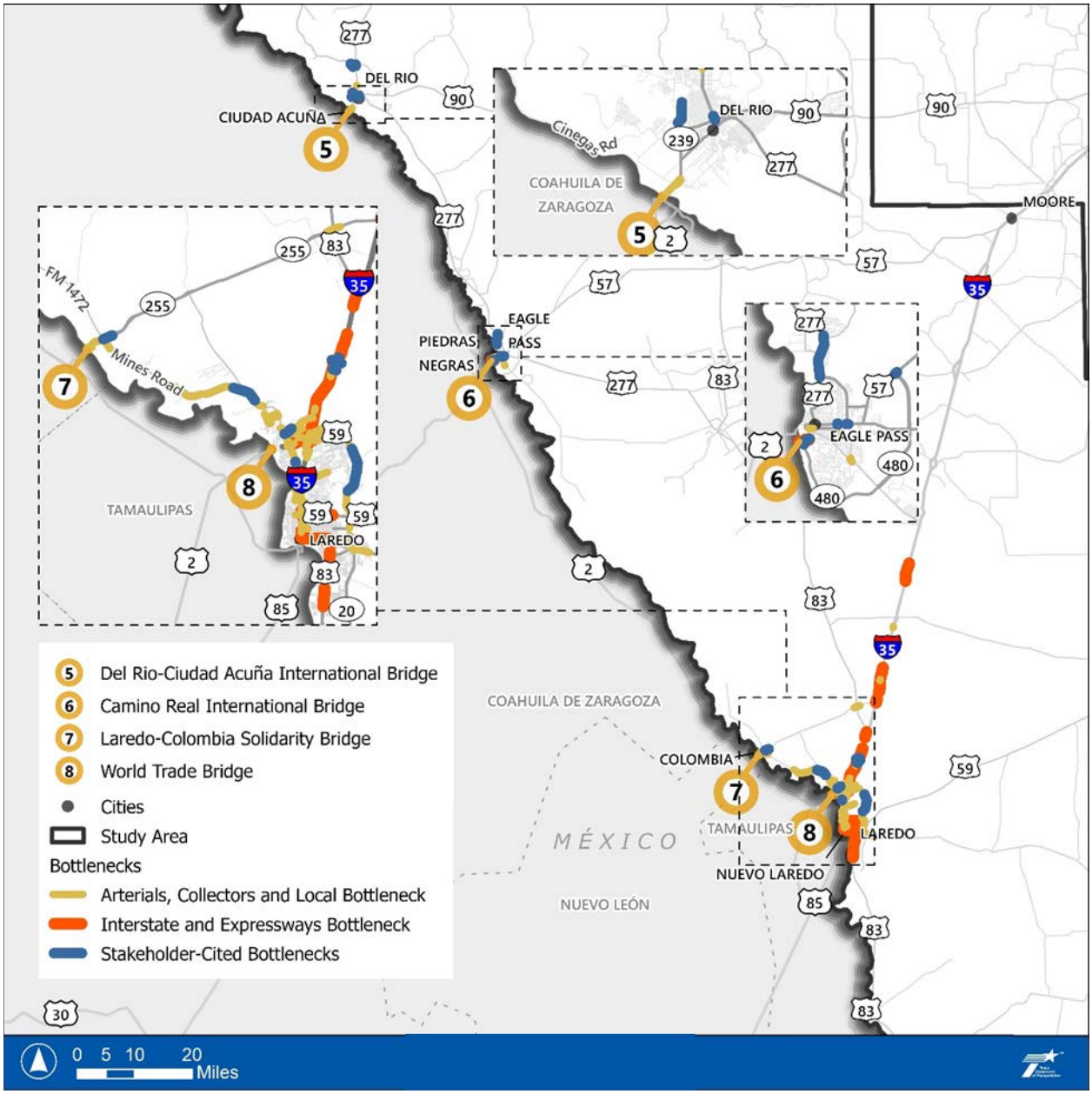
Looking at connections to and from the border crossings, primary bottlenecks are shown in **Figure 29.** As the maps indicate, roads within each City used to access crossings and provide connections through and beyond the border region are impacted by bottlenecks to varying degrees.

Source: TxDOT Border Transportation Master Plan, 2021

Roads within each City used to access crossings and provide connections through and beyond the border region are impacted by bottlenecks to varying degrees.

The most challenged access routes are located in the City of Laredo, relating to service over the World Trade Bridge and Laredo-Colombia Solidarity Bridge. Two corridors stand out particularly for their volumes and levels of congestion – FM 1472 / Mines Road and I-35 in the City of Laredo.

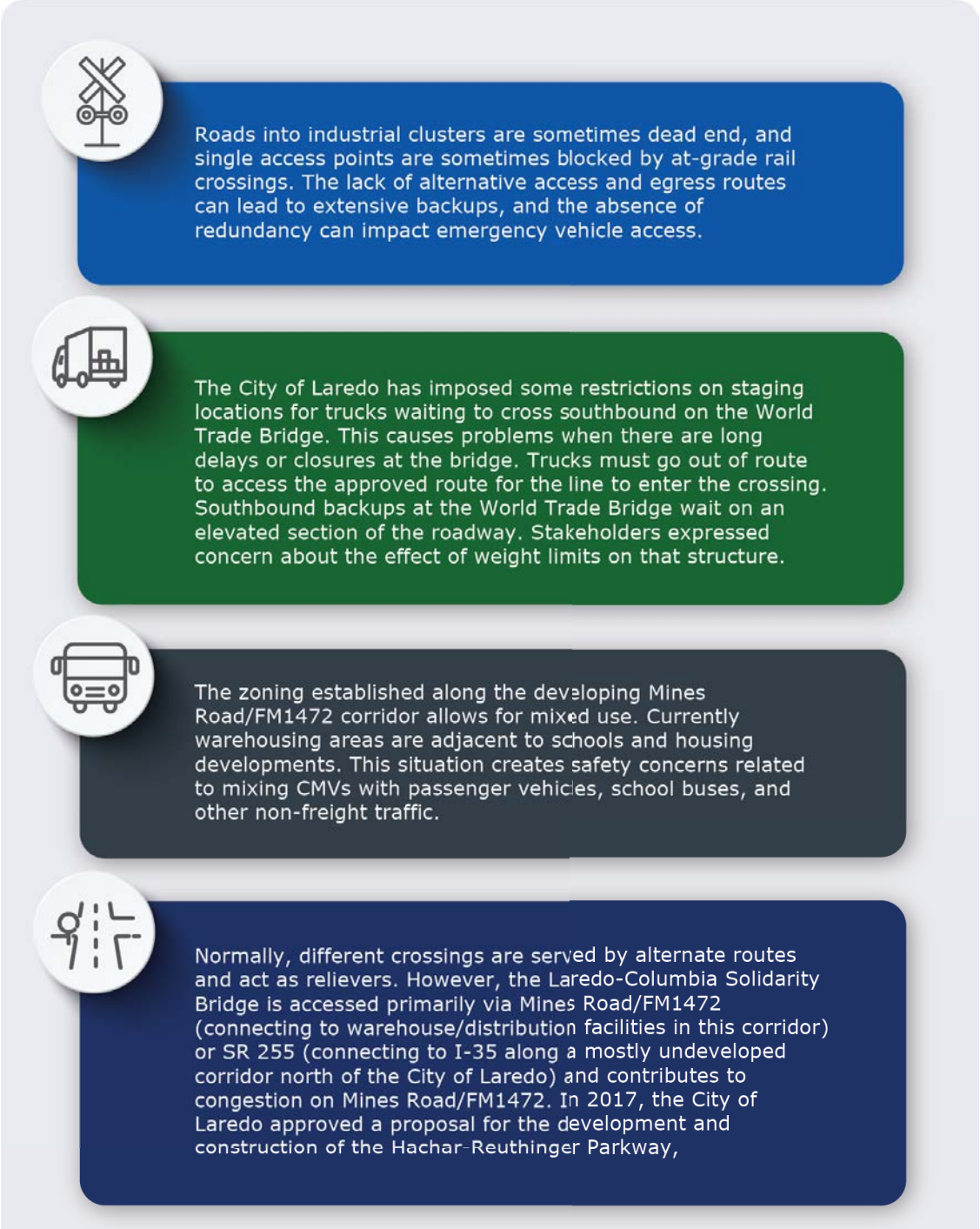
Figure 29: CMV Bottlenecks – Laredo Region



Source: WSP Analysis of INRIX XD Data

The City of Laredo hosts an extraordinary amount of warehouse, distribution, and logistics activity, almost all of it accessed primarily by I-35 or Mines Road. There are few, if any, alternative routes – most of the major industrial clusters in the area are designed with a main drive off Mines Road or another access road connecting to I-35.

Figure 30: Laredo Region Findings

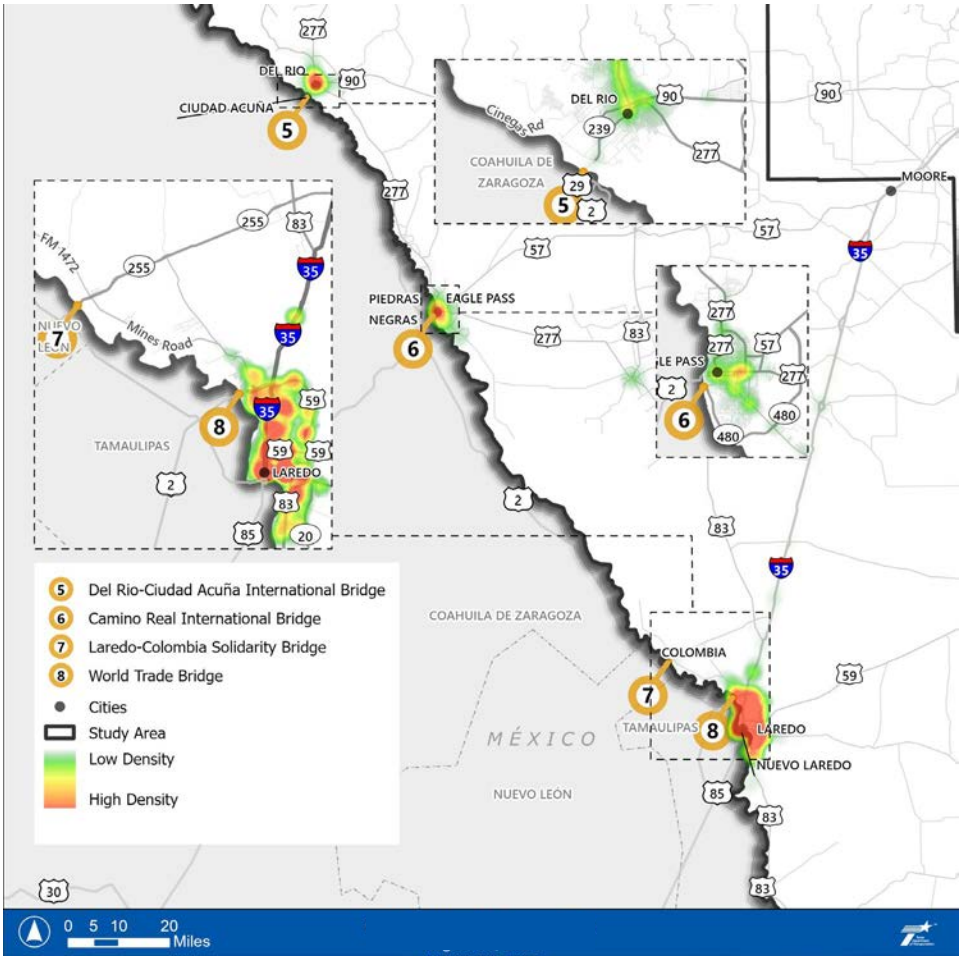


CMV-Involved Crashes

Areas of present safety concerns and locations where recommendations relating to TxDPS presence and roadway design considerations apply can be highlighted by an analysis of CMV-related crashes. Understanding crash severity, change over time, location, vehicle type, and contributing factors of crashes are essential to understanding how and why CMV-related crashes affect the Laredo region.

Crashes in the Laredo region increased from 2018 to 2023, totaling 62,605 crashes over the entire period, peaking in 2022 at 11,439 crashes. On average, this region accounts for 19% of crashes in the Texas border zone regions (El Paso, Laredo, and Rio Grande Valley).

Figure 31: CRIS Crash Data (CMV Only) – Laredo Region



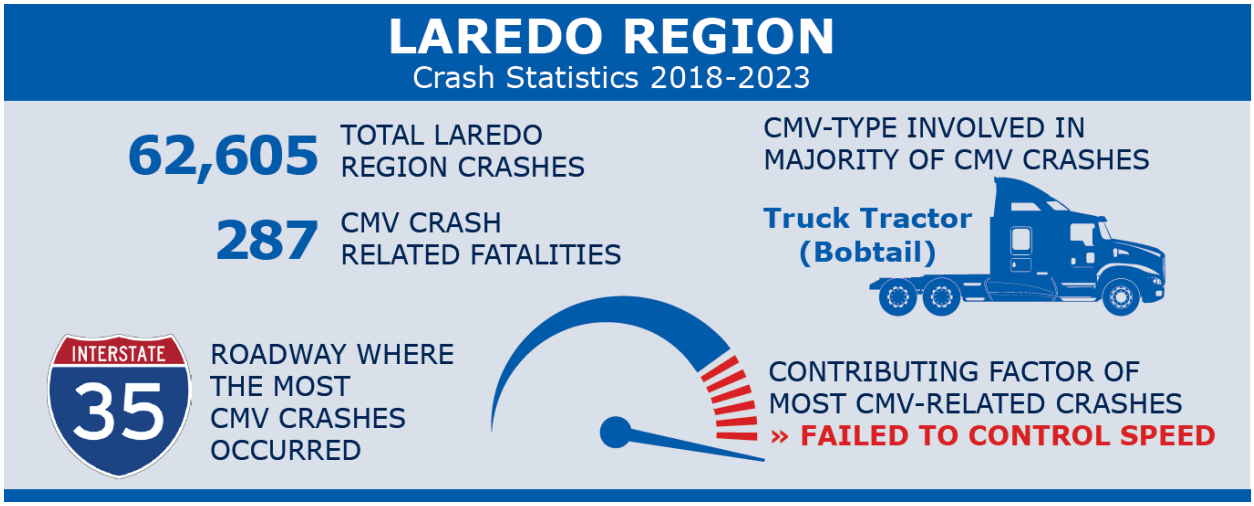
Source: TxDOT Crash Record Information System, Accessed 2024

Most CMV-involved crashes in this region did not report any injuries (76%). It is important to note that over this six-year period, 287 CMV-related crashes resulted in fatalities. While there has been an increase in total crashes, the total number of fatalities has remained steady over time, totaling 58 at its peak in 2018 and 55 in 2023.

CMV-related crashes are the most prevalent amongst major roadways and highways, with I-35 accounting for 4,471 crashes in the Laredo region, or 7% of all crashes in the region. US 83, US 59, and McPherson Road are other roadways with the highest share of CMV-related crashes, combining for an additional 14% of crashes. Crashes along I-35 and US 59 are also increasing in frequency, demonstrating a need for roadway and safety considerations. The image below pictures a heat map of all CMV crashes in the Laredo region.

The majority (91%) of CMV-vehicle type data is reported as 'No Data'; however, the most prevalent CMV-type for reported crashes is 'Truck tractors (bobtails),' accounting for 2,599 crashes between 2018 and 2023.

'Failed to Control Speed' is the most common contributing factor for CMV-related crashes in the region, totaling 18,107 crashes, or 29% of the total. Other common contributing factors in CMV-related crashes include 'Backed Without Safety,' 'Failed to Yield Right of Way-Stop Sign,' and 'Changed Lane When Unsafe.'



The maps below picture CMV-involved crashes within a two-mile radius of border crossings throughout the Laredo region.

Figure 32: CMV-Involved Crashes within a Two-Mile Radius of Camino Real International Bridge

Figure 33: CMV-Involved Crashes within a Two-Mile Radius of Del Rio-Ciudad Acuña

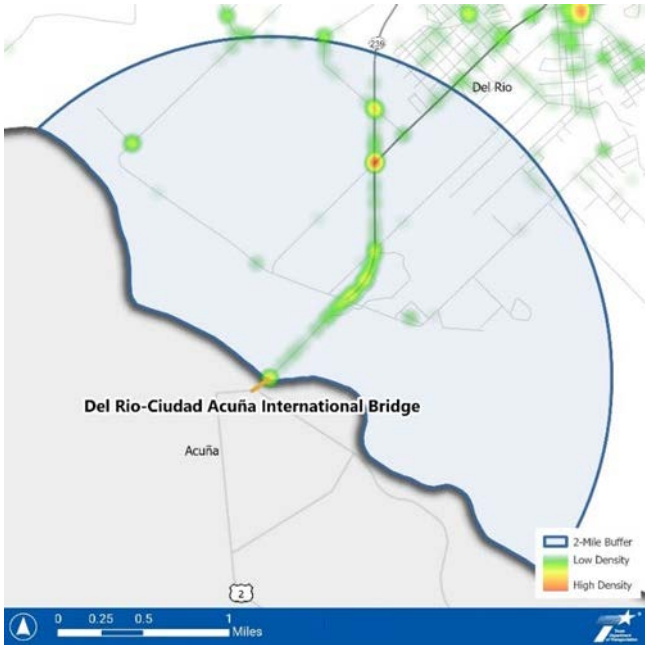


Figure 34: CMV-Involved Crashes within a Two-Mile Radius of Laredo-Colombia Solidarity Bridge

Figure 35: CMV-Involved Crashes within a Two-Mile Radius of World Trade Bridge

In Laredo, a significant portion of these trucks, approximately 80-85% according to the Texas A&M Transportation Institute, are cross-border vehicles that utilize FM 1472/Mines Road to reach industrial parks. Much of the OS/OW traffic is directed toward the Colombia crossing which relies on FM 1472/Mines Road for access from the industrial and warehousing zones around Laredo.

When the World Trade Bridge was initially constructed in 2000, the area surrounding FM 1472/Mines Road had limited development. Over time, residential neighborhoods and industrial parks have emerged in this corridor, creating conflicts non-freight and freight (including OS/OW and hazardous materials) traffic.

Specialized Cargo

The Laredo region handles two types of specialized cargo of particular interest: oversize/overweight CMVs, and hazardous materials CMVs. Northbound OS/OW freight at Eagle Pass is primarily related to fuels. Northbound hazardous commodities at Laredo are largely centered around manufactured goods such as paint and batteries, and industrial chemicals and similar products can be moving in both directions.

The requirements of handling OS/OW and HAZMAT contribute to the importance of addressing key highway bottlenecks in the Laredo region, particularly on FM 1472/Mines Road and other crossing access routes.

Strategies and Recommendations

Recommendations identified in the Laredo region total $13.0 billion with $16 million in funding identified, leaving a funding need of $13.0 billion. As **Table 4** shows, additional funding is needed to complete immediate (0-2 years) and short-term (2-4 years), medium-term (4-10 years), and long term (10+ years) recommendations.

Table 4: Identified Laredo Region Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$311,403,100	$0	$311,403,100
Short-Term (2-4 years)	$59,943,111	$0	$59,943,111
Medium-Term (4-10 years)	$2,702,847,523	$16,000,001	$2,686,847,522
Long-Term (10+ years)	$9,964,347,213	$0	$9,964,347,213
Grand Total:	**$13,038,540,947**	**$16,000,001**	**$13,022,540,946**

Within the Laredo region, a number of important transportation improvement projects are fully funded and in various stages of implementation.

The planned **Hachar-Reuthinger Parkway** in Laredo forms a part of a heavy weight corridor established by the Texas legislature during the 84th legislative session to alleviate congestion on Mines Road/FM 1472, providing an alternative connection between I-35, Mines Road freight industries, and the Columbia Solidarity and World Trade bridges. The project is fully funded and due to accept construction bids in Q4 2024.

More than ten projects are under construction, representing over $490 million in fully funded efforts. These address the widening of I-35 segments and the construction of main lanes, frontage roads, and interchanges along US 59.

Other efforts representing an **investment of nearly $900M** are fully funded in the 2025 UTP and help support CMV routes and transportation efficiency. Highlights include widening of US 83, widening of additional I-35 segments, and further improvements to US 59.

Transportation Efficiency Program Recommendations - Laredo Region

The 13 policy recommendations identified in the Border-wide Themes section also apply to the Laredo region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the Laredo region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple specific infrastructure projects, listed in **Appendix F**.

E14. New CMV Routes

HIGH PRIORITY - $1,432.7M NEED - LED BY LOCALITIES, TXDOT

Within the Laredo region, commercial and residential uses are generally along or in close proximity to primary CMV corridors. These projects create new routes for CMVs.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $8.4M	2 projects, $59.2M	4 projects, $300.9M	10 projects, $1,064.1M

E15. New & Improved Interstates

HIGH PRIORITY - $6,255.4M NEED - LED BY TXDOT

Improvements for I-35 and I-27 and a number of projects will advance interstate connectivity and performance, including conversion of Business 59 to freeway standards between I-69W and the Laredo International Airport.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	10 projects, $1,315.5M	22 projects, $4,940M

E16. CMV Lanes

HIGH PRIORITY - $4,487.7M NEED - LED BY TXDOT, LOCALITIES

Design and construct CMV-friendly lanes that feature wider shoulders, provide separation from passenger activity, and facilitate cross-town CMV traffic. Lanes designed for CMVs streamline movement, support safety, allow space for law enforcement.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	6 projects, $1,006.8M	22 projects, $3,480.9M

E17. Border-wide BCCs

HIGH PRIORITY - $63.7M NEED – LED BY TXDOT, TXDPS, LOCALITIES

Expand Border Communications Centers to cover the entirety of the border and include dedicated monitoring of CMV traffic for better oversight and control. BCCs border-wide bring visibility into CMV activity for security and operations management. Includes capital and operating costs.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 effort, $63.7M	-

E18. New & Expanded CMV Crossings

MEDIUM PRIORITY - $782.2M NEED – LED BY PRIVATE ENTITIES, LOCALITIES, TXDOT

Within the Laredo region, new international border crossings are planned near Del Rio (Acuña II International Bridge), Eagle Pass (Puerto Verde Global Trade Bridge), and the City of Laredo (Laredo IV/V International Bridge). Expansion of Laredo-Colombia International Bridge is also planned.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $303.0M	-	-	3 projects, $479.2M

E19. HAZMAT Routing

MEDIUM PRIORITY - $0.5M NEED - LED BY TXDOT

Develop a study to identify needs and expand authorized routing for hazardous materials (HAZMAT) and oversize/overweight (OS/OW) cargo to ensure safe and efficient transport of these types of goods. Study cost split evenly across three regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 study, $0.5M	-	-

E20. Permits Clearinghouse

MEDIUM PRIORITY - $0.2M NEED - LED BY TXDMV, LOCALITIES

Create a centralized electronic clearing house for OS/OW border permits accessible to law enforcement. Permits are issued by multiple agencies. In the Laredo region, the Webb County Regional Mobility Authority issues permits on routes designated by state law. Study cost split evenly across three regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 effort, $0.2M	-	-

E21. Study Permit Harmonization

MEDIUM PRIORITY - $0.2M NEED - LED BY TXDMV, LOCALITIES

Develop a planning study to harmonize the permitting systems for OS/OW cargo across different issuing agencies at the border to streamline processes and reduce delays. Harmonization of permitting could aid efficiency. Study cost split evenly across regions.

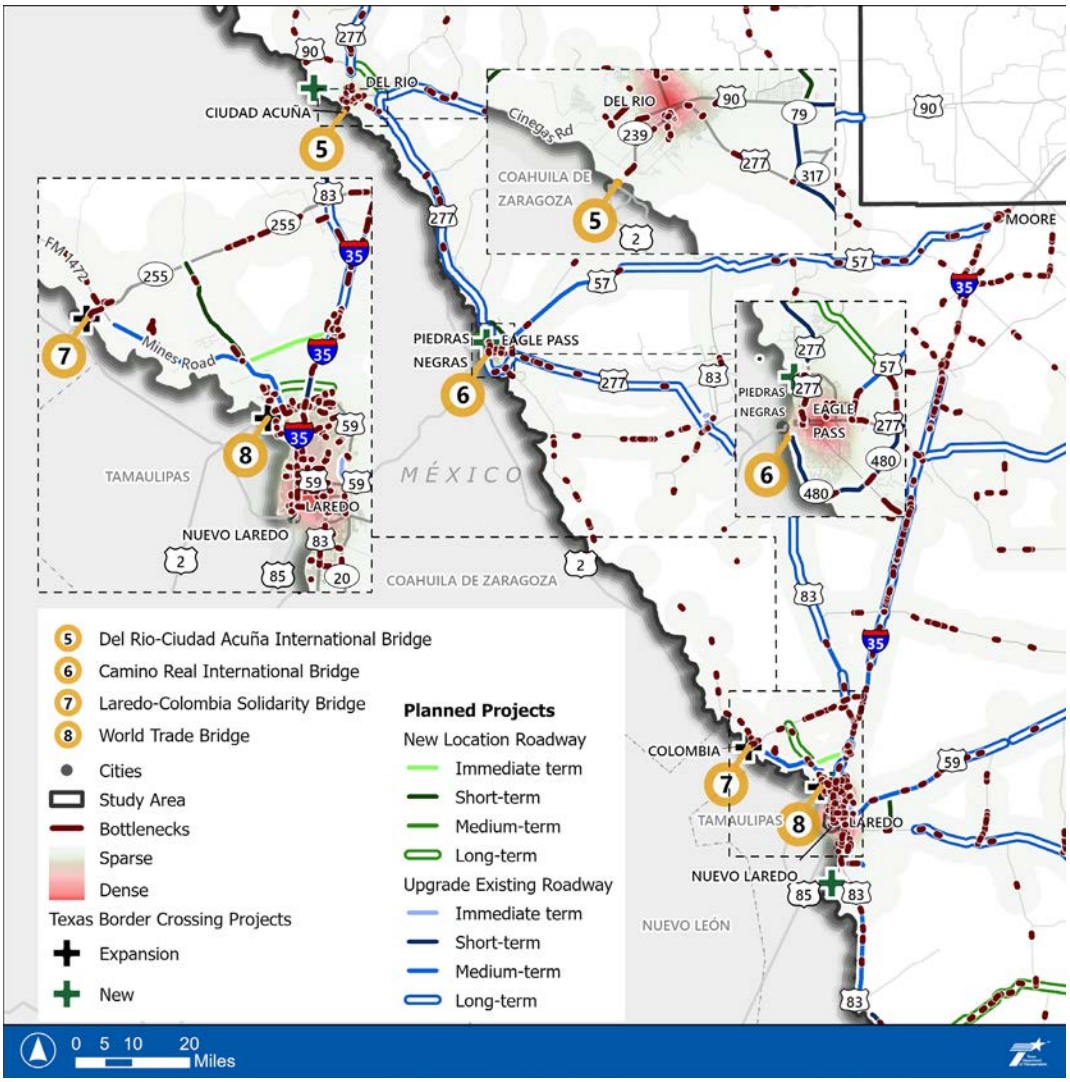
FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	-	1 study, $0.2M

Alignment of Recommendations and Needs

Figure 36 illustrates the locations of key problems – CMV bottlenecks and CMV-involved crashes – along with the locations of planned projects. For Laredo, major problem areas along I-35, Mines Road/FM 1472, Texas Loop 20, US 83, US 59 and other routes will be addressed. US 57 improvements will benefit Eagle Pass. Laredo, Eagle Pass, and Del Rio will each benefit from new international bridges, and from development of the Ports-to-Plains I-27 corridor along US 277 and other existing routes.

Figure 36: Planned Projects, Bottlenecks, and Crash Density in the Laredo Region

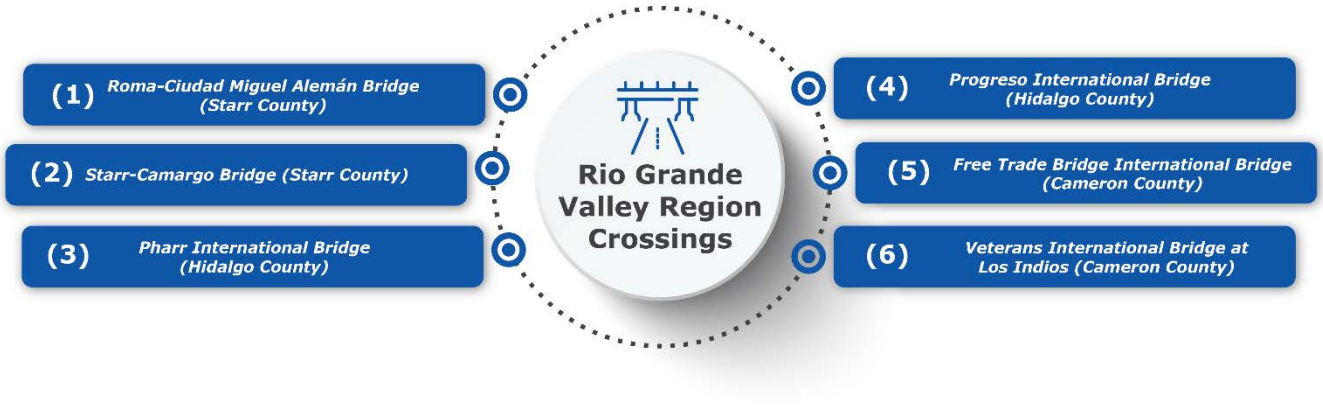


Rio Grande Valley Region

Background

The Rio Grande Valley region is located at the southern tip of Texas, adjacent to the Gulf of Mexico and bordering the Mexican state of Tamaulipas. The region contains eight CMV crossings, including two which currently only handle southbound empty trucks. The six full-service CMV crossings are: (1) Roma-Ciudad Miguel Alemán (Starr County), (2) Starr-Camargo Bridge (Starr County), (3) Pharr-Reynosa International Bridge (Hidalgo County), (4) Progreso International Bridge (Hidalgo County), (5) Free Trade Bridge at Los Indios (Cameron County), and (6) Veterans International Bridge (Cameron County). The two crossings available only to southbound empty CMVs are Anzalduas International Bridge (Hidalgo County) and Donna International Bridge (Hidalgo County). This system of CMV crossings provides many alternatives for cross-border travel, though cargo type and other logistics needs still dictate which crossing is used for each trip.

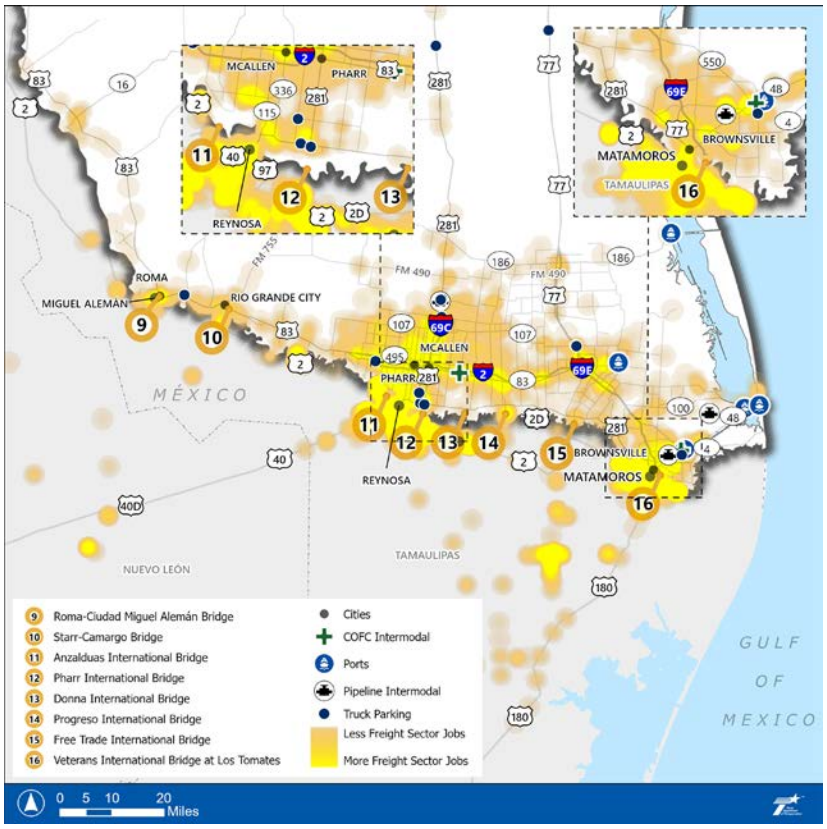
Figure 37: Northbound CMV Crossings in the Rio Grande Valley Region



Rio Grande Valley Region Freight and CMV Activity

The RGV region is unique in its many modal transportation options, including trucking, rail, marine, pipeline, air, and space transportation modes. The region includes a rail container-on-flat car facility in Brownsville, a Union Pacific “paper ramp” in Donna where trucks are sent on to rail facilities in San Antonio, pipeline terminals at the Port of Brownsville and north of McAllen, the Port of Brownsville, the Port of Harlingen, the Brownsville, Harlingen, and Mc Allen airports, and a SpaceX launch site. These intermodal sites are all located near other freight-related facilities (**Figure 38**) in the region which are concentrated in Pharr/McAllen, Brownsville, and along I-2. These locations are important from a safety and security standpoint as they serve as the primary origins and destinations for cargo within the region, and they are closely clustered together.

Figure 38: Freight Terminals, Freight-Related Employment, and CMV Parking Facilities – Rio Grande Valley Region



Source: TxDOT, USDOT, Data Axle (US employment); INEGI (Mexico employment)

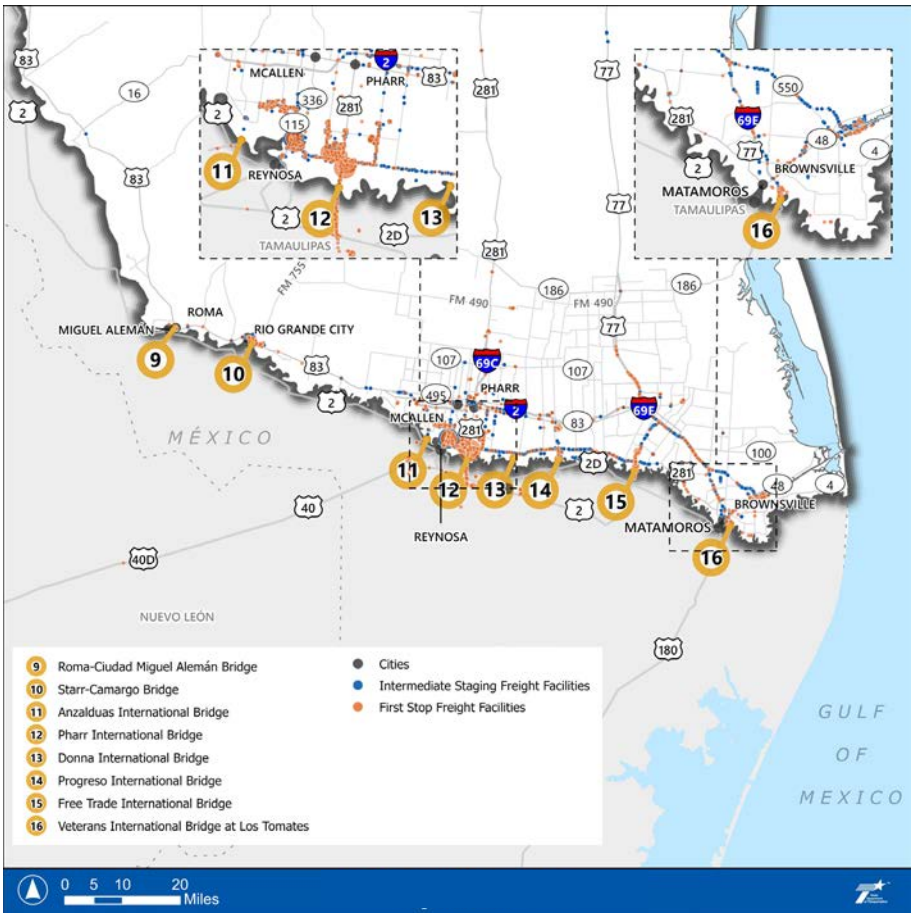
Concentrations of freight employment in Mexico are clustered south of the Anzalduas, Pharr, Donna, and Progreso border crossings. The region benefits from many crossing alternatives to support the binational manufacturing, assembly, and distribution activity completed in large part through maquiladoras.

Industrial Activity Adjacent to Progreso International Bridge, TxDOT

These are also the areas with the greatest concentration of trucks stopping to make a pickup or delivery or to stop for parking or staging (**Figure 39**).

Together, these findings illustrate the interconnected trips completed by CMV drivers throughout the day. Following a trip to a Texas freight facility from Mexico, drivers leave the facility and typically stop to prepare for their return trip. The concentrated maquiladora activity in the RGV region results in many trips within the same day.

Figure 39: Stops by CMVs in the RGV Region



Source: WSP Analysis of 2022 INRIX Trip Path Data

Stops at Freight Facilities

- Largest group of destinations north of Pharr International Bridge
- 60% of northbound crossings in the RGV use this crossing

Intermediate/Parking Stops

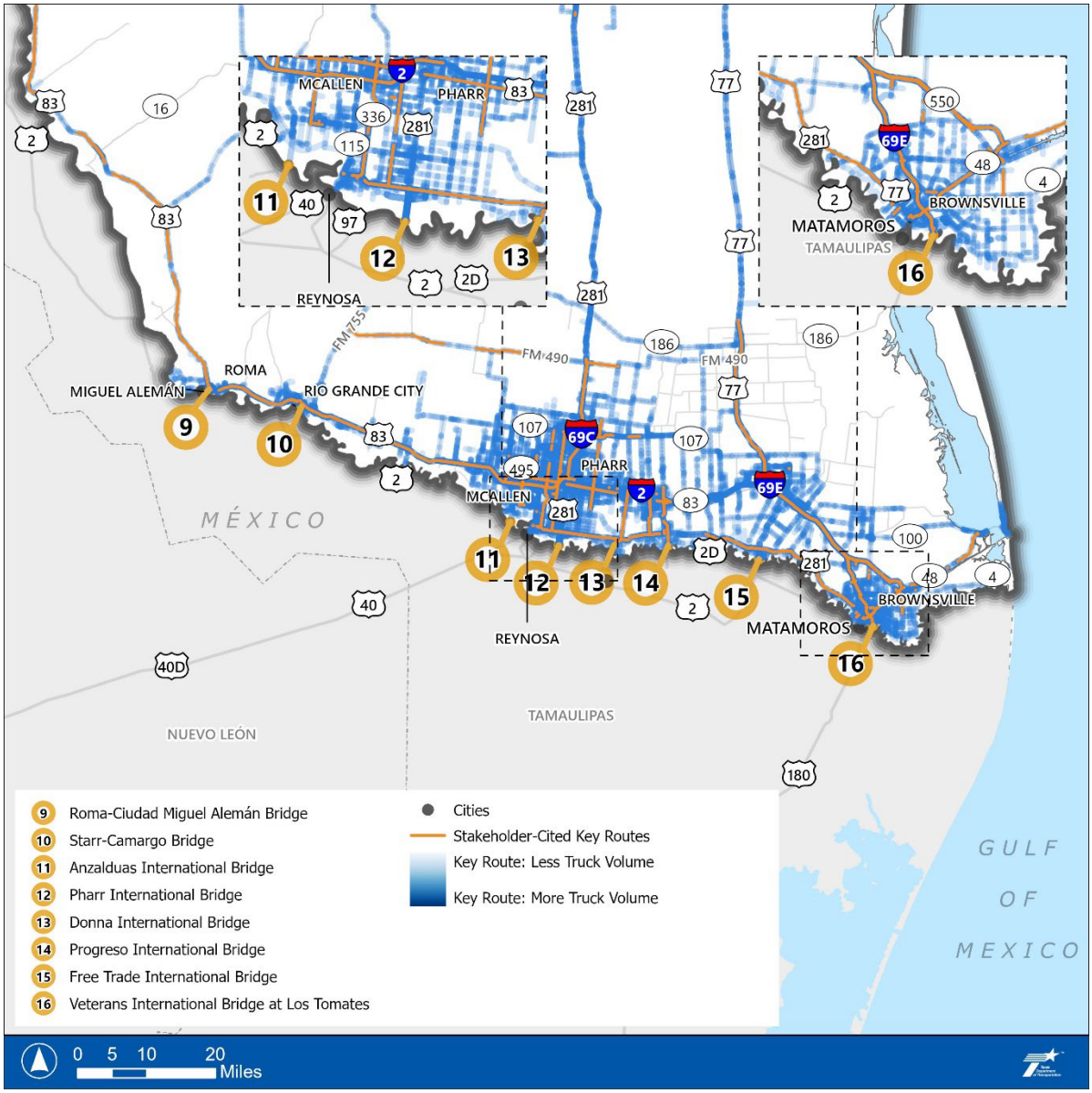
- Spread throughout the RGV
- The most stops are observed on Military Highway, I-69/US 77, SH 48, and FM 509

Why It Matters

- These locations can be focus areas for security-related monitoring and truck parking

Stakeholders identified several key routes used by CMVs to travel between destinations and border crossings: US 83/I-2, US 281/I-69C, US 77/I-69E, and Military Highway, as well as local and regional connections such as SH 48 to the Port of Brownsville, and several arterials within the Pharr/McAllen urbanized area (**Figure 40**). These findings, together with the widespread routes identified by CMV data, highlight the need for efficiency and connectivity throughout the region. Infrastructure and technology solutions on major highways alone will be insufficient for safe, secure, and efficient operations in the region.

Figure 40: Key CMV Routes in the RGV Region



Source: WSP Analysis of 2022 INRIX Trip Path Data

Needs and Challenges

Mobility

The wide east-west geography of the RGV region requires many alternate routes for travel within the region and beyond it. The I-2/US 83 corridor is the largest capacity roadway in the east-west direction. CMVs also rely on US 281/Military Highway south of I-2 and on SH 107, FM 409, and SH 186 north of I-2 for connectivity across the region. North-south options are more limited: I-69C/US 281 and I-69E/US 77 are the primary routes between the RGV region and much of Texas. Beyond these routes, CMVs depend on the gridded networks of urbanized areas to access facilities. As a result of these characteristics, CMV drivers and CMV enforcement staff are traveling a network that is generally well connected, although most connections are not high-capacity roadways designed for high truck volumes.

Recurring Delay
congestion predictably occurs

- Approaching Pharr International Bridge
- US 281/Military Highway
- I-2/I-69 interchange
- US 83 in Starr-Camargo Bridge

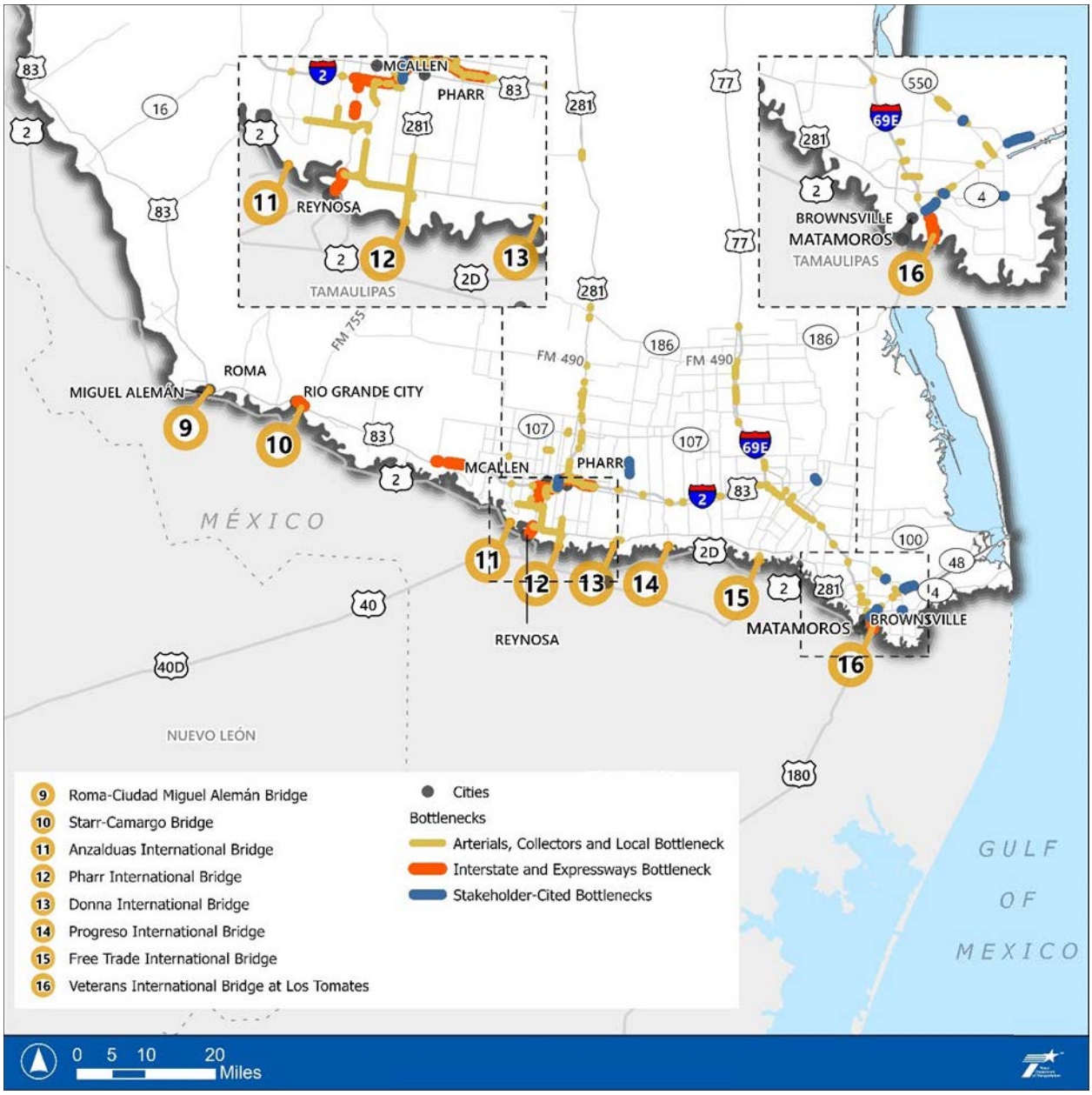
Non-Recurring Delay
frequent unexpected delay

- Approaching Pharr International Bridge
- Approaching Veterans International Bridge
- I-2/I-69 interchange

Stakeholders and data agree on the locations of priority bottlenecks. Travel to and from the Port of Brownsville was also a priority for stakeholders. (**Figure 41**).

Crossing time at the border crossings themselves also contribute to delay and congestion within the cross-border transportation system. In the RGV, it takes between 16-60 minutes to cross depending on the crossing used.

Figure 41: RGV Region Bottlenecks



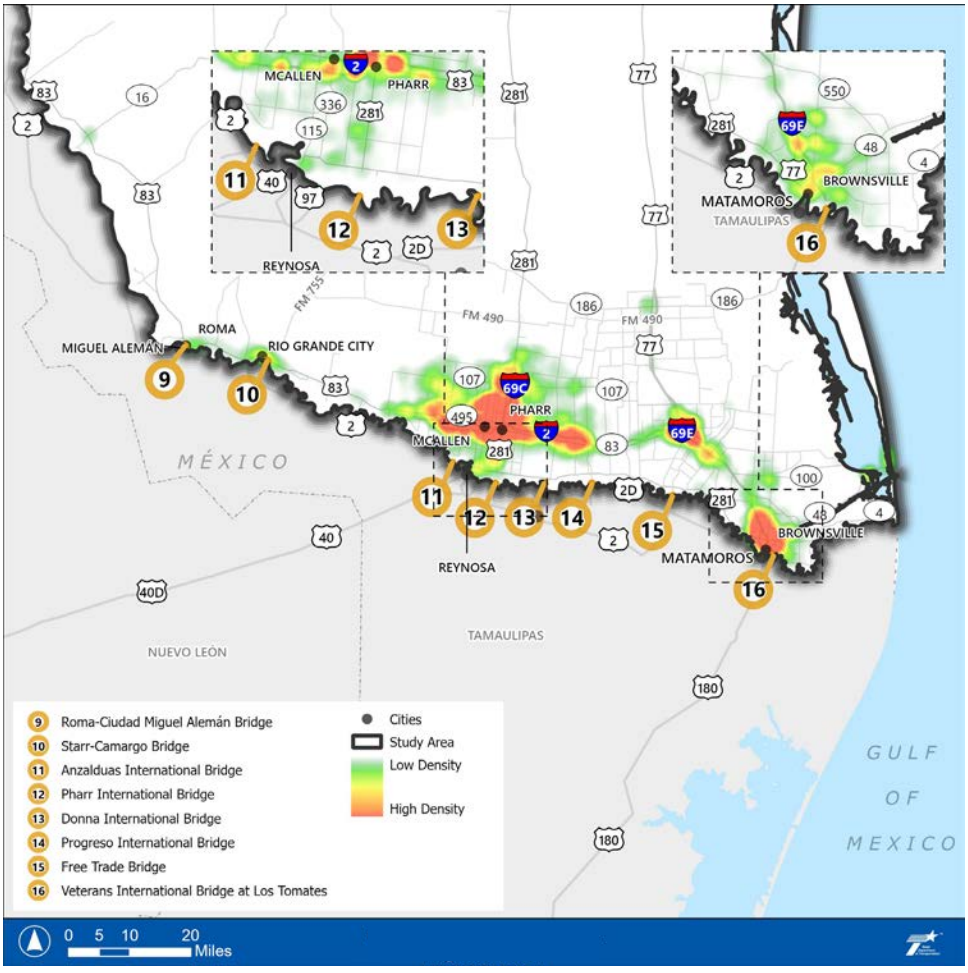
Source: WSP Analysis of INRIX XD Data

CMV-Involved Crashes

Areas of present safety concerns and locations where recommendations relating to TxDPS presence and roadway design considerations apply can be highlighted by an analysis of CMV-related crashes (**Figure 42**). Understanding crash severity, change over time, location, vehicle type, and contributing factors of crashes are essential to understanding how and why CMV-related crashes affect the RGV region.

Crashes in the RGV region increased from 2018 to 2023, totaling 175,013 crashes over this period, peaking in 2023 at 32,746 crashes. On average, this region accounts for 52% of crashes in the Texas border zone regions (El Paso, Laredo, and Rio Grande Valley) and totals the highest share of CMV crashes out of the three regions.

Figure 42: CRIS Crash Data (CMV Only) – Rio Grande Valley Region



Source: TxDOT Crash Record Information System, Accessed 2024

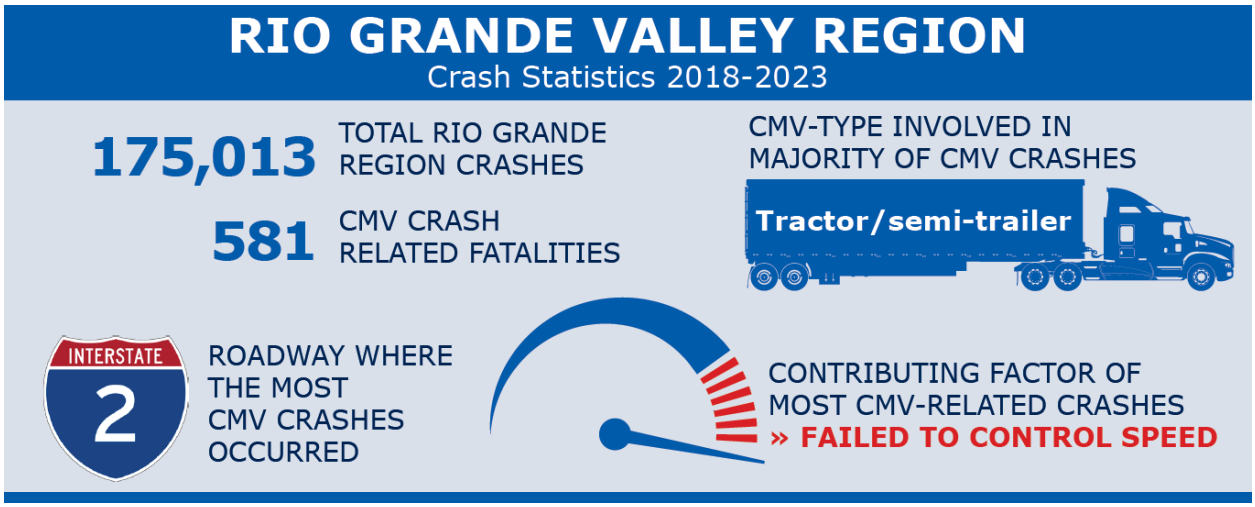
Most CMV-involved crashes in this region resulted in no injury (67%). Over this six-year period, 581 CMV-related crashes resulted in fatalities. Consistent with the increase in total crashes, the total number of fatalities also increased over time, rising from 93 in 2018 to a peak of 116 in 2023.

CMV-related crashes are the most prevalent on major roadways and highways, with I-2 accounting for 14,497 crashes in the RGV region, or 8% of all crashes in the region. I-69 East, US 83, and

BUS 83 South are other roadways with the highest share of CMV-related crashes and, together account for an additional 9% of crashes. Crashes along I-2, US 83, and BUS 83 South are increasing in frequency, demonstrating a need for roadway and safety considerations. The image below pictures a heat map of all CMV crashes in the RGV region.

The majority (97%) of CMV-vehicle type crash data is reported as 'No Data'; however, the most prevalent CMV-type for reported crashes is 'Tractor/semi-trailer,' which accounts for 1,759 crashes between 2018 and 2023.

'Failed to Control Speed' is the most common contributing factor for CMV-related crashes in the region, accounting for 51,203 crashes, or 29% of the total. Other common contributing factors in CMV-related crashes include 'Backed Without Safety,' 'Changed Lane When Unsafe,' and 'Failed to Yield Right of Way-Stop Sign.'



The maps below picture CMV-involved crashes within a two-mile radius of border crossings throughout the RGV region.

Figure 43: CMV-Involved Crashes within a Two-Mile Radius of Anzalduas International Bridge

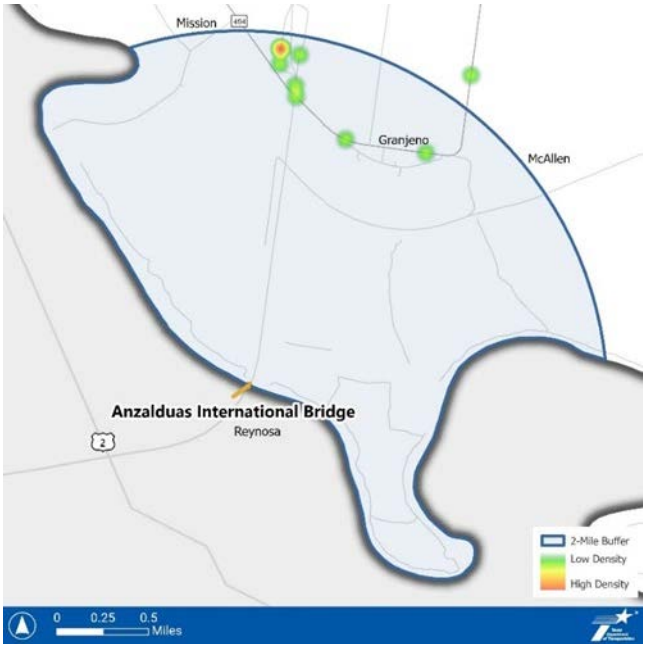


Figure 44: CMV-Involved Crashes within a Two-Mile Radius of Donna International Bridge

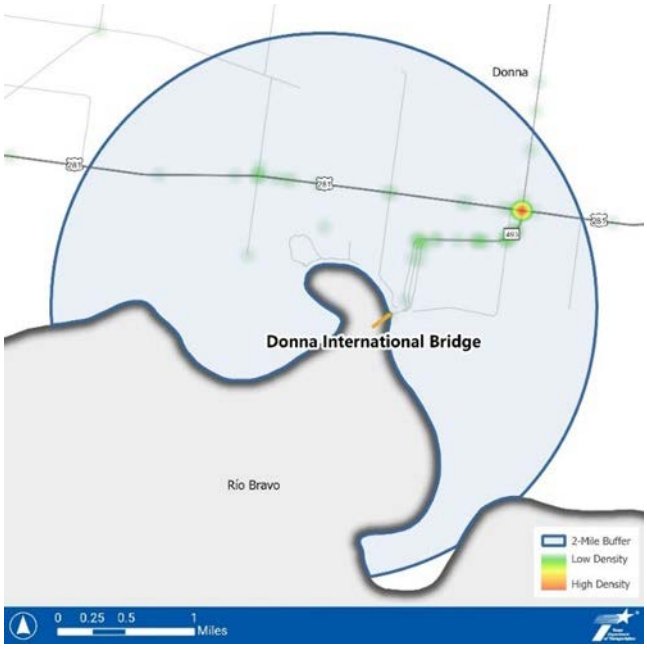


Figure 45: CMV-Involved Crashes within a Two-Mile Radius of Free Trade International Bridge

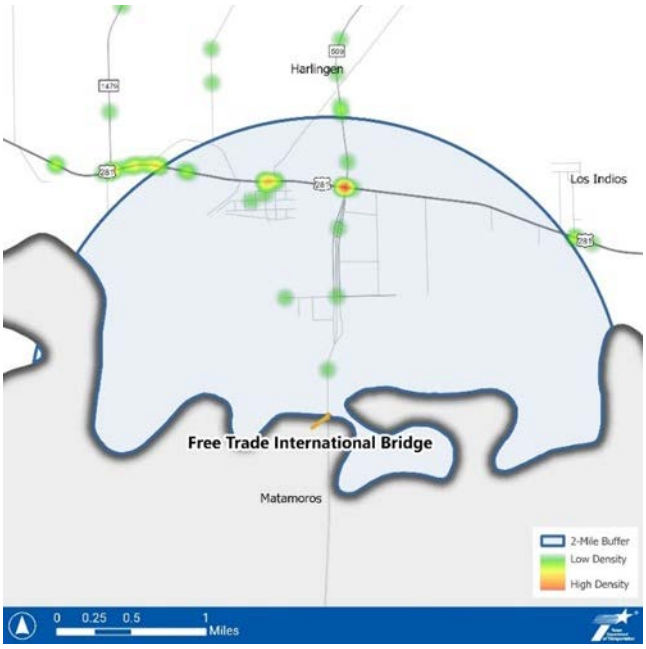


Figure 46: CMV-Involved Crashes within a Two-Mile Radius of Pharr International Bridge

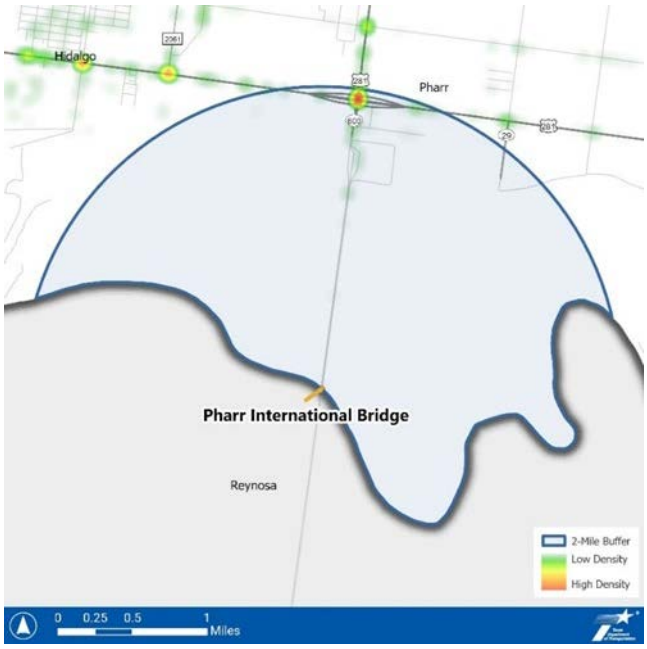


Figure 47: CMV-Involved Crashes within a Two-Mile Radius of Progreso International Bridge

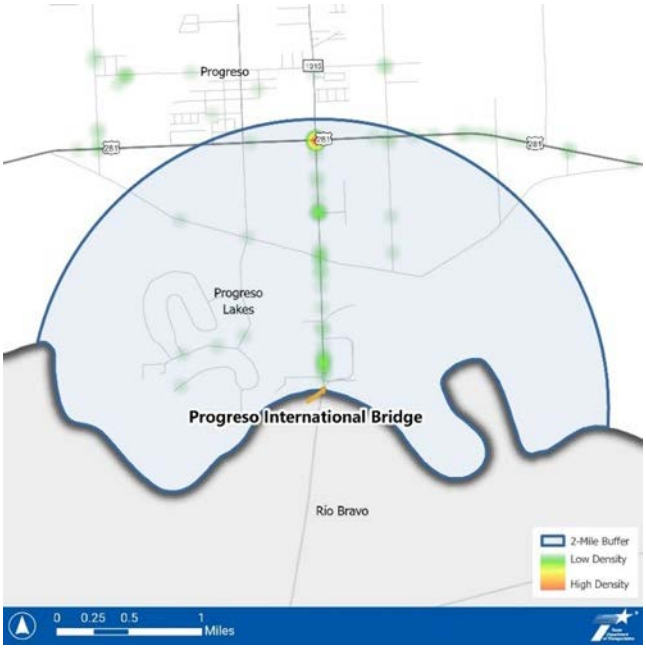


Figure 48: CMV-Involved Crashes within a Two-Mile Radius of Roma-Ciudad Migel Alemán Bridge

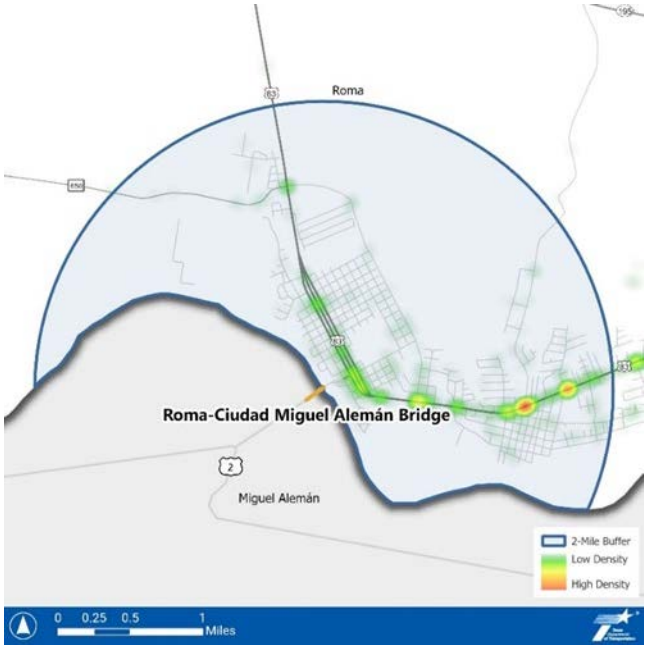
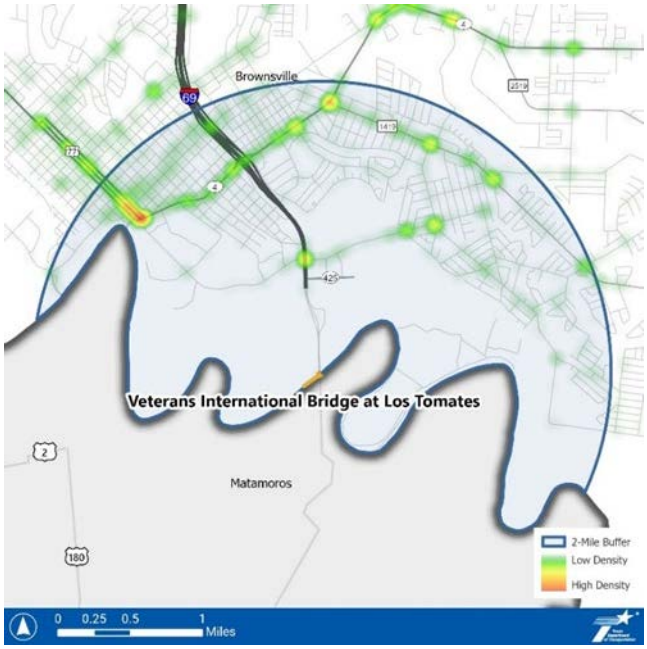


Figure 49: CMV-Involved Crashes within a Two-Mile Radius of Starr-Camargo International Bridge

Figure 50: CMV-Involved Crashes within a Two-Mile Radius of Veterans International Bridge at Los Tomates



Specialized Cargo

Three entities in the RGV can issue oversize/overweight permits in addition to permits issued by the TxDMV: Port of Brownsville, Port of Harlingen, and Hidalgo County Regional Mobility Authority (RMA). Together, these agencies issued an average of over 72,000 permits per year between 2017 and 2023.

Port of Brownsville	Port of Harlingen	Hidalgo County RMA
• 31,500 permits per year • 83% destined for Mexico • Fuels, metals, plastics, and rubbers	• 6,300 permits per year • 85% destined for Free Trade Bridge at Los Indios • Diesel, gasoline, naptha	• 34,400 permits per year • Northbound from border crossings • Tomatoes, mangoes, avocados, lemons, and broccoli

The demand for gasoline and diesel fuel in Mexico has increased exponentially over the past few years. Pipeline delivery is the preferred method for this commodity, but capacity and sabotage have pushed all of the fuel transportation to truck. These fuel shipments originate at the Port of Brownsville and travel through the region to cross into Mexico predominately at Brownsville and at Pharr. These shipments are hazardous and can also be overweight. The product moves in tanker trailers with additional axles to distribute the weight of the load (**Figure 51**). Additional enforcement capabilities to ensure trucks are not loaded beyond the legal limit would support public safety and maintenance of the roadway system, especially as these vehicles are prone to roll overs due to their higher center of gravity.

Figure 51: Six Axle Fuel Unit

Source: Freight Insights

Strategies and Recommendations

Recommendations identified in the RGV region total $8.4 billion with $1.1 billion in funding identified, leaving a funding need of $7.4 billion. As **Table 5** shows, funding has been identified for projects within each time frame; however, a substantial funding need still exists for each timeframe as well.

Table 5: Identified RGV Region Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$408,832,432	$285,489,065	$123,343,368
Short-Term (2-4 years)	$394,016,622	$160,277,862	$233,738,759
Medium-Term (4-10 years)	$1,781,062,473	$303,919,712	$1,477,142,761
Long-Term (10+ years)	$5,859,797,890	$339,961,553	$5,519,836,337
Grand Total:	**$8,443,709,417**	**$1,089,648,192**	**$7,354,061,225**

In the RGV region, there are projects under construction that support CMVs, including the widening of key roadways segments on US 83 and FM 1925 (which runs parallel to I-2 and intersects with I69C). Additionally, there are more than 50 projects fully funded in the 2025 UTP in the RGV region, encompassing over $2.0 billion in funding. These projects support:

- Construction of the Rio Grande City/Roma relief routes,
- The widening of SH 107, which runs parallel to I-2 and is designated as a HAZMAT route, and
- Dock expansions and an agricultural lab at Pharr Reynosa International Bridge.

Other funded projects include the widening and construction of new roadways that can support east-west and north-south CMV traffic in the RGV region, including FM 1925, FM 1015, and FM 509.

Transportation Efficiency Program Recommendations – Rio Grande Valley Region

The 13 policy recommendations identified in the Border-wide Themes section also apply to the RGV region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the RGV region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple specific infrastructure projects, listed in **Appendix F**.

E14. New CMV Routes

HIGH PRIORITY - $3,171.6M NEED - LED BY LOCALITIES, TXDOT

Commercial and residential uses are generally along or in close proximity to primary CMV corridors. Within the RGV Region, projects such as the East Loop in Cameron County aim to bypass urbanized centers and connect border crossings.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $61.1M	3 projects, $103.1M	2 projects, $296.9M	19 projects, $2,710.4M

E15. New & Improved Interstates

HIGH PRIORITY - $1,107.9M NEED - LED BY TXDOT

Ongoing development of I-2, I-69C, and I-69E will provide high-capacity options within and through the region.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $61.1M	1 project, $86.9M	8 projects, $882.7M	5 projects, $77.1M

E16. CMV Lanes

HIGH PRIORITY - $2,877.1M NEED - LED BY TXDOT, LOCALITIES

Design and construct CMV-friendly lanes that feature wider shoulders, provide separation from passenger activity, and facilitate cross-town CMV traffic. Lanes designed for CMVs streamline movement, support safety, allow space for law enforcement.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $1.1M	1 project, $43.0M	11 projects, $233.9M	108 projects, $2,599.2M

E17. Border-wide BCCs

HIGH PRIORITY - $63.7M NEED – LED BY TXDOT, TXDPS, LOCALITIES

Expand Border Communications Centers to cover the entirety of the border and include dedicated monitoring of CMV traffic for better oversight and control. BCCs border-wide bring visibility into CMV activity for security and operations management. Includes capital and operating costs.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 effort, $63.7M	-

E18. New & Expanded CMV Crossings

MEDIUM PRIORITY - $133.0M NEED – LED BY PRIVATE ENTITIES, LOCALITIES, TXDOT

The City of Mission is developing a new four-lane crossing, the Mission-Madero-Reynosa Bridge.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	-	1 project, $133.0M

E19. HAZMAT Routing

MEDIUM PRIORITY - $0.5M NEED - LED BY TXDOT

Develop a study to identify needs and expand authorized routing for hazardous materials (HAZMAT) and oversize/overweight (OS/OW) cargo to ensure safe and efficient transport of these types of goods. Study cost split evenly across three regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 study, $0.5M	-	-

E20. Permits Clearinghouse

MEDIUM PRIORITY - $0.2M NEED - LED BY TXDMV, LOCALITIES

Create a centralized electronic clearing house for OS/OW border permits accessible to law enforcement. In the RGV Region, the Port of Brownsville, Port of Harlingen, and the Hidalgo County Regional Mobility Authority issue permits on routes designated by state law in addition to permits from TxDMV. Study cost split evenly across three regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	1 effort, $0.2M	-	-

E21. Study Permit Harmonization

MEDIUM PRIORITY - $0.2M NEED - LED BY TXDMV, LOCALITIES

Develop a planning study to harmonize the permitting systems for OS/OW cargo across different issuing agencies at the border to streamline processes and reduce delays. Harmonization of permitting could aid efficiency. Study cost split evenly across regions.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	-	1 study, $0.2M

Alignment of Recommendations and Needs

Figure 52 compares the location of planned roadway projects to two key transportation issues: bottlenecks and high-crash density locations. Bottlenecks in the RGV region are spread throughout urbanized areas on local roadways as well as higher capacity highways, particularly near clusters of industrial activity in Pharr and Brownsville. The I-2, I-69E, and I-169/SH 550 improvements in these areas could alleviate bottlenecks on those roadways, though capacity and operational improvements on local roads would improve efficiency in the region as a whole. Similarly, locations with a high density of CMV-involved crashes are concentrated in urbanized areas in the RGV region. Crash hot spots along I-2/US 83 could be improved by planned projects; however, improvements to first and last mile connections to warehousing and other freight facilities will be essential to improving CMV-related safety in the RGV.

Figure 52: Planned Projects, Bottlenecks, and Crash Density in the Rio Grande Valley Region

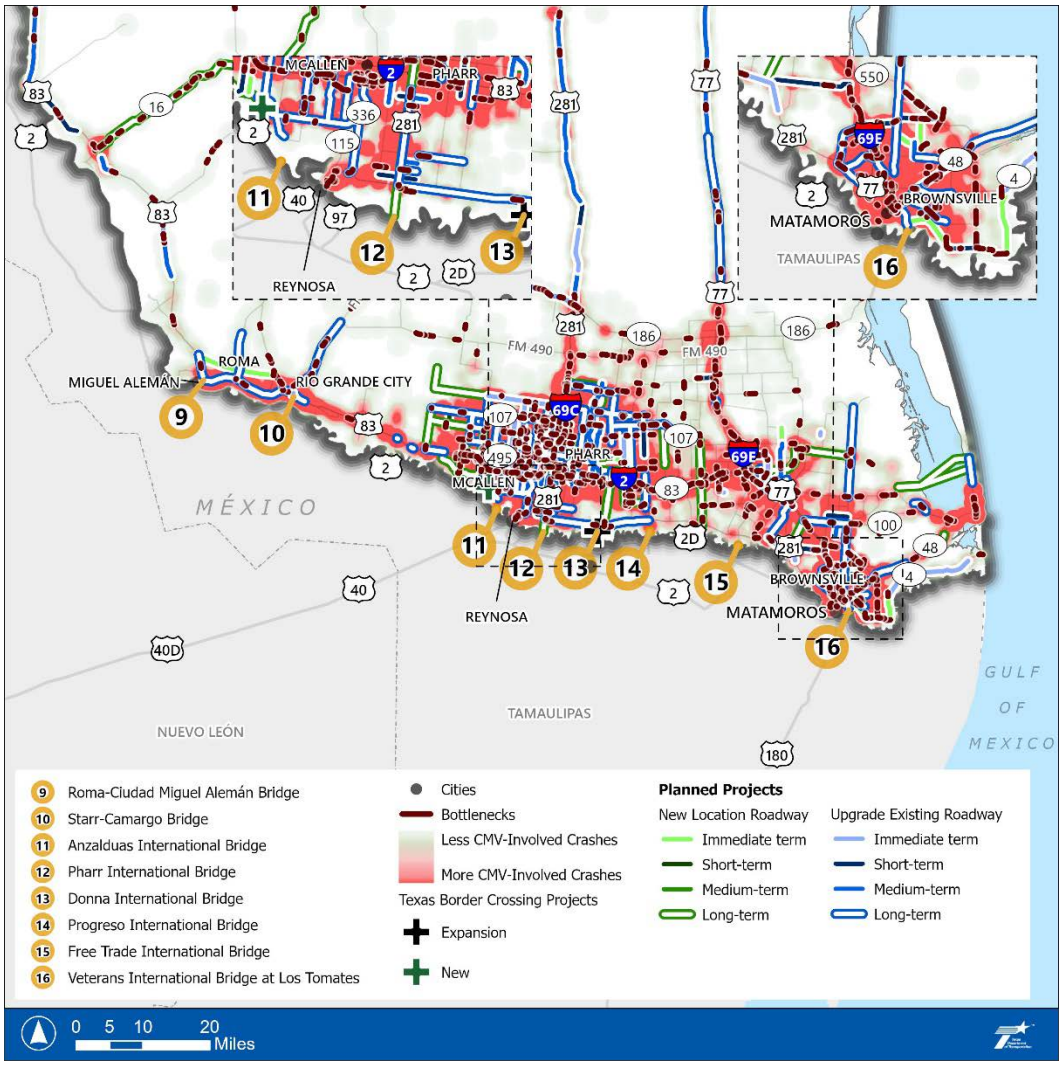
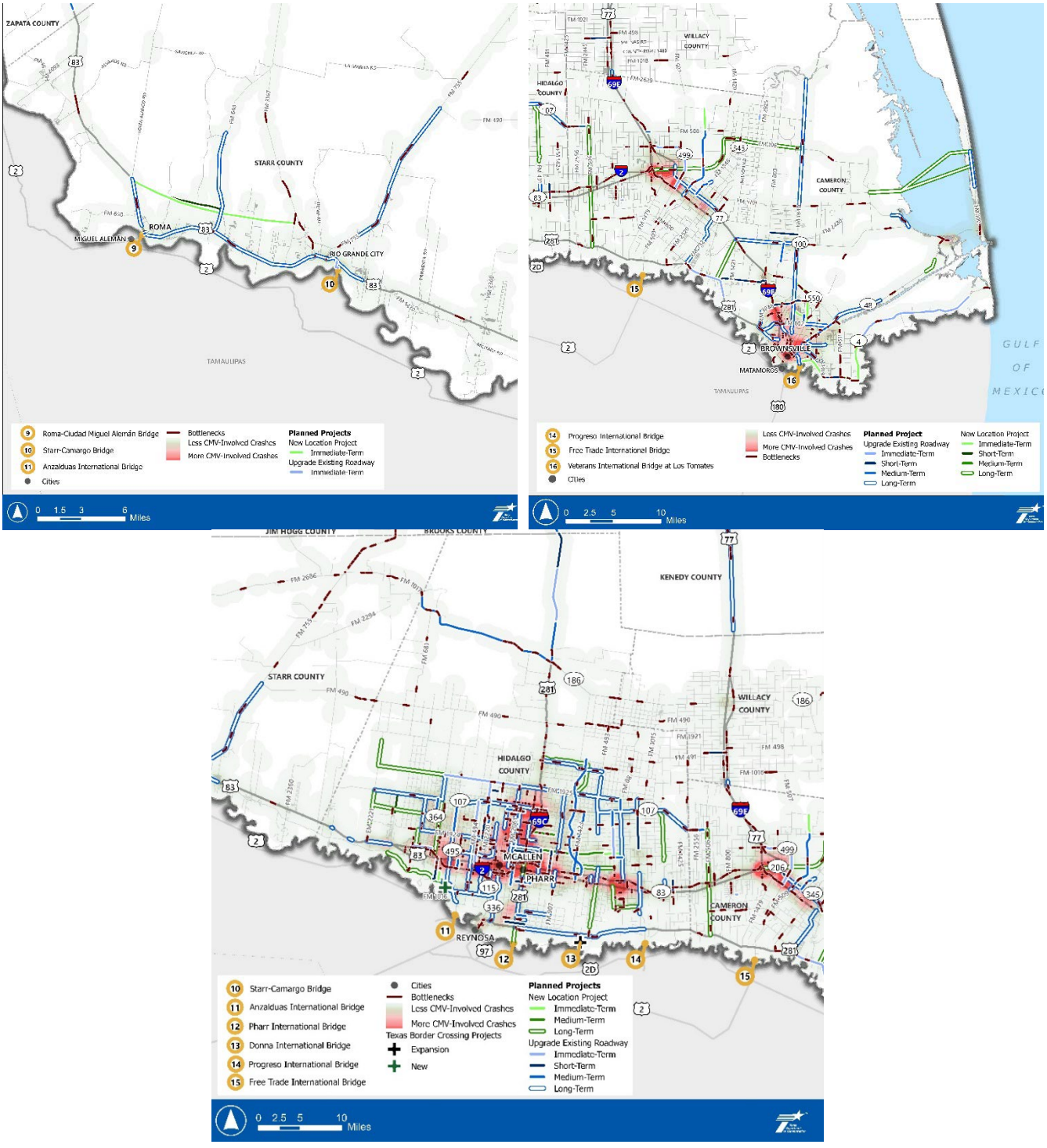


Figure 53: Planned Projects, Bottlenecks, and Crash Density in the Rio Grande Valley Region, Detailed



Chapter 4: Safety and Security

Border-wide Themes

Background

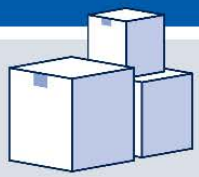
Ensuring efficient and safe cross-border trade between the United States and Mexico is reliant upon prioritizing public safety and security initiatives throughout the 60-mile border zone and the State of Texas. Agencies such as TxDPS, CBP, County Sheriff's Offices, and City Police Departments are lead agencies responsible for the enforcement of CMV rules and regulations, ensuring safety amongst the local community and all roadway users. There is a concentration of CMV enforcement at the Texas-Mexico border, which aims to address mechanical violations, criminal activity, and other safety and security related issues prior to CMV operations on the Texas roadway network.

Eight of the 14, roughly 57%, of Texas-Mexico border crossings that handle northbound CMV traffic have fixed TxDPS presence where they operate out of facilities at or near the CMV border crossing. An additional two CMV crossings were analyzed, Anzalduas International Bridge and Donna International Bridge, due to their anticipation of northbound traffic and the presence of safety and security issues in southbound vehicles. **Figure 10** shows border crossings where there is a fixed TxDPS presence, also summarized below. It is important to note that where TxDPS does not have a fixed presence, CMVs undergo fewer inspections and are mainly monitored through roadside inspections. The Border Crossing Profiles completed during this study display inspection, violation, and crash statistics reported by TxDPS around CMV border crossing facilities.

Figure 54: Texas Border Crossings with Fixed TxDPS Facilities

322 | Individuals were arrested for CMV-related crimes between 2018-2023

HUMAN SMUGGLING and **CONTROLLED SUBSTANCE SMUGGLING** were the **TWO MOST COMMON CRIMES** reported by TxDPS



160

Incidents of **REPORTED CARGO THEFT** in the border zone between January 2018 and April 2024 totaling

$14,462,403

in shipment damages

2023 Criminal Activity

HIDALGO COUNTY » **18,624**
highest number of total criminal offenses

WEBB COUNTY » **64**
highest number of human trafficking cases

EL PASO COUNTY » **2,015**
highest number of aggravated assault cases

TxDPS Violations

TOP 5 VIOLATIONS

1. Braking Systems
2. Lighting Systems
3. Miscellaneous Vehicle Violations
4. Tires, Wheels, Rims, and Hubs
5. Windshield Violations

CMV CROSSINGS with the MOST VIOLATIONS

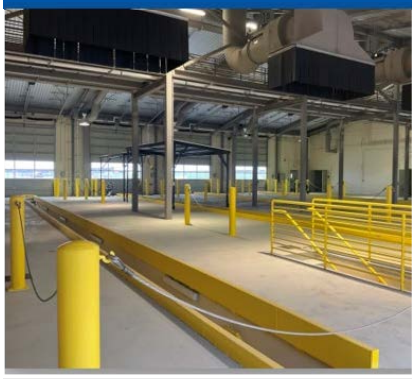
- ✘ Pharr International Bridge
- ✘ Ysleta-Zaragoza Bridge
- ✘ Bridge of the Americas
- ✘ Free Trade International Bridge
- ✘ Camino Real International Bridge

Needs and Challenges

Key Safety and Security needs and challenges identified are:

- Integration of technological systems for inspections
- Infrastructure upgrades at TxDPS facilities
- Comprehensive commercial driver training
- Enhanced local participation in CVE operations
- Development of safe roadside inspection areas
- Increased staffing for CMV enforcement
- Advanced surveillance and monitoring technologies
- Updated TxDPS facilities with digital and physical infrastructure
- Strengthened interagency communication and collaboration
- Regular maintenance and updating of inspection technologies
- Improved cross-border coordination
- Implementation of advanced security measures at warehouses and staging areas
- Data-driven approach to identifying and addressing hotspots

All 8 TxDPS CMV border crossing facilities are understaffed



Hidalgo County has the highest total number of criminal offenses

Mexican and American stakeholders desire additional CMV training

Human smuggling is the most common CMV-related criminal offense

Strategies and Recommendations

Safety and security recommendations identified in the Texas border zone total over $2.0 billion with $0 in funding identified. The table below depicts funding requirements by time period, and shows that no immediate, short, medium, or long-term recommendations have identified funding.

Table 6: Identified Border-wide Safety and Security Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$653,102,630	$0	$653,102,630
Short-Term (2-4 years)	$96,243,905	$0	$96,243,905
Medium-Term (4-10 years)	$1,282,490,068	$0	$1,282,490,068
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$2,031,836,603**	**$0**	**$2,031,836,603**

Safety and Security Policy Recommendations

Policy strategies for the immediate term (0-2 years), short term (2-4 years), medium term (4-10 years), and long term (10+ years) related to safety and security are summarized below, ordered by priority.

S01. Complete CMV Driver Training Program

HIGH PRIORITY - IMMEDIATE TERM - LED BY TXDOT, TXDPS

Complete the development and implementation of the CMV driver training program for cross-border drivers, administered by TxDPS and TxDOT. Implement a CMV driver training program to increase safety and reduce out-of-service rates for cross-border CMVs.

S02. Enhance Law Enforcement Training

HIGH PRIORITY - IMMEDIATE TERM - LED BY TXDPS

Provide additional training to 900 CVE law enforcement officers relating to interdiction and communication regarding trending criminal activity.

S03. Incorporate Emergency Protocols

HIGH PRIORITY - SHORT TERM - LED BY TXDOT, TXDPS, LOCALITIES

Incorporate protocols within BCC operations to ensure preparedness and effective response to any emergencies that may arise on CMV routes.

S04. Adopt a Standard for TxDPS Facility Design

MEDIUM PRIORITY - IMMEDIATE TERM - LED BY TXDOT, TXDPS

Adopt a preferred model design for buildings, site layout, and traffic operations at TxDPS facilities to enhance the standardization of inspection procedures throughout the border.

S05. Allocate OLS Funds to Local Agencies

MEDIUM PRIORITY - IMMEDIATE TERM - LED BY STATE OF TEXAS

Evaluate making Operation Lone Star funds available to local law enforcement for CMV enforcement. Expand the availability of Operation Lone Star funds to local jurisdictions to enhance border safety and security efforts.

S06. Share CMV-Related Data Across Agencies

MEDIUM PRIORITY - SHORT TERM- LED BY TXDPS, LOCALITIES

Share CMV criminal activity data among law enforcement and enforcement partners at the border aimed at strengthening consistency in uniform crime reporting and data reporting. Establish minimum and mandatory reporting requirements to increase the accuracy and consistency of CMV-related crime data across law enforcement agencies.

S07. Require Crime Reporting

MEDIUM PRIORITY - SHORT TERM - LED BY STATE OF TEXAS

Require state and local law enforcement to report all CMV-related data to a consolidated shared source using standardized formats and protocols to enhance data reporting, sharing, and analysis.

S08. Redirect CMV Citation Revenues

LOW PRIORITY - MEDIUM TERM - LED BY STATE OF TEXAS

Redirect a portion of revenue from CMV citations to a trust fund dedicated to maintenance and implementation of safety and security measures and technology. This policy is a funding strategy to expand the funding pool for technology systems and opportunities to be implemented throughout the Texas border region.

Safety and Security Program Recommendations

Programmatic strategies for the immediate term (0-2 years), short term (2-4 years), medium term (4-10 years), and long term (10+ years) related to safety and security are summarized below, ordered by priority. The dollar value reported represents the funding needed to implement all recommendations: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

S09. Enhance Highway Lighting

HIGH PRIORITY - $943.8M NEED - LED BY TXDOT, LOCALITIES

Provide safety lighting roadway improvements in areas where crashes in unlit conditions occur to enhance safety for officers performing inspections on roadways. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	833 miles, $943.8M 39 identified priority project locations	-

S10. Increase TxDPS Staffing at Border Crossings

HIGH PRIORITY - $159.9M NEED - LED BY TXDPS

Add additional TxDPS inspectors, troopers, sergeants, and administrative staff at border crossing facilities where understaffed. Enhance inspection capabilities by hiring additional TxDPS personnel at the eight understaffed border crossings where they have a fixed presence. Cost estimates include ten years of salary, benefits, and start-up costs for TxDPS equipment. The average biennial cost is approximately $23 million total.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
3 projects, $84.1M	5 projects, $75.8M	-	-

S11. Increase TxDPS Staffing Within Border Zone

HIGH PRIORITY - $196.1M NEED - LED BY TXDPS

Increase TxDPS presence through the addition of 90 troopers and supervisors to screen for drugs, smuggling, and other criminal activity. Increase TxDPS personnel to target CMV-related criminal activity within the 60-mile border zone. The average biennial cost is approximately $59 million total.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
3 projects, $196.1M	-	-	-

S12. Establish Inland TxDPS Facilities

HIGH PRIORITY - $120.0M NEED - LED BY TXDPS

Construct six TxDPS facilities within the 60-mile border zone to screen CMVs for security issues in documented crime hotspots (three pairs of EB/WB or NB/SB facilities). Candidate locations are identified in Appendix F.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	3 projects, $120.0M	-

S13. Staff Inland TxDPS Facilities

HIGH PRIORITY - $168.2M NEED - LED BY TXDPS

Add 90 inspectors, 36 troopers, 9 sergeants, and 9 administrative staff members to TxDPS inland facilities, upon construction, to screen CMVs for safety and security issues in documented crime hotspots or other identified areas that need CMV-related enforcement. The average biennial cost is approximately $34 million.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
	-	3 projects, $168.2M	-

S14. Deploy VWIMs and Pull-Over Areas

MEDIUM PRIORITY - $5.4M NEED - LED BY TXDPS, TXDOT

Deploy VWIMs throughout the border zone and construct pull-over areas for CMV inspectors to perform roadside inspections on heavily utilized CMV routes. Install VWIM sites and create pull-over areas on high-traffic routes to streamline CMV inspections and determine overweight vehicle usage.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	9 projects, $5.4M	-	-

S15. Create a Local Agency Grant Program

MEDIUM PRIORITY - $15.0M NEED - LED BY TXDPS

Create a grant opportunity for local agencies that would like to establish a CVE unit, or enhance their existing CVE unit, through an MOU with TxDPS. Fund local agencies to establish or enhance CVE units through MOUs with TxDPS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	$15.0M	-	-

S16. Increase TxDPS Staffing and Equipment to Enhance Radiation / Nuclear Detection Unit

HIGH PRIORITY - $4.8 M NEED - LED BY TXDPS

Add 6 TxDPS troopers to the 60-mile Texas border zone to bolster OLS and the defense of the State of Texas against forms of terrorism along the border regions. Equip each trooper with a radioisotope identification device (RIID), self-contained breathing apparatus, mask kit, voice projection unit for mask, tactical mask communication system, spectroscopic personal radiation detector, portable radiation detector backpack, spare battery kit for backpack, and full radiological nuclear detection rack systems. The average biennial cost is approximately $960,000.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
3 projects, $4.8M	-	-	-

S17. Update TxDPS Infrastructure

MEDIUM PRIORITY - $80.0M NEED - LED BY TXDOT, TXDPS

Update TxDPS facilities to include permanent, fixed buildings, with inspections pits at locations where they have a presence. Infrastructure improvements should aim to increase efficiency and screening capabilities at these border crossings.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	4 projects, $80.0M	-

S18. Establish Static Scale Sites

MEDIUM PRIORITY - $4.5M NEED - LED BY TXDPS, TXDOT

Establish static scale sites for mobile patrols along CMV routes to enhance the efficiency and effectiveness of CMV inspections and to increase compliance with size and weight regulations.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	3 projects, $4.5M	-

S19. Construct Fixed TxDPS Facilities

MEDIUM PRIORITY - $160.0M NEED - LED BY TXDOT, TXDPS

Add TxDPS facilities at CMV border crossings where there are no existing fixed facilities. Build permanent TxDPS facilities at 8 border crossings currently without fixed infrastructure to enhance inspection capacity.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	8 projects, $160.0M	-

S20. Expand Staffing at Future Border Crossing Facilities

MEDIUM PRIORITY - $174.2M NEED - LED BY TXDPS

Add TxDPS inspectors, troopers, sergeants, and administrative staff at border crossing facilities where TxDPS does not currently have a presence, upon construction of a fixed facility. Fully staff 8 border crossings that currently lack a TxDPS presence to ensure comprehensive CMV inspections. Cost estimates include ten years of salary, benefits, and start-up equipment costs for TxDPS personnel. The average biennial cost is approximately $35 million.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	7 projects, $174.2M	

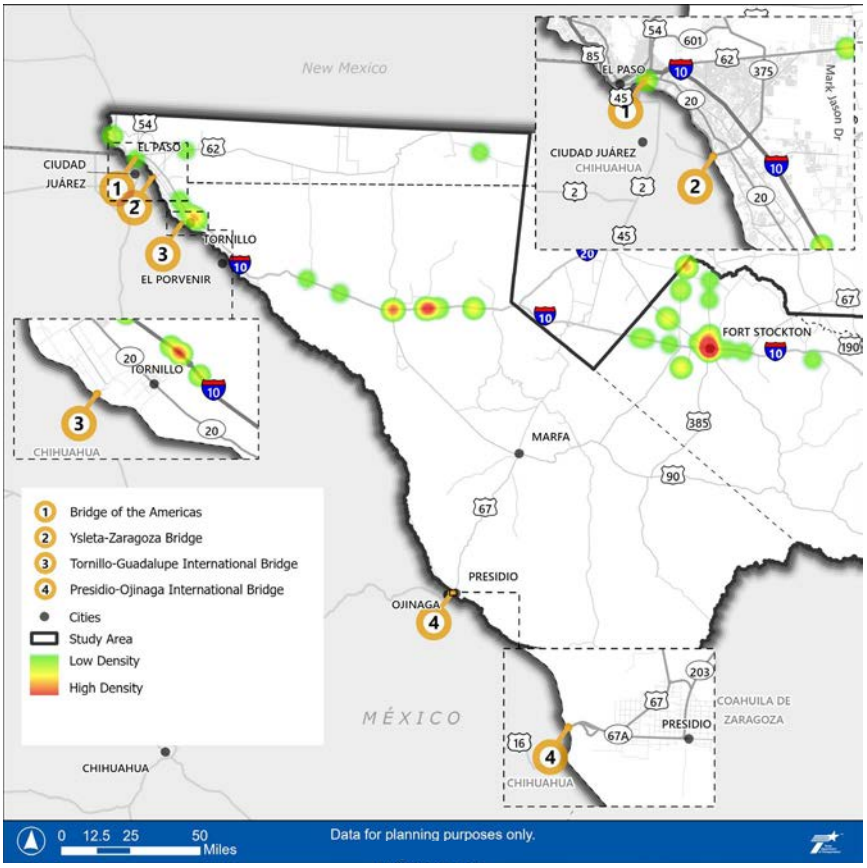
El Paso Region

Border Security-Related Findings

Security-related findings in the El Paso region are listed below. These findings include an analysis of UCR crime data, CargoNet cargo theft data, TxDPS CMV crime data, and anecdotal information obtained during stakeholder outreach.

CMV-Related Criminal Activity

Figure 55: El Paso Region, TxDPS Commercial Vehicle Criminal Activity Arrest Pattern (2018-2023)



Source: TxDPS

In the El Paso region, there were 28 arrests related to CMV criminal activity between 2018 and 2023. These arrests were made and reported by Texas TxDPS. Seventeen of the arrests, accounting for 60.7% of all CMV-related arrests in the region, occurred in Culberson County Nine arrests, 32.1% of arrests within the region, were reported in El Paso during this time frame; Hudspeth County reported two CMV-related criminal arrests by Texas TxDPS (7.1% of all arrests in the region). No CMV arrests were made between 2018 and 2023 by TxDPS in Jeff Davis, Presidio, or Brewster Counties.

The majority of CMV-related arrests occurred on Interstate 10, totaling 25 arrests or 89.3% of all arrests in the region. **Figure 55** shows the distribution of CMV arrests made by TxDPS between 2018 and 2023. It is important to highlight the cluster of CMV arrests east of the El Paso region on I-10.

Cargo Theft Data

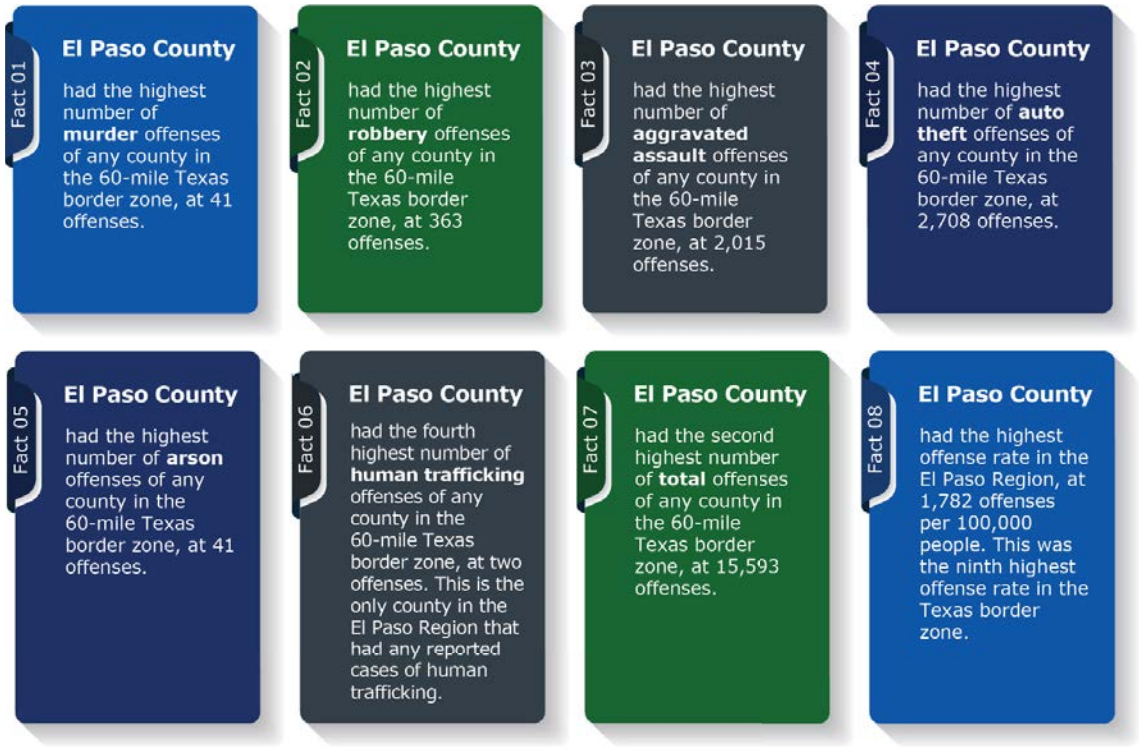
Forty-nine cargo theft incidents were reported in the El Paso region between January 2018 and April 2024 according to CargoNet data, accounting for 31% of cargo theft in the border zone during this period. All theft incidents occurred in El Paso County. The City of El Paso had the highest number of reported cargo theft incidents, with 44 incidents (90% of cargo thefts in the region).

This data shows a notable trend regarding cargo theft incidents in El Paso, with two locations reporting numerous incidents. Nineteen cargo theft incidents were reported at

897 Hawkins Boulevard (located in an industrial area south of I-10) during this time period, with 17 of these incidents (89%) occurring between July 29, 2020, and December 5, 2020. The next most common location was 1295 Horizon Boulevard, located adjacent to I-10, which reported four incidents between April 7, 2018, and August 14, 2020.

Broader Crime in the El Paso Region

Security-related issues are of particular concern for the El Paso region, which includes four commercial international border crossings. In 2023, aggravated assault was the most common reported crime incident in the El Paso region as a whole and in half of the region's counties (Hudspeth, Jeff Davis, and Presidio County). It is important to note that larceny was the most prominent offense in the entire 60-mile border zone, as well as the leading offense in El Paso County. The most prominent offense in Brewster County was burglary and there was no reported crime data for Culberson County in 2023. The chart below outlines key UCR crime statistics relating to the El Paso region in 2023.



Within the entire 60-mile border zone, El Paso County has the highest reported numbers of murder, robbery, aggravated assault, auto theft, and arson cases. It is important to note that El Paso County is the second most populous county in the border zone, correlating to more crime cases. When looking at offenses per 100,000 people in the El Paso region, El Paso County has the highest offense rate, at 1,782 offenses per 100,000

people in 2023. Presidio County saw the fewest offenses in the region in 2023, with eight total offenses, including four aggravated assaults, three auto thefts, and one rape.

Public Safety-Related Findings

Most safety concerns within the El Paso region are related to roadway safety and mobility of CMVs on the local roadway network, as traffic and congestion within the region has grown rapidly in the past five years. The Ysleta-Zaragoza Bridge has been identified as the primary and preferred border crossing used by CMVs, and in recent years efforts have been aimed at decreasing the CMV crossing capacity at Bridge of the Americas to facilitate the movement of traffic out of the city center.

Due to the number of warehouses around Ysleta-Zaragoza Bridge, drivers will often choose this crossing over other regional crossings, including Tornillo, even when wait times are significantly shorter at these facilities. High demand and volume at Ysleta contribute to congestion and increased safety violations.

Overweight southbound CMVs are a key safety issue reported by local law enforcement, with much of the cargo stemming from Maquiladora-bound traffic. Overweight southbound vehicles greatly outnumber overweight northbound CMVs. Despite this, there are no fixed inspection facilities dedicated to southbound inspections within the El Paso area. These CMVs heavily utilize Texas roadways, creating safety issues related to oversize and overweight cargo, mainly on I-10.

Law enforcement and trucking associations reported heightened numbers of Mexican CMV inspections, compared to that of US CMVs and drivers at the border. These inspections result in decreased border trade efficiency, due to manual inspection processes that TxDPS inspectors must undergo. Mechanical violations are the most reported violation type by these carriers. Law enforcement partners identified that additional technologies can be used to identify trends and violations in CMVs, carriers, and operators to increase the efficiency of trade and border crossing inspections.

Within El Paso County however, many CMV drivers, with their knowledge of common inspection checkpoint locations, utilize alternate routes to avoid inspections within the Texas roadway network. This avoidance is exacerbated by the lack of resources and local law enforcement support that CMV inspection units face in the region. With an increase in manpower, the local agencies would have the ability to conduct a higher number of inspections, mitigating the issue of drivers avoiding known inspection areas.

Most of the safety hotspots in the region are due to design deficiencies or limited roadway lighting, as reported by stakeholders. US 54, a roadway primarily used by HAZMAT

vehicles and local dump trucks, is an identified hotspot of design and lighting deficiencies, with both a lack of a road shoulder and lighting for local law enforcement to conduct safe roadside inspections.

CMV Crossings Oversight

Physical infrastructure at CMV border crossings in the El Paso region is summarized in **Table 7**. TxDPS is the only State entity located at these border crossing facilities, although it should be noted that they have no presence at Tornillo-Guadalupe International Bridge or Presidio-Ojinaga International Bridge; therefore, an analysis of TxDPS infrastructure could not be conducted at these two additional El Paso region crossings. An analysis of federal facilities and technologies is out of the scope of this report.

Table 7: Physical Infrastructure at El Paso Region Border Crossing Facilities

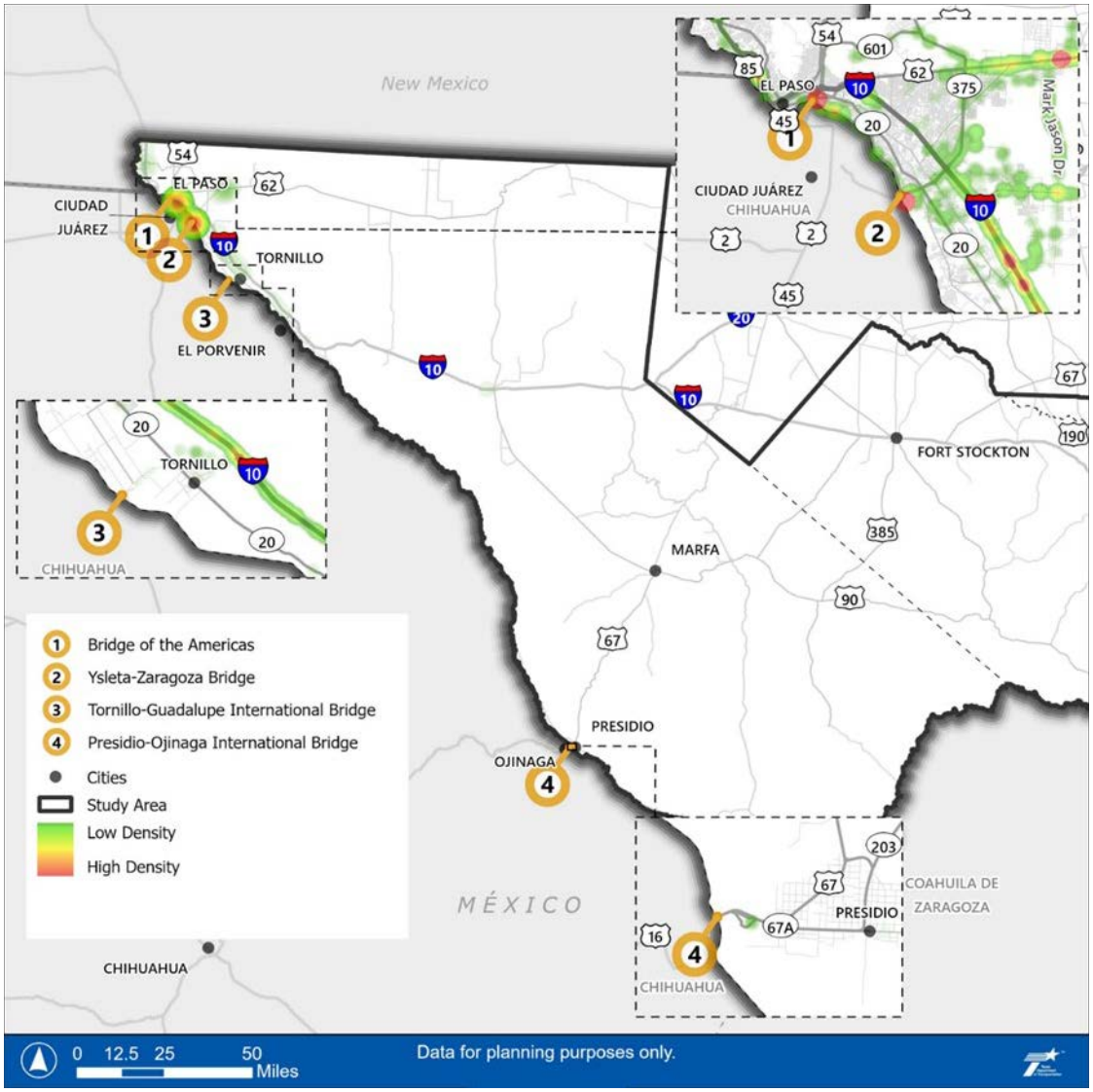
Border Crossing	Static Scales	Permanent Facility	Inspection Bay	Inspection Pits
Bridge of the Americas	Yes	Yes	Yes	Yes, 3
Ysleta-Zaragoza Bridge	Yes	Yes	Yes	Yes, 4
Tornillo-Guadalupe International Bridge	***NO TxDPS PRESENCE***			
Presidio-Ojinaga International Bridge	***NO TxDPS PRESENCE***			

CMV Inspections

As shown in **Figure 56,** TxDPS inspections are clustered around the Bridge of the Americas and the Ysleta-Zaragoza Bridge. The Ysleta-Zaragoza Bridge recorded the highest number of inspections within the El Paso region in 2023, with 8,713 inspections, accounting for approximately 54% of all inspections in the region. This crossing also recorded the greatest number of violations, accounting for 33,620 (50%) of the region's 67,193 total violations reported in 2023. Reflecting this, it also recorded the most inspections resulting in CMV vehicles being designated OOS with 1,248 inspections (approximately 62% of inspections).

The Bridge of the Americas, which recorded significant numbers of inspections and violations, had the highest average number of violations per inspection, with an average of 4.44 in 2023, as compared to an average of 3.86 violations in 2023 for the Ysleta-Zaragoza Bridge. An additional 481 inspections were conducted on Texas roadways in the region, with a third notable inspection hotspot is located on US 62, east of El Paso's city limits. Aside from these hotspots, there is a low density of inspections along interstates and US highways.

Figure 56: CMV Inspections Activity Map – El Paso Region (2023)



Source: TxDPS

Table 8: TxDPS Inspections and Violations at CMV Border Crossings, or within a Two-mile Radius – El Paso Region (2023)

Border Crossing	Northbound Crossing Volume	Total Inspections	Percent of Trucks Inspected	Total Inspections with Violations	Percent of Inspections with Violations	Total Violations	Average Violations per Inspection	Out of Service Rate
Inspections at Fixed TxDPS Facilities								
Bridge of the Americas	89,772	6,974	7.77%	5,394	77.34%	30,987	4.44	9.68%
Ysleta-Zaragoza Bridge	640,667	8,713	1.36%	6,983	80.14%	33,620	5.66	14.32%
Inspections within a 2-mile Radius of Crossing (No TxDPS Presence at Border Crossing)								
Presidio-Ojinaga International Bridge	11,395	No TxDPS inspections in 2023						
Tornillo-Guadalupe International Bridge	7,139	7	0.10%	6	85.71%	30	4.29	14.29%

Source: TxDPS

CMV Violations

The top five CMV violations in the El Paso region reflect those recorded for the Texas border zone in between 2018 and 2023. All five of these violations are mechanical and can be seen below.

El Paso Region CMV Citations

1. **Braking Systems** – 377,576 (41.7% of violations)
2. **Lighting Systems** – 223,608 (24.7% of violation)
3. **Miscellaneous Vehicle Violations** – 92,145 (10% of violations)
4. **Tires, Wheels, Rims, and Hubs Violations** – 87,289 (9.7% of violations)
5. **Windshield Violations** – 31,786 (3.5% of violations)

Throughout the four CMV crossings in the El Paso region, violations were generally consistent in terms of the violation groups recorded, although there were some variations. Braking and lighting systems violations comprised the majority of violations, ranked as the top two violation groups for the Bridge of the Americas and Ysleta-Zaragoza Bridge crossings, with lighting ranked as the top violation group for the Presidio International Bridge and Tornillo-Guadalupe International Bridge crossings.

Needs and Challenges

Insights From Stakeholders

In order to identify Texas' needs and opportunities, a comprehensive group of stakeholders, primarily the identified Working Group, were involved in a series of interviews and discussions. Highlights from the discussions in the El Paso region are documented below.

Local law enforcement has reported specific security-related concerns at Ysleta-Zaragoza Bridge and at Tornillo-Guadalupe International Bridge. Due to its remote location and lack of use, Tornillo-Guadalupe International Bridge has infrequent patrols and heightened CMV abandonment. This makes the bridge vulnerable to organized crime groups and associated activity, particularly on the Mexican side of the border; this organized crime is reported to deter CMV drivers from utilizing the bridge as a border crossing. Meanwhile,

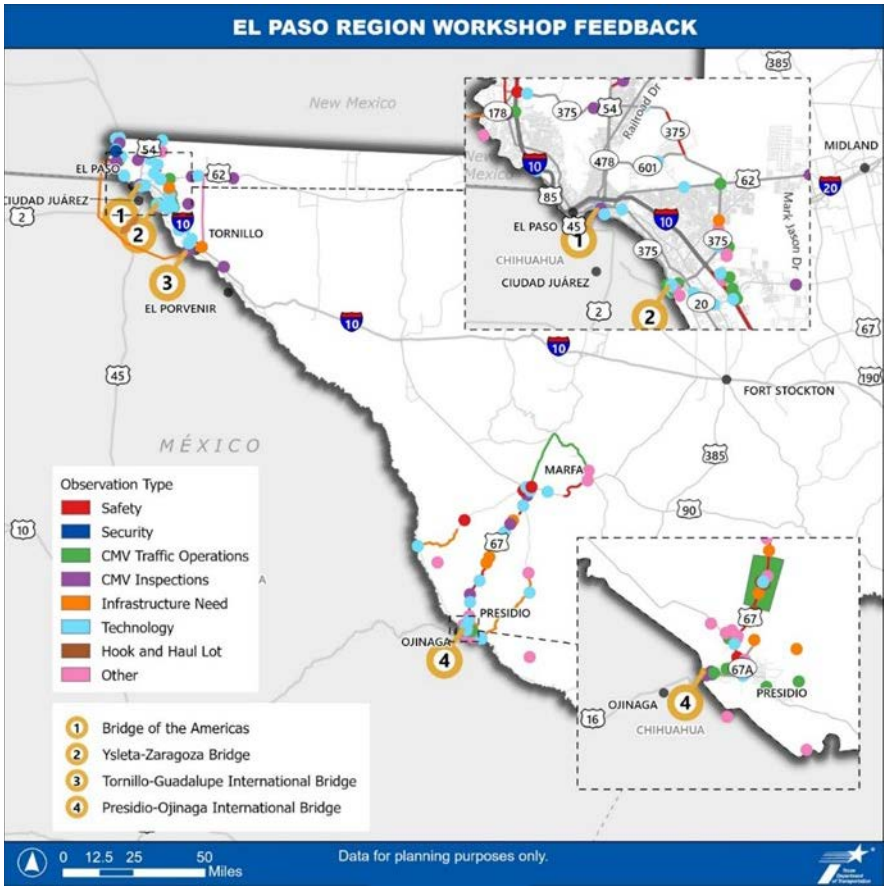
Ysleta-Zaragoza International Bridge experiences frequent traffic delays, which similarly raise concerns about abandoned vehicles and the risk of unexpected items being placed in trailers.

The El Paso region as a whole has observed a shift from narcotic smuggling to human smuggling in recent years, as reported by law enforcement. Further, smuggling was identified as a key issue facing the City of El Paso, though the smuggling in the city is not confined to CMVs.

Due to a lack of state and local law enforcement staffing, the region faces additional security concerns about conducting CMV inspections and patrolling areas effectively. The current shortage of sworn officers attributes to these concerns, as unsworn officers, or CMV inspectors, are not legally allowed to make arrests related to security issues, outside the scope of CMV enforcement.

Location-specific needs, issues, and recommendations are pictured in the map below based on stakeholder feedback.

Figure 57: El Paso Region Stakeholder Feedback from ArcGIS Field Maps Data Collection



OS/OW Safety Concerns Regarding Maquiladora Traffic

The maquiladora industry generates significant commercial vehicle traffic, particularly involving OS/OW loads. This creates safety concerns on roads due to the increased risk of accidents and infrastructure damage.

Local Community Prefers Re-direction of CMV Traffic

Local residents express a strong desire to redirect CMV traffic out of urban areas. The lack of warehousing facilities around Tornillo necessitates CMV drivers to make extensive detours, which they are often unwilling to take. This results in increased traffic congestion and safety issues within city limits.

Congestion at Bridge of the Americas and Ysleta-Zaragoza Bridge Resulting in Safety Concerns

Bridge of the Americas and Ysleta-Zaragoza Bridge experience significant congestion, backing up onto the Texas roadway network, which leads to safety concerns for both CMV drivers and other road users. The high volume of traffic at these crossings exacerbates the risk of accidents and delays.

Security-Related Issues on the Mexican Side of Tornillo-Guadalupe International Bridge

Security challenges on the Mexican side of the Tornillo-Guadalupe International Bridge deter CMV drivers from using this route. There are anecdotal concerns of organized crime and illicit activities within this area that limit the willingness of drivers to utilize this crossing.

Manpower to Enforce Safety and Security

There is a need for additional TxDPS and local law enforcement personnel to enforce safety and security measures related to CMV traffic throughout the El Paso region. Current staffing levels are insufficient to manage the volume of inspections and enforcement required to ensure compliance and safety.

Need for Additional Screening Equipment

The effectiveness of safety and security enforcement is hampered by a lack of adequate screening equipment at border crossing facilities. Additional technological resources are will help law enforcement screen CMVs for compliance with safety and security regulations.

Recent Transmigrante Traffic at Presidio-Ojinaga International Bridge

The Presidio-Ojinaga International Bridge has recently started streamlining transmigrante traffic, the only crossing in the region that allows this type traffic. Transmigrante traffic is referred to as CMVs that haul secondary goods from the US, through Mexico, to other Central American counties. These carriers often have major issues such as the transport of OS/OW loads and inadequate load securement. Staging areas have developed around the bridge to accommodate this traffic, which could impact the local community and pose additional safety hazards to other roadway users. The repeated overweight usage can also damage existing infrastructure without proper maintenance.

Infrastructure and Lighting Deficiencies

Safety hotspots along roadways like US 54 and other highways indicate a pressing need for improved infrastructure, including better lighting and enhanced road design to facilitate safer CMV operations and inspections.

Lack of TxDPS Presence at Smaller Crossings

The absence of TxDPS facilities at the Tornillo-Guadalupe International Bridge and Presidio-Ojinaga International Bridge creates security gaps, impacting effective CMV inspections and enforcement across the region.

Insufficient Southbound Inspection Facilities

Despite significant southbound CMV traffic due to maquiladora operations, there is a lack of dedicated inspection facilities in the El Paso region. This results in safety risks associated with OS/OW loads traveling southbound on Texas roadways.

Strategies and Recommendations

Safety and security recommendations identified in the El Paso region total over $500 million with $0 in funding identified. The table below depicts funding requirements by time period, and shows that no immediate, short, medium, or long-term recommendations have identified funding.

Table 9: Identified El Paso Region Safety and Security Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$200,412,653	$0	$200,412,653
Short-Term (2-4 years)	$26,232,457	$0	$26,232,457
Medium-Term (4-10 years)	$273,485,572	$0	$273,485,572
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$500,130,682**	**$0**	**$500,130,682**

Safety and Security Program Recommendations – El Paso Region

The eight policy recommendations identified in the Border-wide Themes section also apply to the El Paso region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the El Paso region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

S09. Enhance Highway Lighting

HIGH PRIORITY - $206.2M NEED - LED BY TXDOT, LOCALITIES

Provide safety lighting roadway improvements in areas where crashes in unlit conditions occur to enhance safety for officers performing inspections on roadways. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	182 miles, $206.2M, 15 identified priority project locations	-

S10. Increase TxDPS Staffing at Border Crossing Facilities

HIGH PRIORITY - $56.7M NEED - LED BY TXDPS

TxDPS is currently understaffed at both border crossings where they have a fixed presence, Bridge of the Americas and Ysleta-Zaragoza Bridge. Enhance inspection capabilities at Bridge of the Americas crossing by hiring an additional five inspectors, six troopers, one sergeant, and one administrative staff member. Enhance inspection capabilities at Ysleta-Zaragoza by hiring an additional 14 inspectors, 10 troopers, 2 sergeants, and 2 administrative staff. This totals 41 additional personnel in the El Paso region, between the two bridge crossings. Cost estimates include ten years of salary, benefits, and start-up costs for TxDPS equipment.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $37.4M	1 project, $19.4M	-	-

S11. Increase TxDPS Staffing Within Border Zone

HIGH PRIORITY - $65.4M NEED - LED BY TXDPS

Increase TxDPS presence through the addition of 30 troopers and supervisors to screen for drugs, smuggling, and other criminal activity. Stakeholders identified that criminal activity is seldomly occurring in cross-border transit, compared to the amount of criminal activity that is occurring in the United States once CMVs cross the border. Cost estimates include hiring and salaries over a ten-year period.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $65.4M			-

S12. Establish Inland TxDPS Facilities

HIGH PRIORITY - $40.0M NEED - LED BY TXDPS

Construct two TxDPS facilities within the 60-mile border zone to screen CMVs for security issues in documented crime hotspots. The candidate location for these facilities are on I-10 (one eastbound and one westbound) at mile marker 49 (near Fabens), due to its density of CMV criminal activity.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $40.0M	-

S13. Staff Inland TxDPS Facilities

HIGH PRIORITY - $56.1M NEED - LED BY TXDPS

Increase TxDPS presence through the addition of 30 inspectors, 12 troopers, 3 sergeants, and 3 administrative staff members at newly constructed inland facilities to screen for safety and security-related issues.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $56.1M	-	-	-

S14. Deploy VWIMs and Pull Over Areas

MEDIUM PRIORITY - $1.8M NEED - LED BY TXDPS, TXDOT

Install three VWIMs and pull over areas on the Texas roadway network to better understand overweight vehicle roadway utilization, influencing where TxDPS presence should be. I-10, SL 375, US 67, and US 90 are candidate locations for these technologies. Stakeholders in the El Paso region identified safety concerns related to lack of road shoulder along heavily trafficked CMV routes, affecting the quality of roadside inspections and inspector safety.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	3 projects, $1.8M	-	-

S15. Create a Local Agency Grant Program

MEDIUM PRIORITY - $5.0M NEED - LED BY TXDPS

Create a grant opportunity for local agencies that would like to establish a CVE unit, or enhance their existing CVE unit, through an MOU with TxDPS. Fund local agencies to establish or enhance CVE units through MOUs with TxDPS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	$5.0M	-	-

S16. Increase TxDPS Staffing and Equipment to Enhance Radiation / Nuclear Detection Unit

HIGH PRIORITY - $1.6 M NEED - LED BY TXDPS

Add 2 TxDPS troopers to the El Paso region to bolster OLS and the defense of the State of Texas against forms of terrorism. Equip each trooper with a radioisotope identification device (RIID), self-contained breathing apparatus, mask kit, voice projection unit for mask, tactical mask communication system, spectroscopic personal radiation detector, portable radiation detector backpack, spare battery kit for backpack, and full radiological nuclear detection rack systems.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $1.6M	-	-	-

S17. Update TxDPS Infrastructure N/A

There are no relevant recommendations in the El Paso region.

S18. Establish Static Scale Sites

MEDIUM PRIORITY - $1.5M NEED - LED BY TXDPS, TXDOT

Establish static scale sites for mobile patrols along CMV routes to enhance the efficiency and effectiveness of CMV inspections and to increase compliance with size and weight regulations. Candidate locations include Montana Ave., Horizon Blvd., South Desert Blvd., SL 375, SR 20, US 54, and US 67.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $1.5M	-

S19. Construct Fixed TxDPS Facilities

MEDIUM PRIORITY - $40.0M NEED - LED BY TXDOT, TXDPS

Add TxDPS facilities at CMV border crossings where there are no existing fixed facilities: Tornillo-Guadalupe International Bridge and Presidio-Ojinaga International Bridge.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	2 projects, $40.0M	-

S20. Expand Staffing at Future Border Crossing Facilities

MEDIUM PRIORITY - $25.8M NEED - LED BY TXDPS

Add additional TxDPS inspectors, troopers, sergeants, and administrative staff at Tornillo-Guadalupe International Bridge and Presidio-Ojinaga International Bridge. Add 8 inspectors, 4 troopers, one sergeant, and one administrative staff member to fully staff Tornillo-Guadalupe International Bridge, upon construction of a fixed facility. Add 5 inspectors, 1 trooper, 1 sergeant, and 1 administrative staff member to fully staff Presidio-Ojinaga International Bridge, upon construction of a fixed facility. Cost estimates include ten years of salary, benefits, and start-up equipment costs for TxDPS personnel.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	2 projects, $25.8M	-

Laredo Region

Border Security-Related Findings

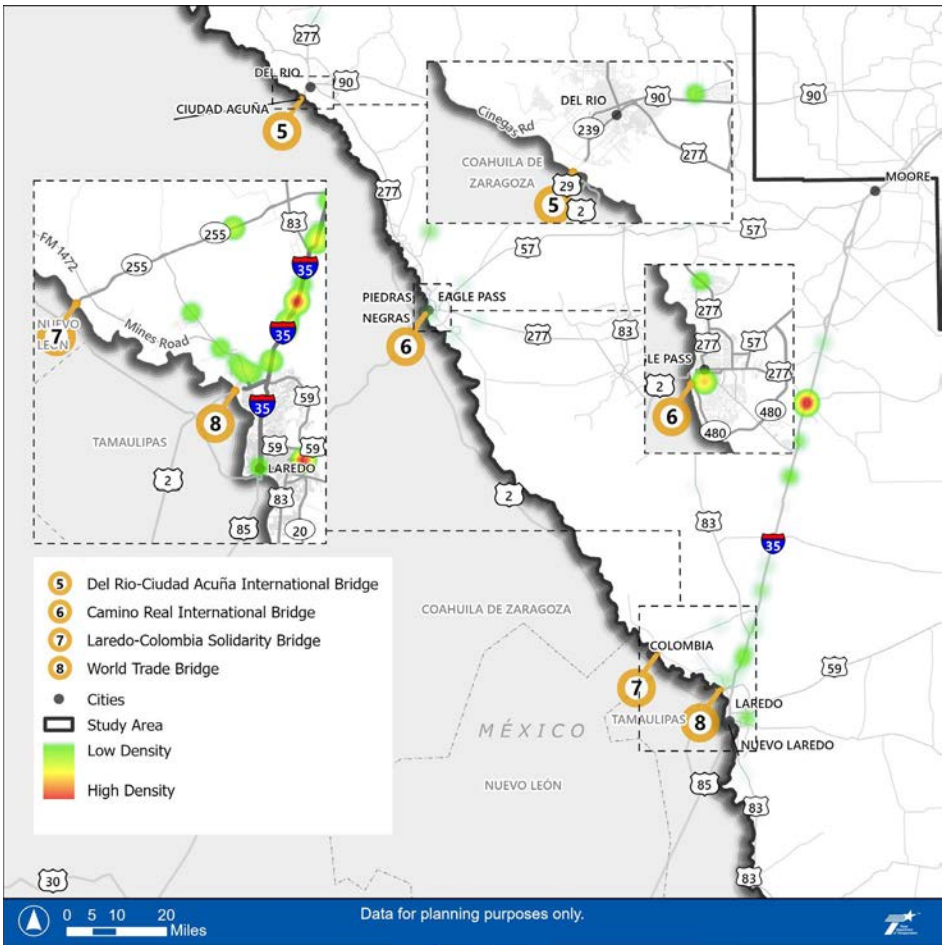
This section includes an analysis of UCR crime data, CargoNet cargo theft data, TxDPS CMV crime data, and anecdotal information obtained during stakeholder outreach.

CMV-Related Criminal Activity

Figure 58 shows the distribution of CMV-related arrests in the Laredo region between 2018 and 2023. A total of 162 CMV-related arrests in the Laredo region were reported between that same period. 91 of these arrests occurred in La Salle County, accounting for 56.2% of total CMV-related arrests in the region. Webb County had the second highest number of CMV-related arrests in the region with a total of 39, accounting for 24.1% of arrests.

Human smuggling was the violation with the highest number of offenses, totaling 71, or 43.8% of CMV-related arrests, throughout the period from 2018 to 2023. The majority of these arrests occurred on FM 133, which had 63 arrests. I-35 also had a large share of the CMV-related arrests in the region, totaling 55 arrests. Together, FM 133 and I-35 account for 72.8% of arrests in the region.

Figure 58: Laredo Region, TxDPS Commercial Vehicle Criminal Activity Arrest Pattern (2018-2023)



Source: TxDPS

Cargo Theft Data

Using CargoNet data, a total of 83 cargo theft incidents were reported in the Laredo region from 2018 to April 2024. The vast majority of these thefts, 81 in total, occurred in Webb County within close proximity to the World Trade Bridge. Additionally, one incident took place in Val Verde County near the Del Rio-Ciudad Acuña International Bridge, and another occurred in Maverick County near the Camino Real International Bridge. There were 12 cargo theft incidents reported with no address; therefore, no spatial analyses of these reports were conducted.

Broader Crime in the Laredo Region

Larceny was the most prevalent offense in the Laredo region, as well as in Val Verde, Kinney, Maverick, Dimmit, Webb, and Duval Counties. Auto theft was the primary offense in La Salle County, while aggravated assault topped the list in Zavala County. The chart below outlines key UCR crime statistics relating to the Laredo region in 2023.

Public Safety-Related Findings

The four border crossings in this region stand as the foremost area for international trade in Texas, and the Laredo port is the largest in the nation. Despite this, the Laredo region experiences the fewest regionwide TxDPS inspections as compared to other regions within the 60-mile Texas border zone. At the same time, local law enforcement and TxDPS officers have observed a consistent rise in CMV crashes. These crashes are often attributed to issues such as overweight loads, over height vehicles, mechanical malfunctions, reckless driving, and vehicles overturning on sharp turns.

Key routes in the Laredo region connect CMV traffic to the four International Bridges in the area. CMV traffic on these routes has been significantly increasing in recent years and is expected to continue to grow due to the passage of the USMCA and nearshoring in Mexico. Significant delays at border crossings in the Laredo region are causing safety issues in the area, which have become top priorities for local law enforcement to address.

There is a desire to improve connectivity along major routes, such as I-35, US 57, and Loop 480. The completion of construction on these roads aims to improve efficiency and separate CMVs from passenger vehicles, thereby reducing safety concerns that arise from the mix of vehicle types. The lack of streets that parallel each other was also identified as a safety concern, due to the high volume of CMVs that travel limited east/west routes. These volumes are responsible for a significant portion of congestion and accidents along east/west routes in the Laredo region.

Overturned CMVs due to heavy weight are increasing in the region, particularly on US 57 and Veterans Boulevard. Sharp turns are primarily the cause of these accidents, as reported by law enforcement. Contents of the truck often spill during these accidents and the majority of these spills involve overweight CMVs carrying fuel. Additionally, there are limited passing lanes between Del Rio and Eagle Pass, contributing to unsafe behavior amongst CMV operators trying to pass other vehicles.

CMV Crossings Oversight

Physical infrastructure at CMV border crossings in the Laredo region is summarized below. TxDPS is the only state entity located at these border crossing facilities, and analysis of federal facilities and technologies is beyond the scope of this report. It is important to note that there is no TxDPS presence at World Trade Bridge, therefore, analysis of TxDPS infrastructure could not be conducted.

Table 10: Infrastructure at TxDPS CMV Border Crossing Facilities - Laredo Region

Border Crossing Infrastructure	Static Scales	Permanent Facility	Inspection Bay	Inspection Pit
Del Rio-Ciudad Acuña International Bridge	Yes, non-operational	No	Yes	No
Camino Real International Bridge	No	No	Yes	No
Laredo-Colombia Solidarity Bridge	Yes, operational and non-operational	Yes	Yes	Yes, 4
World Trade Bridge	***NO TxDPS PRESENCE***			

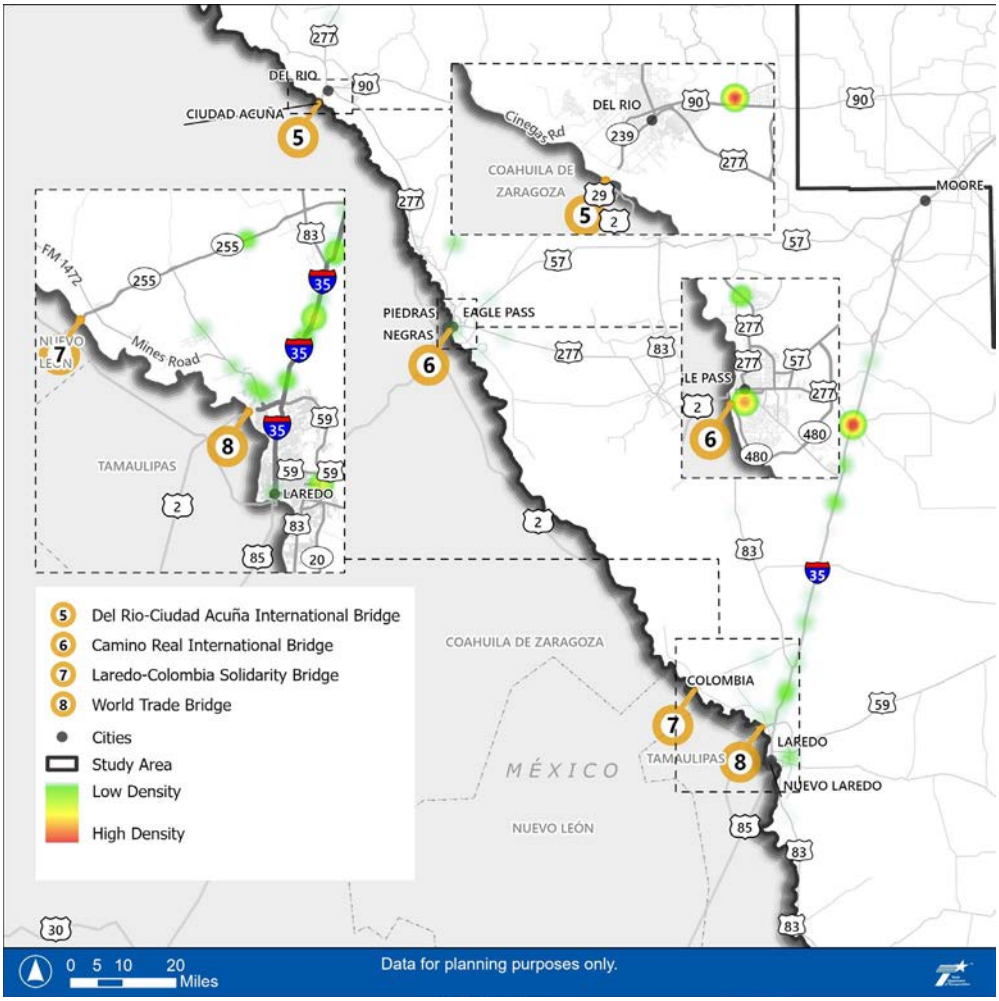
CMV Inspections

In 2023, Camino Real International Bridge inspected the highest number of trucks in the Laredo region, totaling 4,058 inspections, which accounted for 37% of the region's total. It also had the highest number of violations, reaching 12,356 violations and making up 30% of the region's total in that same year. Camino Real further recorded the most inspections with violations, totaling 3,045 inspections in 2023. Additionally, it had the highest number of inspections leading to OOS violations, with 866 instances, constituting 35% of the Laredo region's OOS violations.

Laredo-Colombia Solidarity International Bridge had the highest average of violations per inspection in the Laredo region for 2023, with an average of 6.33 inspections per violation. This figure stands significantly higher than the 2023 Laredo region average of 3.75 inspections per violation and the average of 5.45 inspections per violation recorded between 2018 and 2023.

Outside of these border crossings, an additional 6,771 inspections were conducted on Texas roadways in the region. **Figure 59** shows the distribution of TxDPS inspections in the Laredo region. TxDPS inspections are clustered around border crossings, with Laredo-Colombia having the highest density of inspections. Other notable inspection hotspots are along I-35.

Figure 59: CMV Inspections Activity Map – Laredo Region (2023)



Source: TxDPS

Table 11: TxDPS Inspections and Violations at CMV Border Crossings, or within a Two-mile Radius – Laredo Region (2023)

Border Crossing	Northbound Crossing Volume	Total Inspections	Percent of Trucks Inspected	Total Inspections with Violations	Percent of Inspections with Violations	Total Violations	Average Violations per Inspection	Out of Service Rate
Inspections at Fixed TxDPS Facilities								
Del Rio-Ciudad Acuña International Bridge	78,496	48	0.06%	33	68.75%	128	2.64	0.01%
Camino Real International Bridge	210,609	4,058	1.93%	3,045	75.04%	12,356	3.04	21.34%
Laredo-Colombia Solidarity Bridge	270,423	3	0.00%	3	100.00%	19	6.33	66.67%
Inspections within a 2-mile Radius of Crossing (No TxDPS Presence at Border Crossing)								
World Trade Bridge	2,594,203	97	0.00%	87	89.69%	549	5.66	48.45%

Source: TxDPS

CMV Violations

The top five CMV violations in the Laredo region reflect those recorded for the Texas border zone in between 2018 and 2023. All five of these violations are mechanical and can be seen below.

Laredo Region CMV Citations

1. **Braking Systems** – 283,435 (31% of violations)
2. **Lighting Systems** – 173,256 (19% of violation)
3. **Miscellaneous Vehicle Violations** – 97,625 (11% of violations)
4. **Tires, Wheels, Rims, and Hubs Violations** – 91,379 (10% of violations)
5. **Windshield Violations** – 46,859 (5% of violations)

Throughout the four CMV crossings in the region, these top five violations are consistent. However, at the Laredo-Colombia Solidarity Bridge, OS/OW violations are the most common CMV violation type.

The majority of TxDPS violations in the Laredo region, totaling 621,497 or 68% from 2018 to 2023, occurred outside of Texas-Mexico border crossings. The two-mile radius around the World Trade Bridge recorded the highest number of TxDPS violations during this period, amounting to 146,994 violations, which constituted 16% of violations in the entire Laredo region.

Needs and Challenges

Insights from Stakeholders

In order to identify Texas' needs and opportunities, a comprehensive group of stakeholders were involved in a series of interviews and discussions. Highlights from the discussions in the Laredo region are documented below.

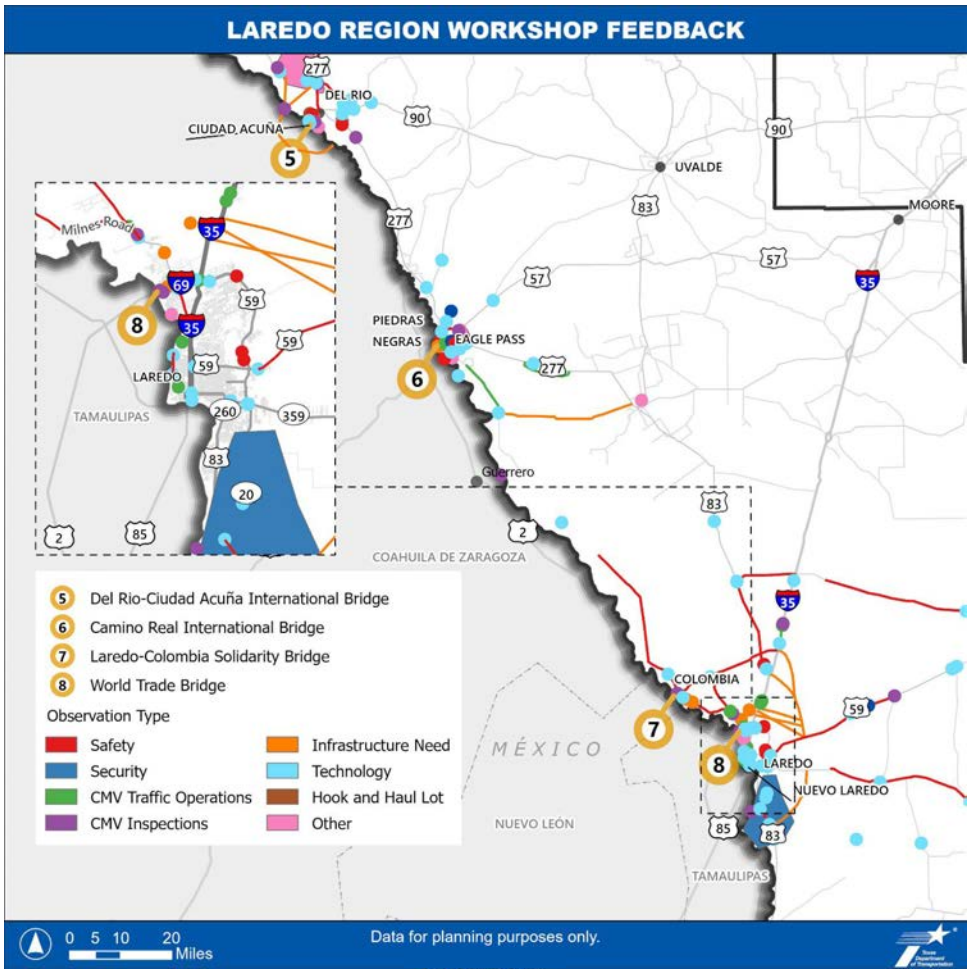
Participants in Maverick County and the City of Eagle Pass reported experiencing an increase in CMV-related illegal activity, making particular note of human smuggling incidents at truck stops. In Maverick County, a security hotspot has emerged around a local truck stop situated at the intersection of North US 57 and US 277. Incidents of unauthorized migrants gaining access to CMVs have been documented at this truck stop,

primarily through truck driver reports. Consequently, security patrols have been increased at and around the hotspot.

The absence of TxDPS presence at World Trade Bridge, which has the highest volume of CMVs of all border crossings in Texas, has the potential to pose security-related issues due to minimal screening. Further, these security concerns are exacerbated by the lack of lighting in warehousing areas. As a result, World Trade Bridge, located in Webb County, coincides with the area reporting the highest number of human trafficking offenses within the entire 60-mile Texas border zone.

Local commercial vehicle enforcement units in the region face constraints in time, resources, and personnel for interdiction compared to their federal counterparts. For instance, stakeholders report that CMV arrests related to contraband have increased in Webb County, but those arrests are primarily addressed through CBP. TxDPS further observes the effect of these constraints at Camino Real International Bridge, which is reported to have a higher number of drug-related arrests when compared to other crossings. CMVs appear to be aware of these constraints, as they occasionally utilize dirt roads and Farm-to-Market (FM) roads, which lack checkpoints, to avoid law enforcement personal.

Figure 60: Laredo Region Stakeholder Feedback from ArcGIS Field Maps Data Collection



Location-specific needs, issues, and recommendations are pictured in **Figure 60** based on stakeholder feedback.

Violations Concentrated Outside Texas-Mexico Border Crossings in Laredo Region

The majority of CMV violations in the Laredo region are occurring outside of Texas-Mexico border crossings. This pattern necessitates enhanced enforcement strategies beyond entry points to effectively address compliance issues across the broader transportation network.

Lack of TxDPS Facilities at Busiest CMV Crossing in Laredo

The bridge handling the highest volume of CMV traffic crossing the border – the World Trade Bridge - lacks TxDPS facilities, posing safety concerns regarding mechanical inspections for CMVs and security concerns due to limited screening capabilities.

Cargo Theft Concentration in Webb County

Webb County experiences a concentration of cargo theft incidents, indicating a need for intensified security measures and law enforcement efforts to mitigate theft risks effectively in this area.

Drug Trafficking and Security at Camino Real International Bridge

The Camino Real International Bridge stands out for its high incidence of drug trafficking arrests compared to other crossings. There is a need for enhanced security measures and intensified interdiction efforts to effectively combat drug smuggling activity at this location.

Human Smuggling Hotspots in Maverick County

Stakeholder outreach has identified Maverick County, particularly around local truck stops, as a hotspot of human smuggling activity. Increased security patrols will help address unauthorized access to CMVs.

Challenges Due to Data and Reporting Gaps

Instances of cargo theft lacking reported addresses have hindered spatial analysis and comprehensive crime mapping efforts. Addressing these reporting gaps will allow better understanding of theft patterns and implementation of targeted responses effectively.

Resource Constraints for Local CVE Units

Local CVE units face significant challenges in terms of limited time, resources, and personnel. This disparity may impact the efficacy of enforcement efforts and the ability to promptly respond to evolving safety and security concerns.

Strategies and Recommendations

Safety and security recommendations identified in the Laredo region total over $920 million with $0 in funding identified. The table below depicts funding requirements by time period and shows that no immediate, short-, medium-, or long-term recommendations have identified funding.

Table 12: Identified Laredo Region Safety and Security Recommendations (Immediate, Short-, Medium-, and Long-Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$217,334,824	$0	$217,334,824
Short-Term (2-4 years)	$28,573,618	$0	$28,573,618
Medium-Term (4-10 years)	$680,937,545	$0	$680,937,545
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$926,845,987**	**$0**	**$926,845,987**

Safety and Security Program Recommendations – Laredo Region

The eight policy recommendations identified in the Border-wide Themes section also apply to the Laredo region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the Laredo region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

S09. Enhance Highway Lighting

HIGH PRIORITY - $562.0M NEED - LED BY TXDOT, LOCALITIES

Provide safety lighting roadway improvements in areas where crashes in unlit conditions occur to enhance safety for officers performing inspections on roadways. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	496 miles, $562.0M 17 identified priority project locations	-

S10. Increase TxDPS Staffing at Border Crossing Facilities

HIGH PRIORITY - $36.1M NEED - LED BY TXDPS

Add 22 additional TxDPS inspectors, troopers, and supervisors at border crossing facilities where understaffed: Del Rio Ciudad Acuna International Bridge (6), Camino Real International Bridge (6), and Laredo Colombia International Bridge (10). Cost estimates include ten years of salary, benefits, and start-up costs for TxDPS equipment.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $14.3M	2 projects, $21.8M	-	-

S11. Increase TxDPS Staffing Within Border Zone

HIGH PRIORITY - $65.4M NEED - LED BY TXDPS

Increase TxDPS presence through the addition of 30 troopers and supervisors to screen for drugs, smuggling, and other criminal activity. Additional presence is recommended to include I-35, in both Webb and La Salle County, SH 131, US 57, and US 277 in Maverick County due to their density of CMV criminal activity. Cost estimates include hiring and salaries over a ten-year period.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $65.4M	-	-	-

S12. Establish Inland TxDPS Facilities

HIGH PRIORITY - $40.0M NEED - LED BY TXDPS

Construct two TxDPS facility within the 60-mile border zone to screen CMVs for security issues in documented crime hotspots (a pair of Eastbound/Westbound facilities or a pair of Northbound/Southbound facilities). Candidate locations for this facility include US 90 and US 83 due to their density of CMV criminal activity.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $40.0M	-	-	-

S13. Staff Inland TxDPS Facilities

HIGH PRIORITY - $56.1M NEED - LED BY TXDPS

Add TxDPS 30 inspectors, 12 troopers, 3 sergeants, and 3 administrative staff members at newly constructed inland facilities to screen for safety and security-related issues.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $56.1M	-

S14. Deploy VWIMs and Pull Over Areas

MEDIUM PRIORITY - $1.8M NEED - LED BY TXDPS, TXDOT

Install three VWIMs and pull over areas on the Texas roadway network to better understand overweight vehicle roadway utilization, influencing where TxDPS presence should be. I-35, US 57, and US 277 are candidate locations for these technologies. Stakeholders in the Laredo region identified safety concerns related to lack of road shoulder along heavily trafficked CMV routes, affecting the quality of roadside inspections and inspector safety.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	3 projects, $1.8M	-	-

S15. Create a Local Agency Grant Program

MEDIUM PRIORITY - $5.0M NEED - LED BY TXDPS

Create a grant opportunity for local agencies that would like to establish a CVE unit, or enhance their existing CVE unit, through an MOU with TxDPS. Fund local agencies to establish or enhance CVE units through MOUs with TxDPS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	$5.0M	-	-

S16. Increase TxDPS Staffing and Equipment to Enhance Radiation / Nuclear Detection Unit

HIGH PRIORITY - $1.6M NEED - LED BY TXDPS

Add 2 TxDPS troopers to the Laredo region to bolster the defense of the State of Texas against forms of terrorism. Equip each trooper with a radioisotope identification device (RIID), self-containing breathing apparatus, mask kit, voice projection unit for mask, tactical mask communication system, spectroscopic personal radiation detector, portable radiation detector backpack, spare battery kit for backpack, and full radiological nuclear detection rack systems.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $1.6M	-	-	-

S17. Update TxDPS Infrastructure

MEDIUM PRIORITY - $40.0M NEED - LED BY TXDOT, TXDPS

Update TxDPS facilities to include permanent, fixed buildings, with inspections pits at locations where they have a presence. Infrastructure at Del Rio-Ciudad Acuña International Bridge and Laredo-Colombia Solidarity Bridge need to be updated to allow for increased efficiency and screening.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $40.0M	-	-	-

S18. Establish Static Scale Sites

MEDIUM PRIORITY - $1.5M NEED - LED BY TXDPS, TXDOT

Establish static scale sites for mobile patrols along CMV routes to enhance the efficiency and effectiveness of CMV inspections and to increase compliance with size and weight regulations. Candidate locations include US 277, SL 79, US 57, US 59, and US 83.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $1.5M	-

S19. Construct Fixed TxDPS Facilities

MEDIUM PRIORITY - $40.0M NEED - LED BY TXDOT, TXDPS

Add TxDPS facilities at CMV border crossings where there are no existing fixed facilities: Laredo IV/V (future crossing) and World Trade Bridge.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	2 projects, $40.0M	-

S20. Expand Staffing at Future Border Crossing Facilities

MEDIUM PRIORITY - $79.4M NEED - LED BY TXDPS

Add additional TxDPS inspectors, troopers, sergeants, and administrative staff at Laredo IV/V and World Trade Bridge, upon construction of fixed TxDPS facilities. Add 16 inspectors, 8 troopers, 2 sergeants, and 2 administrative staff members to fully staff Laredo IV/V. Add 30 inspectors, 6 troopers, 3 sergeants, and 3 administrative staff members to fully staff World Trade Bridge. Cost estimates include ten years of salary, benefits, and start-up equipment costs for TxDPS personnel.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	2 projects, $77.5M	-

Rio Grande Valley Region

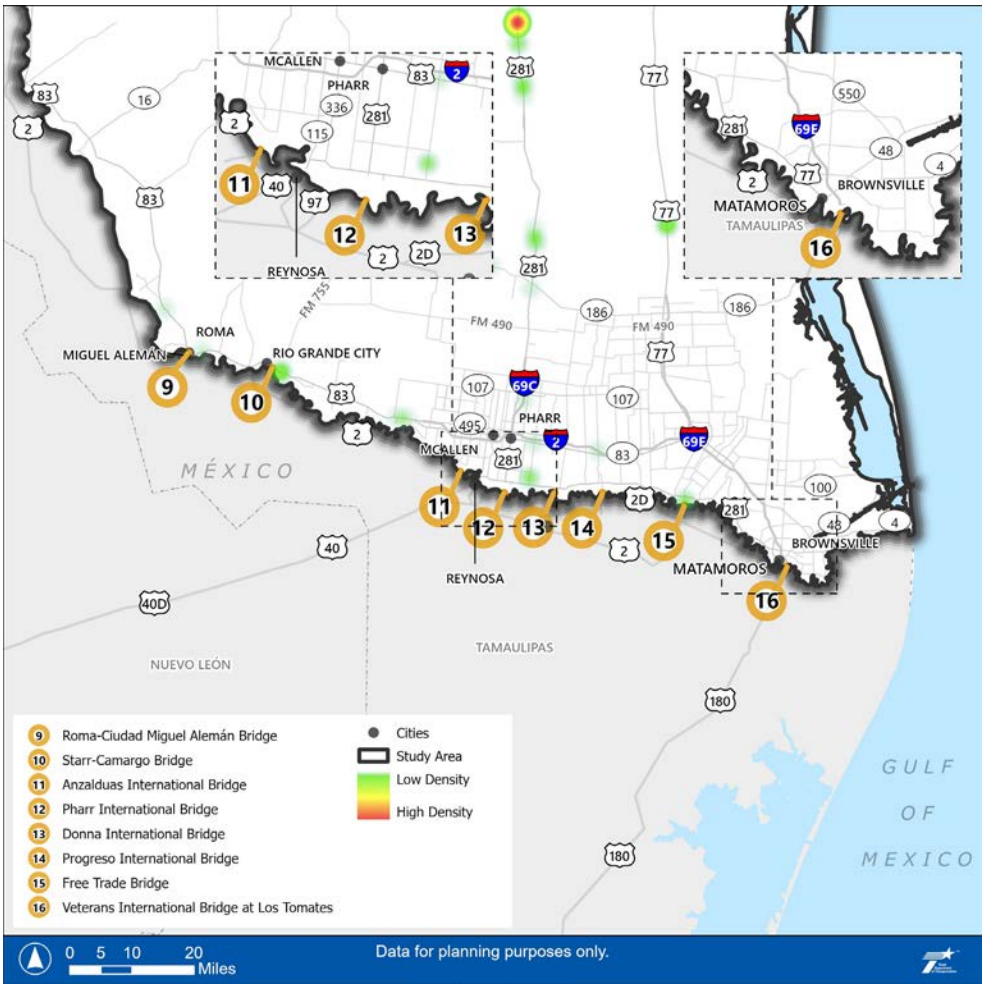
Border Security-Related Findings

This section includes an analysis of UCR crime data, CargoNet cargo theft data, TxDPS CMV crime data, and anecdotal information obtained during stakeholder outreach.

CMV-Related Criminal Activity

There was a total of 77 CMV-related arrests in the RGV region between 2018-2023; 38 of these arrests occurred in Brooks County, comprising 49.4% of CMV-related arrests in the Region. Jim Hogg County had the second highest concentration of CMV-related arrests in the Region, 15 total, accounting for 19.5% of arrests. There were no arrests made in Willacy or Zapata counties.

Figure 61: Rio Grande Valley Region, TxDPS Commercial Vehicle Criminal Activity Arrest Pattern (2018-2023)



Source: TxDPS

Human smuggling and controlled substances violations were the most common violations, with 19 reports each (38 total) from 2018-2023 accounting for 49.4% of all CMV-related arrests in the area during this time frame. The majority of these arrests (41)

occurred on US Highway 281, with 15 CMV-related arrests recorded on State Highway 359. Together, US Highway 281 and State Highway 359 accounted for 72.7% of arrests in the region.

Figure 61 shows the distribution of CMV-related arrests in the Rio Grande Valley region between 2018-2023. The cluster of arrests in northern Brooks County is located at a weigh station facility in Falfurrias. This area has a notable TxDPS presence.

Cargo Theft Data

Using CargoNet data, 28 cargo theft incidents were reported in the Rio Grande Valley region between 2018 and April 2024. These reported thefts occurred in Cameron and Hidalgo counties, while the City of McAllen had the highest number of reported cargo theft incidents, with seven.

The data also show a notable trend regarding cargo theft incidents in San Juan, Texas. All four cargo theft reports in San Juan occurred in 2024 at 4303 North Veterans Boulevard from February 6 to March 19. This address is home to an interstate freight carrier. Five cargo theft incidents did not have an address included in the incident report.

Broader Crime in the Rio Grande Valley Region

As previously described, security issues are a concern for the Border-wide section, specifically the RGV region, with larceny being the most reported crime in 2023. Larceny was the most common offense in Zapata, Starr, Hidalgo, Cameron, and Willacy counties, with burglary the most common in Jim Hogg County. Aggravated assault was the most common offense in Brooks County, while auto theft was the most common offense in Kenedy County. The chart below outlines key UCR crime statistics relating to the El Paso region in 2023.

Hidalgo County led the 60-mile Texas border zone in total offenses, as well as larceny, burglary, and rape offenses. It is important to note that Hidalgo County is the most populous county in the border zone, correlating to more crime cases. When looking at offenses per 100,000 people, Cameron County had the highest offense rate, at 2,319 offenses per 100,000 people. This was the highest recorded offense rate in the RGV region, as well as in the 60-mile border zone. Edwards County had the second-highest offense rate in the region, at 2,175 offenses per 100,000 people in 2023, followed by Hidalgo County at 2,095 offenses per 100,000 people.

Public Safety-Related Findings

Stakeholders in the Rio Grande Valley region recognized limited mobility and CMV violations as major public safety concerns in the region. Local law enforcement agencies are often unable to conduct roadside inspections due to lack of inspection spaces and personnel dedicated to CMV inspections. Roadways are also experiencing increased congestion due to CMV traffic. There are reports of increasing fatalities on roadways with low or no roadway lighting occurring in the area. The limited roadway lighting across the Region is one of the biggest concerns for law enforcement and motorists traveling on the roadways.

Beyond safety concerns related to infrastructure, reckless driving, increasing OS/OW violations, and illicit fuel operations are the primary CMV-related safety concerns reported by stakeholders in the region.

CMV Crossings Oversight

Physical infrastructure at CMV border crossings in the Rio Grande Valley region is summarized below. TxDPS is the only state entity located at these border crossing facilities, and analysis of federal facilities and technologies is beyond the scope of this report. It is important to note that there is no TxDPS presence at Anzalduas International Bridge, Donna International Bridge, Progreso International Bridge, Starr-Camargo International Bridge, and at Roma-Ciudad Miguel Aleman International Bridge, therefore no analysis of TxDPS infrastructure could be conducted.

Hotspots of Safety Concerns

(Roadways)

- FM 1430
- FM 1430
- Pete Diaz Boulevard and US 83 to FM 755 and US 83
- FM 1015, FM 493, South 10th Street, South 23rd Street

Contributing Factors of Safety Concerns

- Limited or no roadway lighting in high-traffic locations.
- No roadway lighting along routes primarily used by CMVs, resulting in law enforcement being unable to safely conduct inspections.
- High volume of CMVs in and around all other traffic.
- Flooding along roadways resulting in the potential for hydroplaning.

High volume traffic areas which decrease mobility for emergency vehicles.

Table 13: Infrastructure at TxDPS CMV Border Crossing Facilities - Rio Grande Valley Region

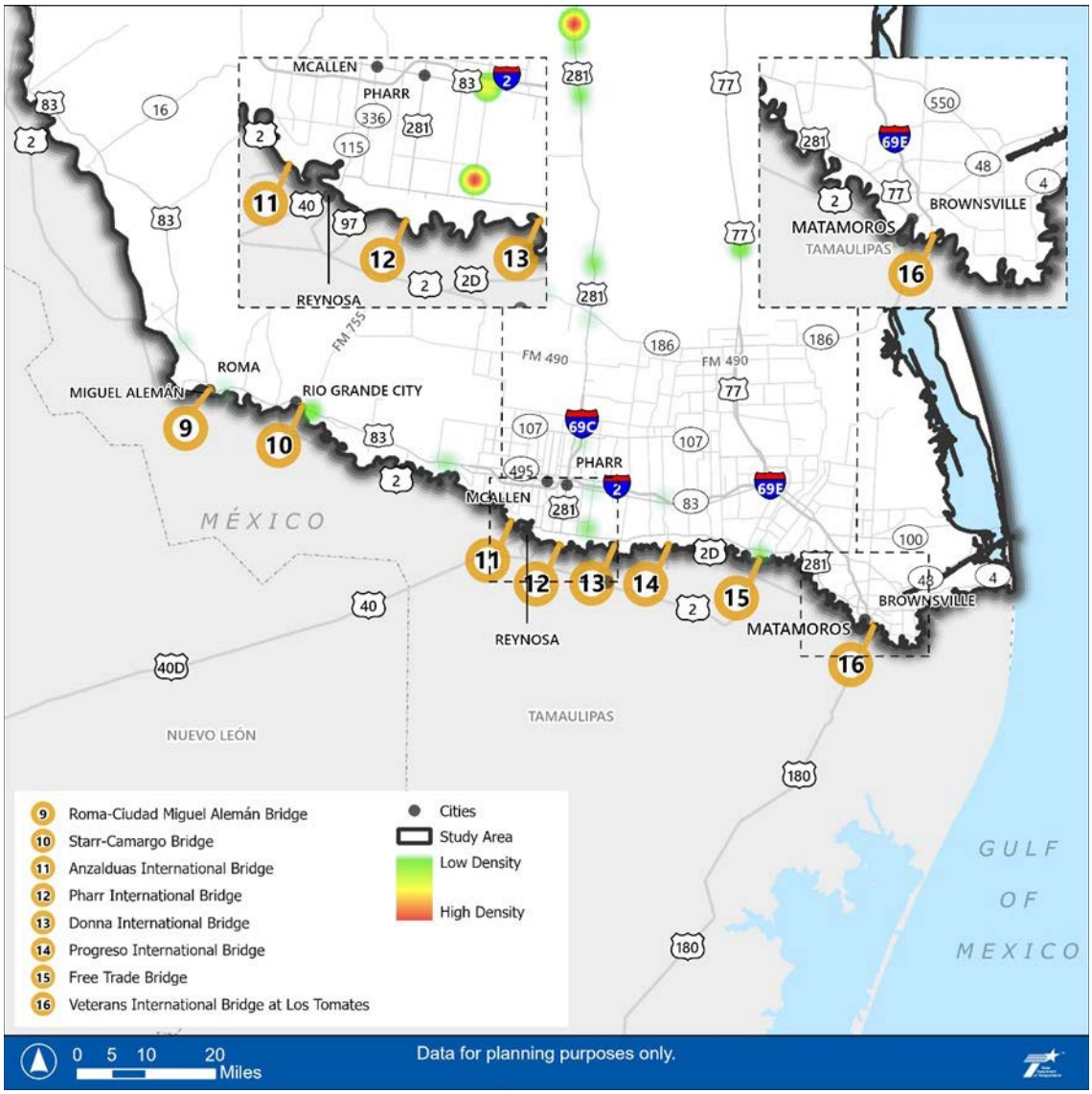
Border Crossing	Static Scales	Permanent Facility	Inspection Bay	Inspection Pit
Roma-Ciudad Miguel Alemán International Bridge	***NO TxDPS PRESENCE***			
Starr-Camargo Bridge	***NO TxDPS PRESENCE***			
Anzalduas International Bridge	***NO TxDPS PRESENCE***			
Pharr International Bridge	Yes, operational	Yes	Yes	Yes, 4
Donna International Bridge	***NO TxDPS PRESENCE***			
Progreso International Bridge	***NO TxDPS PRESENCE***			
Free Trade International Bridge	No	No	Yes	No
Veterans International Bridge at Los Tomates	No	No	Yes	No
Progreso International Bridge	***NO TxDPS PRESENCE***			

CMV Inspections

Veterans International Bridge inspected the highest number of trucks in the Rio Grande Valley Region in 2023, accounting for 42% of the region's total inspections at 5,678 inspections. Despite Veterans International Bridge inspecting the highest number of trucks, Pharr International Bridge reported the highest number of CMV violations in the Region (35,592) in 2023, accounting for 44% of the Region's total number of violations. Veterans International Bridge had the highest number of inspections with violations in the Region, totaling 4,186 in 2023. Free Trade International Bridge had the highest average of violations per inspection in both the Rio Grande Valley Region and the 60-mile Texas border zone, at 8.75 violations per inspection in 2023. Pharr International Bridge had the highest number of inspections in the Rio Grande Valley Region and the 60-mile Texas border zone leading to OOS violations, totaling 1,219 in 2023. Outside of these border crossings, an additional 48 inspections were conducted on Texas roadways.

Figure 62 shows the distribution of TxDPS inspections in the Rio Grande Valley region. Outside of border crossings, there is an inspection station in Falfurrias, located on US 281, that is responsible for additional CMV inspections.

Figure 62: CMV Inspections Activity Map – Rio Grande Valley Region (2023)



Source: TxDPS

Table 14: TxDPS Inspections and Violations at CMV Border Crossings, or within a Two-mile Radius – Rio Grande Valley Region (2023)

Border Crossing	Northbound Crossing Volume	Total Inspections	Percent of Trucks Inspected	Total Inspections with Violations	Percent of Inspections with Violations	Total Violations	Average Violations per Inspection	Out of Service Rate
Inspections at Fixed TxDPS Facilities								
Free Trade International Bridge	92,759	1,858	2.00%	1,704	91.71%	16,262	8.75	35.74%
Pharr International Bridge	708,726	4,999	0.71%	4,088	81.78%	35,592	7.12	24.38%
Veterans International Bridge at Los Tomates	325,224	5,678	1.75%	4,186	73.72%	23,977	4.22	18.63%
Inspections within a 2-mile Radius of Crossing (No TxDPS Presence at Border Crossing)								
Anzalduas International Bridge	0	671	-	89	13.26%	3074	5.23	3.73%
Donna International Bridge	0	102	-	12	11.76%	692	7.85	1.96%
Progreso International Bridge	46,520	25	0.05%	20	80.00%	165	6.60	20.00%
Starr-Camargo Bridge	43,557	11	0.03%	10	90.91%	80	7.27	81.82%
Roma–Ciudad Miguel Alemán International Bridge	42,449	3	0.01%	2	66.67%	20	6.67	33.33%

Source: TxDPS

CMV Violations

The top five CMV violations in the Rio Grande Valley region reflect those recorded for the Texas border zone in between 2018 and 2023. It is important to note while these top violations are consistent across the entire 60-mile border zone, tires, wheels, rims, and hubs violations outweigh miscellaneous vehicle violations in the RGV region. All five of these violations are mechanical and can be seen below.

Rio Grande Valley Region CMV Citations

1. **Braking Systems** – 249,273 (31% of violations)
2. **Lighting Systems** – 216,547 (27% of violation)
3. **Tires, Wheels, Rims, and Hubs Violations** – 74,693 (9% of violations)
4. **Miscellaneous Vehicle Violations** – 64,609 (8% of violations)
5. **Windshield Violations** – 30,913 (4% of violations)

Between 2018 and 2023, OS/OW violations were the seventh most common CMV violation in the RGV region, totaling 17,988 violations in the six-year time period. This was the second most common violation at Progreso International Bridge despite no reported OS/OW violations in 2022 or 2023. In 2019, this citation peaked at 220 OS/OW violations, the highest number of any violation at this border crossing between 2018 and 2023.

Needs and Challenges

Insights from Stakeholders

In order to identify Texas' needs and opportunities, a comprehensive group of stakeholders were involved in a series of interviews and discussions. Highlights from the discussions in the RGV Region are documented below.

The most prevalent concerns expressed by stakeholders in the region are human smuggling and the lack of training for law enforcement to conduct CMV inspections. There is an increasing volume of drugs being smuggled through the border crossings; at the same time, trends have shown an overall shift from drug smuggling to human smuggling. Truck stops along US 281 have had frequent reports of migrant activity inside of trucks, while the highway itself has become a staging lot for transmigrante traffic, affecting local roadways and traffic flow. While the agencies receive reports that smuggling is occurring,

they do not have the resources to conduct the quantity of inspections to effectively intercept illegal activity.

Many local agencies report not having the resources, personnel, or training to effectively respond to incidents within their jurisdiction.

Examples of Law Enforcement Personnel Shortfalls

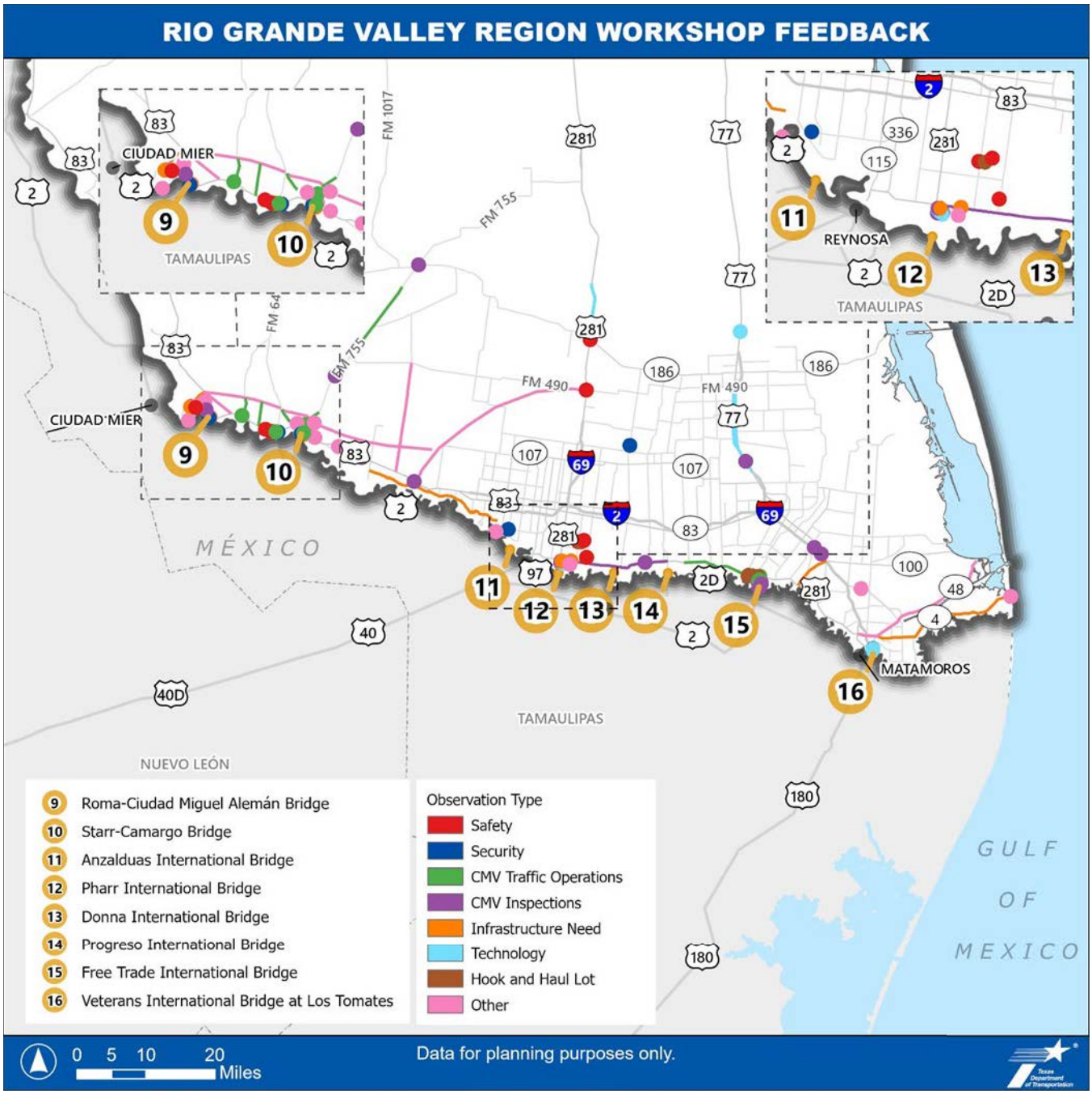
- Not being certified to conduct CMV inspections,
- Not being able to check that all drivers are operating with valid licenses and the proper credentials,
- Not having enough officers to perform an adequate number of inspections,
- Not having enough officers to patrol industrial parks,
- A lack of facilities and lighting for TxDPS to conduct CMV inspections, and
- A lack of space to unload trucks for security-related concerns other than customs.

Similar to the El Paso and Laredo Regions, Rio Grande Valley stakeholders expressed concern about organized crime activity on the Mexico side of the border and bridges. Free Trade International Bridge is one example of a known location of organized crime activity that acts as a deterrent for CMV drivers, often resulting in detours to Laredo. TxDPS has reported that many trucks will run overweight to make enough profit to pay cartel fees, and they further report that most CMV smuggling occurs after daylight hours. Another concern presented is that Mexican drivers operating fuel tankers often come across the border to both pick up and drop off fuel in Texas, rather than bringing it back to Mexico as stated in the manifest. These tankers pose safety issues due to the weight distribution of fuel being transported, which has led to an increase in OS/OW fuel tanker crashes being observed by stakeholders in the area.

The challenge presented by the volume of security concerns is ensuring that the officers currently trained and employed are providing enforcement support in the areas where they are most needed. Some agencies in the Region have a Tactical Operating Center (TOC) or fusion center that reportedly increases officers' effectiveness. Other stakeholder suggestions for improving security include implementation of an inspection area in Willacy – about 30 to 35 miles from the border, eight miles north of Harlingen – that would allow for safer roadside encounters with CMVs. Beyond additional training and personnel, the agencies also emphasized the need to improve official communication between local and federal agencies.

Location-specific needs, issues, and recommendations are pictured in the figure below based on stakeholder feedback.

Figure 63: Rio Grande Valley Region Stakeholder Feedback from ArcGIS Field Maps Data Collection



Oversize/Overweight Violations Are Common to the Area

OS/OW violations are prevalent in the RGV region, posing significant risks to infrastructure and road safety. Proper management and enforcement of OS/OW corridors are crucial to address these challenges effectively.

Majority of CMV Border Crossings in the Region Do Not Have TxDPS Presence

Most CMV border crossings in the region lack TxDPS presence, limiting effective inspection and enforcement. Currently, only three out of eight bridges have TxDPS oversight, leaving the majority without adequate monitoring.

Presence of Organized Crime

The presence of organized crime on the Mexican side of the border and at border crossing bridges impacts transportation logistics and operations. This criminal activity often forces CMV operators and logistics operators to reroute to other border crossings, increasing congestion and transit times. Similarly, unofficial tolls imposed by organized crime groups require CMV operators to transport cargo overweight in order to make a profit. This situation increases security risks and necessitates enhanced collaboration and intelligence-sharing between federal, state, and local agencies to mitigate criminal activities effectively.

Insufficient Inspection Infrastructure at Border Crossings

Several major CMV border crossings in the RGV region lack adequate infrastructure for TxDPS oversight, including facilities like static scales and inspection bays.

Roadway Safety Concerns

Limited roadway lighting across the region poses significant safety concerns for law enforcement and motorists. The absence of adequate lighting contributes to increased fatalities and limits the ability to conduct nighttime inspections, exacerbating security vulnerabilities along high-traffic routes used by CMVs.

Illicit Fuel Operations

There is an issue with Mexican drivers operating fuel tankers across the border, and then picking up and dropping off fuel within Texas instead of adhering to designated manifest routes. This activity not only undermines regulatory compliance but also raises safety

concerns regarding infrastructure integrity, increasing OS/OW violations, and the broader impact of illicit fuel operations.

Traffic and Staging Challenges for Transmigrante Traffic

The Free Trade International Bridge experiences substantial transmigrante traffic without sufficient staging areas, leading to congestion and safety hazards on local roadways. The lack of designated spaces for transmigrante vehicles contributes to traffic bottlenecks and compromises road safety due to improperly secured loads on OS/OW vehicles.

Strategies and Recommendations

Safety and security recommendations identified in the RGV region total nearly $605 million with $0 in funding identified. The table below depicts funding requirements by time period and shows that no immediate, short, medium, or long-term recommendations have identified funding.

Table 15: Identified Rio Grande Valley Region Safety and Security Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$235,355,153	$0	$235,355,153
Short-Term (2-4 years)	$41,437,830	$0	$41,437,830
Medium-Term (4-10 years)	$328,066,951	$0	$328,066,951
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$604,859,934**	**$0**	**$604,859,934**

Safety and Security Program Recommendations – RGV Region

The eight policy recommendations identified in the Border-wide Themes section also apply to the RGV region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the RGV region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

S09. Enhance Highway Lighting

HIGH PRIORITY - $175.6M NEED - LED BY TXDOT, LOCALITIES

Provide safety lighting roadway improvements in areas where crashes in unlit conditions occur to enhance safety for officers performing inspections on roadways. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	155 miles, $175.6M 7 identified priority project locations	-

S10. Increase TxDPS Staffing at Border Crossings

HIGH PRIORITY - $66.9M NEED - LED BY TXDPS

Add 49 additional TxDPS inspectors, troopers, sergeants, and additional staff at border crossing facilities where understaffed: Pharr International Bridge (21), Free Trade International Bridge (15), Veterans International Bridge at Los Tomates (13). Cost estimates include ten years of salary, benefits, and start-up costs for TxDPS equipment.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $32.3M	2 projects, $34.6M	-	-

S11. Increase TxDPS Staffing Within Border Zone

HIGH PRIORITY - $65.4M NEED - LED BY TXDPS

Increase TxDPS presence through the addition of 30 troopers and supervisors to screen for drugs, smuggling, and other criminal activity.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $65.4M	-	-	-

S12. Establish Inland TxDPS Facilities

HIGH PRIORITY - $40.0M NEED - LED BY TXDPS

Construct two TxDPS facilities (a pair of Northbound/Southbound facilities or a pair of Eastbound/Westbound facilities) within the 60-mile border zone to screen CMVs for security issues in documented crime hotspots. The primary candidate location for these facilities is on I-69 East. Other candidate locations for this facility include along US 281 in both Brooks and Hidalgo counties US 77 in Kenedy County, US 83 in Starr and Hidalgo counties, and around the intersection of SH16 and SH 285 in Jim Hogg County.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $40.0M	-

S13. Staff Inland TxDPS Facilities

HIGH PRIORITY - $56.1M NEED - LED BY TXDPS

Add TxDPS 30 inspectors, 12 troopers, 3 sergeants, and 3 administrative staff members at newly constructed inland facilities to screen for safety and security-related issues.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $56.1M	-

S14. Deploy VWIMs and Pull Over Areas

MEDIUM PRIORITY - $1.8M NEED - LED BY TXDPS, TXDOT

Install three VWIMs and pull over areas on the Texas roadway network to better understand overweight vehicle roadway utilization, influencing where TxDPS presence should be. US 83, US 281, I-69, North FM 755, East Military Expressway, and West Expressway 83 are candidate locations for these technologies. Stakeholders in the Rio Grande Valley region identified safety concerns related to lack of road shoulder along heavily trafficked CMV routes, affecting the quality of roadside inspections and inspector safety.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	3 projects, $1.8M	-	-

S15. Create a Local Agency Grant Program

MEDIUM PRIORITY - $5.0M NEED - LED BY TXDPS

Create a grant opportunity for local agencies that would like to establish a CVE unit, or enhance their existing CVE unit, through an MOU with TxDPS. Fund local agencies to establish or enhance CVE units through MOUs with TxDPS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	$5.0M	-	-

S16. Increase TxDPS Staffing and Equipment to Enhance Radiation / Nuclear Detection Unit

HIGH PRIORITY - $1.6 M NEED - LED BY TXDPS

Add 2 TxDPS troopers to the Rio Grande Valley region to bolster OLS and the defense of the State of Texas against forms of terrorism. Equip each trooper with a radioisotope identification device (RIID), self-contained breathing apparatus, mask kit, voice projection unit for mask, tactical mask communication system, spectroscopic personal radiation detector, portable radiation detector backpack, spare battery kit for backpack, and full radiological nuclear detection rack systems.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1 project, $1.6M	-	-	-

S17. Update TxDPS Infrastructure

MEDIUM PRIORITY - $40.0M NEED - LED BY TXDOT, TXDPS

Update TxDPS facilities to include permanent, fixed buildings with inspections pits at Free Trade International Bridge and Veterans International Bridge at Los Tomates where there is limited fixed infrastructure to increase the efficiency of CMV inspections.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $40.0M	-	-	-

S18. Establish Static Scale Sites

MEDIUM PRIORITY - $1.5M NEED - LED BY TXDPS, TXDOT

Establish static scale sites for mobile patrols along CMV routes to enhance the efficiency and effectiveness of CMV inspections and to increase compliance with size and weight regulations. Candidate locations include US 83 and East Military Highway.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	1 project, $1.5M	-

S19. Construct Fixed TxDPS Facilities

MEDIUM PRIORITY - $80.0M NEED - LED BY TXDOT, TXDPS

Add TxDPS facilities at CMV border crossings where there are no existing fixed facilities: Roma-Ciudad Miguel Alemán International Bridge, Starr-Camargo Bridge, Progreso International Bridge, and Anzalduas International Bridge. It is important to note that Anzalduas International Bridge currently does not handle northbound CMV traffic. Due to the anticipation of northbound traffic and per the request of TxDPS, constructing a fixed TxDPS presence is recommended at Anzalduas International Bridge.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	4 projects, $80.0M	-

S20. Expand Staffing at Future Border Crossing Facilities

MEDIUM PRIORITY - $71.0M NEED - LED BY TXDPS

Add additional TxDPS inspectors, troopers, sergeants, and administrative staff at Roma-Ciudad Miguel Aleman International Bridge, Starr-Camargo Bridge, Anzalduas International Bridge, and Progreso International Bridge upon construction of fixed TxDPS facilities. Add 25 inspectors, 5 troopers, 3 sergeants, and 3 administrative staff members to fully staff at Roma-Ciudad Miguel Aleman International Bridge and Starr-Camargo Bridge, who are recommended to share TxDPS personnel. Add 8 inspectors, 5 troopers, 1 sergeant, and 1 administrative staff member to fully staff Anzalduas International Bridge. Add 10 inspectors, 2 troopers, 1 sergeant, and 1 administrative staff member to fully staff Progreso International Bridge Cost estimates include ten years of salary, benefits, and start-up equipment costs for TxDPS personnel. It is important to note that Anzalduas International Bridge currently does not handle northbound CMV traffic. Due to the anticipation of northbound traffic and per the request of TxDPS, staffing Anzalduas International Bridge is recommended upon the construction of a fixed inspection facility.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	-	3 projects, $71.0 M	-

Chapter 5: Border Technology

Border-wide Themes

Background

Infrastructure improvements and staff additions alone will not be able to fully meet the mobility needs associated with a safe, secure, and efficient border zone that enhances economic prosperity through the movement of goods by CMV. To facilitate the safety and security of CMV movements across the border and within the border zone, technology offers multiple benefits over a simple visual or mechanical inspection.

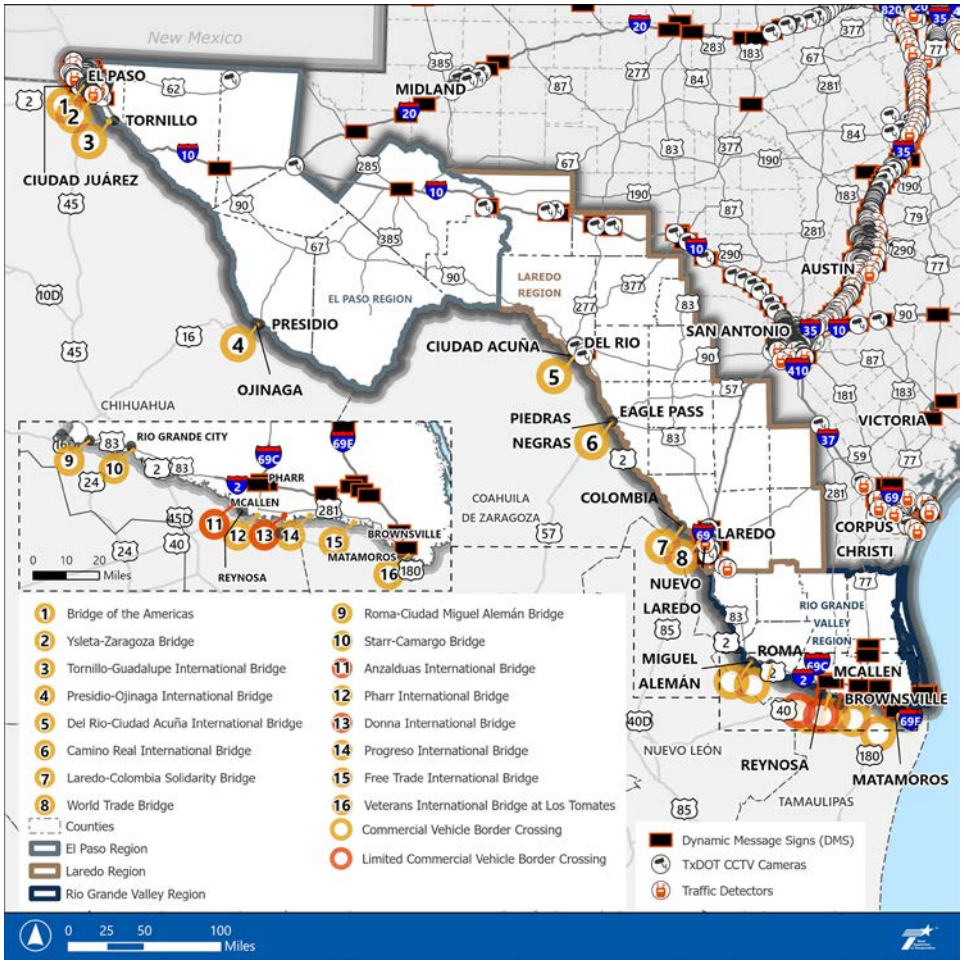
TxDPS inspected less than one percent of CMVs entering the United States in 2023 for compliance with safety criteria at Texas border crossings. The lack of inspections can be attributed to limited staff resources and technological limitations, such as non-operational technology, lack of technological maintenance, and the need for investment in cutting-edge equipment and systems.

The anticipated binational trade growth will only exacerbate the lack of complete screening at the border. The wider border zone, while partially implemented with technology, does not have a single communication or data exchange platform to share information between agencies. There are multiple agencies, including city, county, and state public service agencies (Police Departments, Sheriff's Offices, and TxDPS) responsible for enforcing safety as well as maintaining transportation related technology infrastructure. Further, there is no single agency responsible for the operations and maintenance of data associated with the multimodal network. This results in a lack of access to consistent and reliable data to all involved agencies on CMV movements and a lack of region-wide active transportation operations.

The border region includes varying stages of technology deployment maturity for the border crossings as well as the overall transportation network. The state of repair of current technological deployments is a critical factor as many of the installations, while present, are not operational, primarily at the border crossings. The technology deployments, in general, occur for agency-specific missions and are not integrated into a broader network. There is also a noted lack of reliable communication within the border region, including both wireless (cellular) or fiber optic broadband systems.

The roadway network is operated and managed by TxDOT which is divided into 25 regions that have local responsibility. The roadway ITS and traffic signal installations are operated by central management and data exchange systems at the regional level. These systems consist of operating software that provides real-time traffic management through the LoneStar Advanced Traffic Management System platform to manage ITS. Installations of Dynamic Messaging Signs (DMS), closed circuit television cameras (CCTV), and vehicle detection devices occur throughout Texas to monitor and manage the multimodal transportation network.

Figure 64: Roadside Technologies in the Texas 60-mile Border Zone



Cameras, license plate readers, traffic detectors, and dynamic message signs are less common in the border region than other Texas metropolitan areas and major interstates. Devices, broadband connectivity, and traffic management centers are needed to manage, monitor, and respond to transportation, safety, and security issues throughout the border. The graphic below shows the existing conditions of systems such as CCTV, DMS, and traffic detectors on the Texas roadway network and highlights the lack of technological deployments in the border region.

Complementing the active traffic management systems, TxDOT operates and manages the Statewide Traffic Analysis and Reporting System (STARS II) which provides information on traffic monitoring devices, including count and WIM stations. TxDOT is also actively engaged in expanding truck parking systems, which includes a Truck Parking Availability System to provide information to drivers on parking conditions.

Texas CMV border crossing facilities encompass technologies used to inspect vehicles and ensure compliance with rules and regulations regarding public safety and security. The most prevalent technology operated by TxDPS at the border crossings includes various weighing devices, including fixed or static scales and WIM, License Plate Readers (LPR), and DMS. Within the border region TxDPS operates various enforcement locations, which range from roadside pull-off areas with limited technology to full-service sites with pre-screening technology, weight scales, inspection buildings, and consistent staff. A list of existing technology at the border crossings is shown in **Table 16**.

The presence of tire pressure anomaly systems, thermal brake imaging cameras, USDOT readers, and hazmat placard readers were analyzed at all border crossings. However, these advanced technologies were not present at border crossings and omitted from the table.

Table 16: Available Technologies at all CMV Texas-Mexico Border Crossings

Border Crossing	WIM	Static Scales	Height Indicators	LPR	DMS	RFID Readers
Bridge of the Americas	●	◇	●	–	●	●
Ysleta-Zaragoza Bridge	●	◇	●	●	●	●
Tornillo-Guadalupe International Bridge	No TxDPS Presence					
Presidio-Ojinaga International Bridge	No TxDPS Presence					
Del Rio-Ciudad Acuña International Bridge	–	●	–	–	–	–
Camino Real International Bridge	–	–	–	–	–	–
Laredo-Colombia Solidarity Bridge	●	● ◇	–	●	●	●
World Trade Bridge	No TxDPS Presence					
Roma-Ciudad Miguel Alemán International Bridge	No TxDPS Presence					
Starr-Camargo Bridge	No TxDPS Presence					
Anzalduas International Bridge	No TxDPS Presence					
Pharr International Bridge	●	◇	–	●	–	–
Donna International Bridge	No TxDPS Presence					
Progreso International Bridge	No TxDPS Presence					
Free Trade International Bridge	●	–	–	–	–	–
Veterans International Bridge at Los Tomates	◇	–	–	–	–	–
Legend ◇ Operational Technology	● Non-operational Technology				– No Technology Present	

Needs and Challenges

The effective implementation and integration of technology within the border region offers the opportunity to achieve both safety and security goals. The applications of technology range from screening of CMV for safety considerations including compliance with size and weight criteria, evaluation of vehicle physical conditions such as tire and brake performance, to security screening leveraging non-intrusive inspection devices which allow staff to virtually "see" into the vehicles. The use of unique vehicle identification, including LPR, enhances information exchange on specific vehicles and can facilitate interoperability between systems, allowing multiple agencies insight into information previously obtained from other operations enhancing the overall network efficiency. Broad scale deployment of unique vehicle identification throughout the border zone allows for detailed planning and operational analysis and improvements on vehicular movements within and beyond the region. This insight facilitates further analysis on local movements versus through movements and the individual needs of each. This also offers the opportunity, through data analytics, to further enhance the roadway and multimodal transportation network operational efficiency.

While implementation of technology at the border crossing locations can support streamlining the process for all agencies, the integration across the border region can significantly enhance broader safety, security, and mobility of the multimodal transportation system. This integration can include centralized data collection, harmonization, sharing, analysis, and system monitoring of multiple agencies. While each agency has specific roles and responsibilities with respect to the border region, the technology used in performing tasks generates data that is interoperable with other missions and can greatly increase the overall system performance. Key opportunities include the traffic management of the multimodal transportation network through data-driven decision support systems leveraging multi-agency data, which can enhance physical infrastructure investments, active management, long-term maintenance, and operations. The integration can also enhance staffing efficiencies by deploying resources where most needs are identified. The effectiveness in implementation of technology solutions is reliant on a framework that includes:

- Adequate staff trained in the use of technology,
- A planned and funded maintenance plan,
- A planned and funded multi-agency integration plan, and
- A planned and funded centralized data management and operations center.

Technology systems for CMV safety, security and border related activities are outlined through various agency plans. These plans include the Federal Motor Carrier Safety Administration (FMCSA) Innovative Technology Deployment (ITD) Texas Program Plan / Top Level Design (PP/TLD), which outlines CMV technology inspection and data exchange systems. The National ITS Architecture (ARC-IT) provides a framework for ITS systems integration, including specific applications for border related CMV technology. Transportation Systems Management and Operations (TSM&O) strategies outlined in TxDOT plans include considerations for integrated roadway management and information exchange systems. Further, TxDOT has robust plans for statewide enhancements to the freight network as outlined in the Texas Freight Network Technology and Operations Plan, Emerging Transportation Technology Plan, Border Transportation Master Plan, and the Weigh in Motion and Vehicle Classification Strategic Plans. The following border technology needs have been identified through stakeholder engagement as this plan has been developed and other TxDOT efforts:

- Enhanced safety screenings for CMVs
- Unique vehicle identification technologies
- Roadside screening within the border region
- Standardized and interconnected communication systems
- CCTV cameras
- Increased traveler alert systems for CMV applications
- Integrated data management and BCCs
- Ongoing funding for maintenance and upgrades
- Dedicated and trained staff

Weigh in Motion and static scales are the only operational technologies at TxDPS CMV border crossing sites

Information systems are not interconnected within and between enforcement and transportation agencies

The top technological priority for stakeholders is the installation of monitoring devices like cameras and LPRs

Strategies and Recommendations

Technology recommendations identified in the Texas border zone total over $630 million with $0 in funding identified. The table below depicts funding requirements by time period, and shows that no immediate, short, medium, or long-term recommendations have identified funding.

Table 17: Identified Border-wide Technology Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$402,305,000	$0	$402,305,000
Short-Term (2-4 years)	$229,410,000	$0	$229,410,000
Medium-Term (4-10 years)	$0	$0	$0
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$631,715,000**	**$0**	**$631,715,000**

Border Technology Policy Recommendations

Policy strategies for the immediate term (0-2 years), short term (2-4 years), medium term (4-10 years), and long term (10+ years) related to border technology are summarized below, ordered by priority.

T01. Establish Data Sharing System

HIGH PRIORITY - SHORT TERM - LED BY TXDOT, TXDPS, LOCALITIES

Establish a data sharing system that allows for CMVs to be monitored within the border region between agencies. Establish a freight data exchange to enhance interagency communication and collaborative CMV monitoring using technologies like license plate readers, supported by high-speed connectivity in the Texas border region.

T02. Adopt a Standard for TxDPS Equipment and Systems

HIGH PRIORITY - SHORT TERM - LED BY TXDPS

Adopt a standard for TxDPS equipment and systems and a best-practice model approach at border crossing facilities. The standardization of inspection equipment and technological systems will enhance border safety, security, and OLS.

T03. Connect Border Communication Centers and TxDPS Communications

HIGH PRIORITY - SHORT TERM - LED BY TXDOT, TXDPS, LOCALITIES

Connect BCCs and the TxDPS Communications Center upon implementation to facilitate rapid information sharing and coordinated responses to incidents. Streamlined data sharing assists in rapid information sharing, allowing for law enforcement and other response efforts to be conducted more effectively and efficiently.

T04. Enable Active Management with Technology

HIGH PRIORITY - MEDIUM TERM - LED BY TXDOT, LOCALITIES, TXDMV, TXDPS

Enable the active management of the border-wide CMV system by employing advanced technology to provide real-time visibility to all stakeholders involved. Integrate real-time data from traffic devices, cameras, and sensors to enhance monitoring, decision-making, and response capabilities, optimizing traffic flow and improving operational efficiency.

T05. Employ Smart Work Zone Technology

HIGH PRIORITY - IMMEDIATE TERM - LED BY TXDOT, LOCALITIES

Employ smart work zone safety technology to guide CMV drivers and streamline CMV operations at construction sites. Implement smart work zone technologies, including in-cab telematic systems, ATMS, connected vehicles, ITS, worker safety systems, and real-time data monitoring, to enhance safety and efficiency for CMV operations at construction sites.

T06. Enhance Border Communication Centers

MEDIUM PRIORITY - SHORT TERM - LED BY TXDPS, LOCALITIES

Enhance existing TxDPS regional communication centers to include local law enforcement in real-time. Integrate local law enforcement into TxDPS regional communication centers to enhance interagency communication, improve CMV crime and safety monitoring, and leverage technology for real-time data sharing and response.

T07. Standardize Border Communication Center Technology

MEDIUM PRIORITY - SHORT TERM - LED BY TXDOT, TXDPS, LOCALITIES

Standardize the technology used across all BCCs to ensure compatibility and seamless integration of data and communication systems. Ensuring that law enforcement personnel can effectively communicate via compatible and integrated systems allows for enhancement of OLS, creating a safer, secure, and more technologically advanced border.

T08. Provide Safety and Security Equipment

MEDIUM PRIORITY - SHORT TERM - LED BY STATE OF TEXAS

Provide local law enforcement with equipment and systems to identify safety and security concerns in CMVs. Assist local law enforcement agencies with technologies such as USDOT readers and LPRs to effectively monitor CMV safety and security within the border area.

T09. Incentivize Telematic Systems Installation

MEDIUM PRIORITY - MEDIUM TERM - LED BY STATE OF TEXAS

Incentivize motor carriers for the installation of telematic systems for in-cab notifications. Incentivize the installation of in-cab telematic systems to provide real-time updates on bridge closures, construction zones, and congestion points to CMV operators, reducing bottlenecks and improving traffic flow at the Texas-Mexico border.

Border Technology Program Recommendations

Programmatic strategies for the immediate term (0-2 years), short term (2-4 years), medium term (4-10 years), and long term (10+ years) related to border technology are summarized below, ordered by priority. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

T10. Repair or Replace Non-Operational Technologies at Border Crossings

HIGH PRIORITY - $14.0M NEED - LED BY TXDOT

Repair or replace non-operational technologies and equipment at border crossings. Main uses of these technologies (including WIM, static scales, LPRs, and other systems) are to check for safety issues such as mechanical condition, size and weight compliance, and vehicle identification.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
6 projects, $4.4M	-	-	-

T11. Expand Deployment of Technology and Information Connectivity

HIGH PRIORITY - $556.5M NEED - LED BY TXDOT, TXDPS, LOCALITIES, STATE OF TEXAS

Expand deployment of roadside technologies (approximately 2,226 cameras and 1,113 LPRs) and 6,678 miles of high-speed connectivity in support of BCC operations and border crossing facilities. Connecting border crossings through additional roadside technologies and a high-speed network allows for fast and streamlined communication between facilities such as BCCs, BSIFs, and inland inspection stations. In addition, the State of Texas should explore with private sector cell phone service providers the expansion of service to provide comprehensive coverage of the border. Costs associated with this recommendation do not reflect the outcomes of any negotiation with private cell phone service providers. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
1,336 cameras, 668 LPRs, 4,007 miles of fiber, $333.9M 193 identified priority project locations	890 cameras, 445 LPRs, 2,671 miles of fiber, $222.6M	-	-

T12. Invest in Non-intrusive Inspection Devices at TxDPS Border Crossing Facilities

HIGH PRIORITY - $64.0M NEED - LED BY TXDPS

Invest in advanced X-ray, non-intrusive inspection technology systems along the Texas-Mexico border to advance CMV safety, security, and efficiency and amplify OLS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	8 projects, $64.0M	-	-

T13. Add Safety Inspection Technologies

HIGH PRIORITY - $6.8M NEED - LED BY TXDPS

Border-wide add 2 WIMs, 3 static scales, 6 height indicators, 8 tire pressure anomaly systems, 8 thermal braking cameras, 8 USDOT readers, 6 LPRs, 5 DMSs, 5 RFID readers, and 8 hazmat placard readers to enhance technology at crossings where TxDPS is present.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	8 projects, $6.8M	-	-

El Paso Region

Background

The El Paso Regional ITS Architecture consists of the same boundaries as the El Paso MPO. As such, the TxDOT TransVista serves as the traffic management center or Border Communications Center (BCC) for the El Paso area. Housed within the TxDOT El Paso District Headquarters office, this BCC provides traffic and emergency management for the region. The TxDOT El Paso District Headquarters works in close collaboration with the City of El Paso's Traffic Management Center (TMC), the traffic signal maintenance yard, and the 911 emergency center, which includes the police, fire, and emergency medical services. This BCC evaluates traffic sensor data for congestion and incidents and posts information on relevant DMS.

Needs and Challenges

Below is a list of border technology needs and challenges which have been identified through stakeholder engagement, as well as TxDOT transportation technology efforts that have been considered:

Gaps in Cellular Coverage

The El Paso region has significant gaps in cellular Long-Term Evolution (LTE) wireless broadband coverage, particularly in rural areas and along key highways such as US 90 and US 285. These gaps affect communication and connectivity, essential for safety and real-time updates.

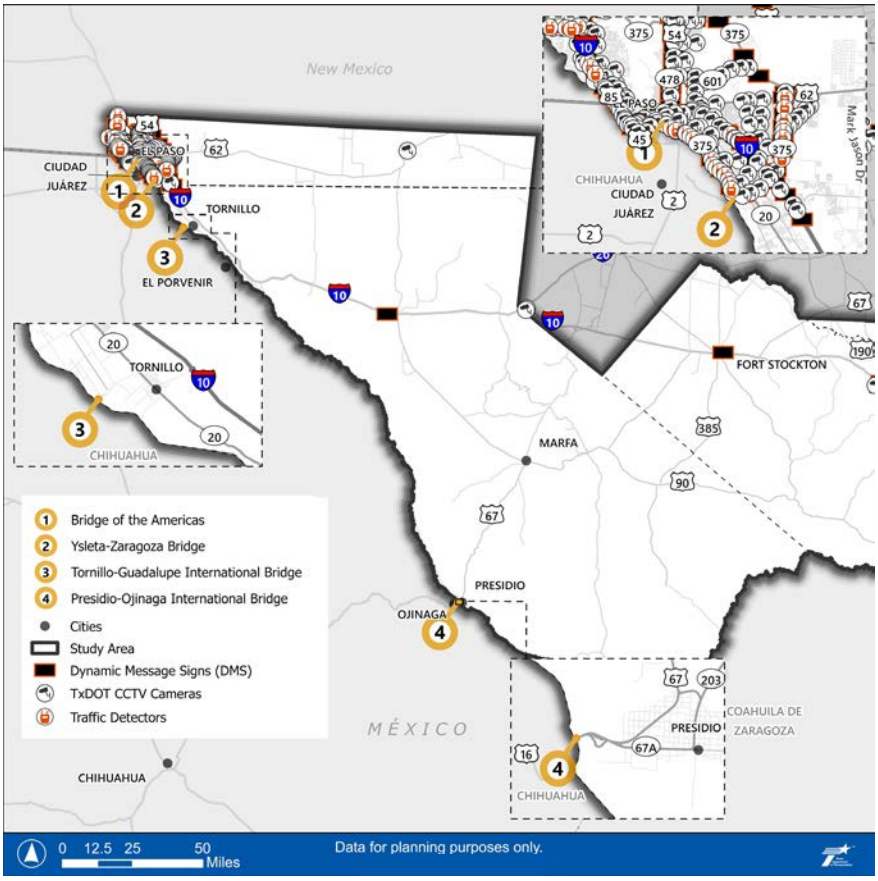
Lack of Operational Technology at Border Crossings

At the Bridge of the Americas, various technologies such as WIM detectors, height indicators, DMS, and RFID readers are present but not operational.

Camera Coverage Deficiencies

There are substantial gaps in camera coverage throughout the region. Proper camera networks are crucial for monitoring traffic conditions, improving safety, and managing congestion on the roadways.

Figure 65: ITS Infrastructure in the El Paso Region



Source: TxDOT

Limited Use of Advanced Inspection Technologies

The El Paso region has limited implementation of advanced inspection technologies such as thermal imaging and tire pressure anomaly detection systems. These technologies are used to enhance the ability to detect mechanical issues and other safety concerns in CMVs.

Lack of Real-Time Data Integration

The region lacks a comprehensive system for integrating real-time data from various sources (e.g., traffic cameras, WIM detectors, RFID readers) to improve traffic management and safety.

Strategies and Recommendations

Technology recommendations identified in the El Paso region total over $180 million, with $0 in funding identified. **Table 18** depicts funding requirements by time period, and shows that no immediate, short, medium, or long-term recommendations have identified funding.

Table 18: Identified El Paso Region Technology Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$115,220,000	$0	$115,220,000
Short-Term (2-4 years)	$66,006,667	$0	$66,006,667
Medium-Term (4-10 years)	$0	$0	$0
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$181,226,667**	**$0**	**$181,226,667**

Border Technology Program Recommendations – El Paso Region

The nine policy recommendations identified for the extensive border region also apply to the El Paso region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the El Paso region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

T10. Repair or Replace Non-Operational Technologies at Border Crossings

HIGH PRIORITY - $1.3M NEED - LED BY TXDOT

Repair or replace non-operational technologies and equipment at border crossings. Main uses of these technologies (including WIM, static scales, LPRs, and other systems) are to check for safety issues such as mechanical condition, size and weight compliance, and vehicle identification.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $1.3M	-	-	-

T11. Expand Deployment of Technology and Information Connectivity

HIGH PRIORITY - $163.2M NEED - LED BY TXDOT, TXDPS, LOCALITIES, STATE OF TEXAS

Expand deployment of roadside technologies (traffic devices, cameras) and high-speed connectivity in support of BCC operations and border crossing facilities. Connecting border crossings through additional roadside technologies and a high-speed network allows for fast and streamlined communication between facilities such as BCCs, BSIFs, and inland inspection stations. In addition, the State of Texas should explore with private sector cell phone service providers the expansion of service to provide comprehensive coverage of the border. Costs associated with this recommendation do not reflect the outcomes of any negotiation with private cell phone service providers. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
392 camera, 196 LPRs, 1,175 miles of fiber, $97.9M 49 identified priority project locations	261 cameras, 131 LPRs, 783 miles of fiber, $65.3M	-	-

T12. Invest in Advanced Security Systems

HIGH PRIORITY - $16.0M NEED - LED BY TXDPS

Invest in advanced X-Ray, non-intrusive inspection technology systems along the Texas-Mexico border to advance CMV safety, security, and efficiency and amplify OLS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $16.0 M	-	-	-

T13. Add Safety Inspection Technologies

HIGH PRIORITY - $0.7M NEED - LED BY TXDPS

Add safety inspection technologies such as WIMs, static scales, height indicators, tire pressure anomaly systems, thermal braking cameras, USDOT readers, LPRs, DMS, RFID readers, and hazmat placard readers at TxDPS border crossings where they do not exist.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	2 projects, $0.7M	-	-

Laredo Region

Background

TxDOT has a TMC platform known as the Laredo South Texas Regional Advanced Transportation Information System (STRATIS). This TxDOT TMC is managed and operated in the TxDOT Laredo region and works in collaboration with the City of Laredo's TMC to share CCTV camera feeds and controls, including sharing with the City of Laredo's 911 Dispatch Center. Similar to ITS programs in other urban areas throughout Texas, the Laredo STRATIS center is connected to the ITS field equipment through several miles of fiber optic cable to provide communications.

Needs and Challenges

Below is the list of border technology needs and innovation gaps that have been identified through stakeholder engagement in the Laredo region, as well as other TxDOT transportation technology efforts that have been explored:

Network Speed Issues at Inspection Facilities

The Laredo-Colombia Solidarity Bridge experiences slow network speeds, causing system crashes that delay inspections and cause truck delays.

Camera Coverage Deficiencies

There are notable gaps in camera coverage in the Laredo region. Additional camera coverage will help system operators effectively monitor traffic conditions, enhance safety, and manage congestion effectively.

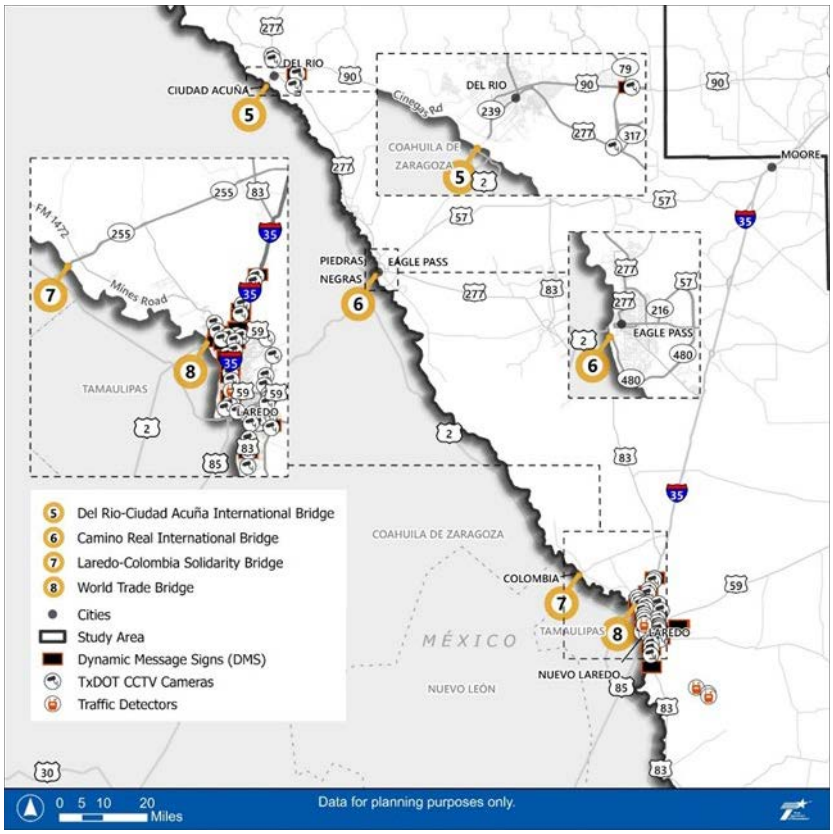
Inconsistent Communication Systems

The communication systems used by different agencies in the Laredo region are not fully standardized or interconnected, leading to inefficiencies in data sharing and coordination during inspections and enforcement actions.

Limited Technological Resources for Local Law Enforcement

Local law enforcement agencies in the Laredo region often lack access to the same technological resources as state and federal agencies, hindering the ability to effectively contribute to CMV safety and security efforts.

Figure 66: ITS Infrastructure in the Laredo Region



Source: TxDOT

Strategies and Recommendations

Technology recommendations identified in the Laredo region total over $220 million with $0 in funding identified. The table below depicts funding requirements by time period, and shows that no immediate, short-, medium-, or long-term recommendations have identified funding.

Table 19: Identified Laredo Region Technology Recommendations (Immediate, Short-, Medium-, and Long-Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$141,245,000	$0	$141,245,000
Short-Term (2-4 years)	$80,028,333	$0	$80,028,333
Medium-Term (4-10 years)	$0	$0	$0
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$221,273,333**	**$0**	**$221,273,333**

Border Technology Program Recommendations – Laredo Region

The nine policy recommendations identified in the Border-wide Themes section also apply to the Laredo region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the Laredo region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

T10. Repair or Replace Non-Operational Technologies at Border Crossings

HIGH PRIORITY - $2.0M NEED - LED BY TXDOT

Repair or replace non-operational technologies and equipment at border crossings. Main uses of these technologies (including WIM, static scales, LPRs, and other systems) are to check for safety issues such as mechanical condition, size and weight compliance, and vehicle identification.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $2.0M	-	-	-

T11. Expand Deployment of Technology and Information Connectivity

HIGH PRIORITY - $192.1M NEED - LED BY TXDOT, TXDPS, LOCALITIES, STATE OF TEXAS

Expand deployment of roadside technologies (traffic devices, cameras) and high-speed connectivity in support of BCC operations and border crossing facilities. Connecting border crossings through additional roadside technologies and a high-speed network allows for fast and streamlined communication between facilities such as BCCs, BSIFs, and inland inspection stations. In addition, the State of Texas should explore with private sector cell phone service providers the expansion of service to provide comprehensive coverage of the border. Costs associated with this recommendation do not reflect the outcomes of any negotiation with private cell phone service providers. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
461 cameras, 231 LPRs, 1,383 miles of fiber, $115.3M 58 identified priority project locations	307 cameras, 154 LPRs, 922 miles of fiber $76.8M	-	-

T12. Invest in Advanced Security Systems

HIGH PRIORITY - $24.0M NEED - LED BY TXDPS

Invest in advanced X-Ray, non-intrusive inspection technology systems along the Texas-Mexico border to advance CMV safety, security, and efficiency and amplify OLS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
3 projects, $24.0M	-	-	-

T13. Add Safety Inspection Technologies

HIGH PRIORITY - $3.2M NEED - LED BY TXDPS

Add safety inspection technologies such as WIMs, static scales, height indicators, tire pressure anomaly systems, thermal braking cameras, USDOT readers, LPRs, DMS, RFID readers, and hazmat placard readers at TxDPS border crossings where they do not exist.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	3 projects, $3.2M	-	-

Rio Grande Valley Region

Background

The Rio Grande Valley region a multimodal freight and international trade hub that includes the major cities of Brownsville and Harlingen in Cameron County and McAllen and Pharr in Hidalgo County. Currently, this region benefits from traffic monitoring support provided by the San Antonio Traffic Management Center, while the Pharr region manages a limited monitoring system Development of a regional BCC will enable swifter response to traffic incidents and better communication with the traveling public about closures, alternate routes, and conditions. Additionally, a statewide Traffic Operations Center is a strategy identified in TxDOT's Freight Network Technology Operations Plan that would connect BCCs in Texas and improve data sharing. The development of a regional BCC and implementation of technology strategies would also provide data collection and collaboration opportunities.

Needs and Challenges

Below is the list of border technology needs and innovation gaps that have been identified through stakeholder engagement in the RGV region and other TxDOT transportation technology efforts that have been explored:

Lack of Wireless Networking Technology (Wi-Fi) and Fiber Optic Communication

The new inspection facility at the Pharr-Reynosa Bridge is currently non-operational due to the absence of high-speed connectivity, such as Wi-Fi and fiber optic communication. Although the Pharr International Bridge has two working sites on the TxDPS property, one of which is a newly constructed facility with inspection pits designed for enhanced and more efficient mechanical inspections of CMVs, this advanced infrastructure remains unusable without the necessary high-speed connectivity.

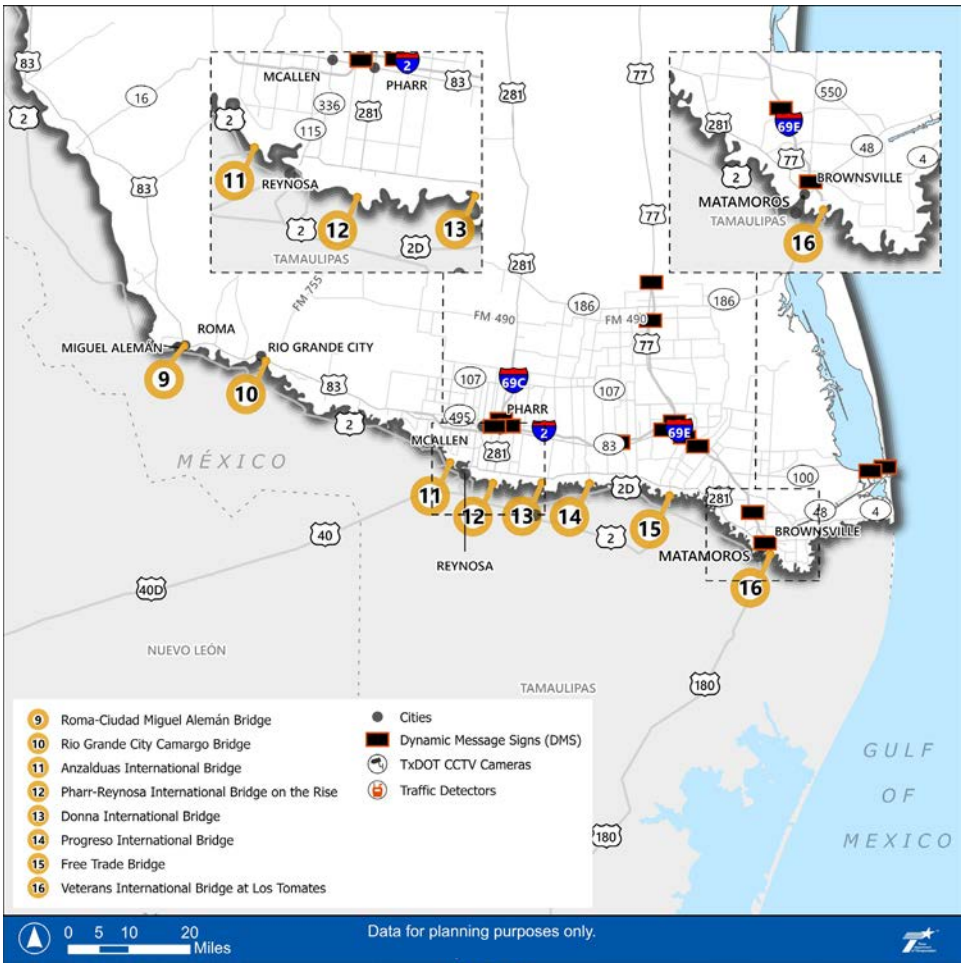
Outdated Hardware and Software

Many technological components, such as WIM detectors and security cameras, are outdated and non-operational.

Insufficient Camera and ITS Infrastructure

The RGV region has fewer cameras and less ITS infrastructure compared to other regions. Additional cameras would enable officials to better monitor and manage traffic conditions, providing real-time updates and enhancing safety.

Figure 67: ITS Infrastructure in the RGV Region



Source: TxDOT

Absence of Advanced Traffic Management Systems

The RGV region would benefit from the implementation of advanced traffic management systems (ATMS) to improve the flow of CMVs and enhance roadway safety through better traffic control and incident management.

Need for Enhanced Traveler Information Systems

There is a need for improved traveler information systems to provide CMV drivers with real-time updates on traffic conditions, border wait times, and construction zones, which would help reduce congestion and improve operational efficiency.

Strategies and Recommendations

Technology recommendations identified in the RGV total over $229 million with $0 in funding identified. The table below depicts funding requirements by time period, and shows that no immediate, short, medium, or long-term recommendations have identified funding.

Table 20: Identified RGV Region Technology Recommendations (Immediate, Short, Medium, and Long Term)

	Estimated COST	Estimated FUNDING	Funding NEED
Immediate Term (0-2 years)	$145,840,000	$0	$145,840,000
Short-Term (2-4 years)	$83,375,000	$0	$83,375,000
Medium-Term (4-10 years)	$0	$0	$0
Long-Term (10+ years)	$0	$0	$0
Grand Total:	**$229,215,000**	**$0**	**$229,215,000**

Border Technology Program Recommendations – RGV Region

The nine policy recommendations identified in the Border-Wide Themes section also apply to the Rio Grande Valley region. This section includes program recommendations with funding needs for the immediate, short, medium, and long terms within the Rio Grande Valley region. The dollar value reported represents the funding need: total cost minus funding already identified. Some program recommendations include multiple location-specific projects, listed in **Appendix F**.

T10. Repair or Replace Non-Operational Technologies at Border Crossings

HIGH PRIORITY - $1.1M NEED - LED BY TXDOT

Repair or replace non-operational technologies and equipment at border crossings. Main uses of these technologies (including WIM, static scales, LPRs, and other systems) are to check for safety issues such as mechanical condition, size and weight compliance, and vehicle identification.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
2 projects, $1.1M	-	-	-

T11. Expand Deployment of Technology and Information Connectivity

HIGH PRIORITY - $201.3M NEED - LED BY TXDOT, TXDPS, LOCALITIES, STATE OF TEXAS

Expand deployment of roadside technologies (traffic devices, cameras) and high-speed connectivity in support of BCC operations and border crossing facilities. Connecting border crossings through additional roadside technologies and a high-speed network allows for fast and streamlined communication between facilities such as BCCs, BSIFs, and inland inspection stations. In addition, the State of Texas should explore with private sector cell phone service providers the expansion of service to provide comprehensive coverage of the border. Costs associated with this recommendation do not reflect the outcomes of any negotiation with private cell phone service providers. Appendix F outlines specific locations of priority deployments identified by stakeholders.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
483 cameras, 242 LPRs, 1,449 miles of fiber, $120.8M 86 identified priority project locations	322 cameras, 161 LPRs, 966 miles of fiber, $80.5M	-	-

T12. Invest in Advanced Security Systems

HIGH PRIORITY - $24.0M NEED - LED BY TXDPS

Invest in advanced X-Ray, non-intrusive inspection technology systems along the Texas-Mexico border to advance CMV safety, security, and efficiency and amplify OLS.

FUNDING NEED BY TIMEFRAME

Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
3 projects, $24.0M	-	-	-

T13. Add Safety Inspection Technologies

HIGH PRIORITY - $2.9M NEED - LED BY TXDPS

Add safety inspection technologies such as WIMs, static scales, height indicators, tire pressure anomaly systems, thermal braking cameras, USDOT readers, LPRs, DMS, RFID readers, and hazmat placard readers at TxDPS border crossings where they do not exist.

FUNDING NEED BY TIMEFRAME

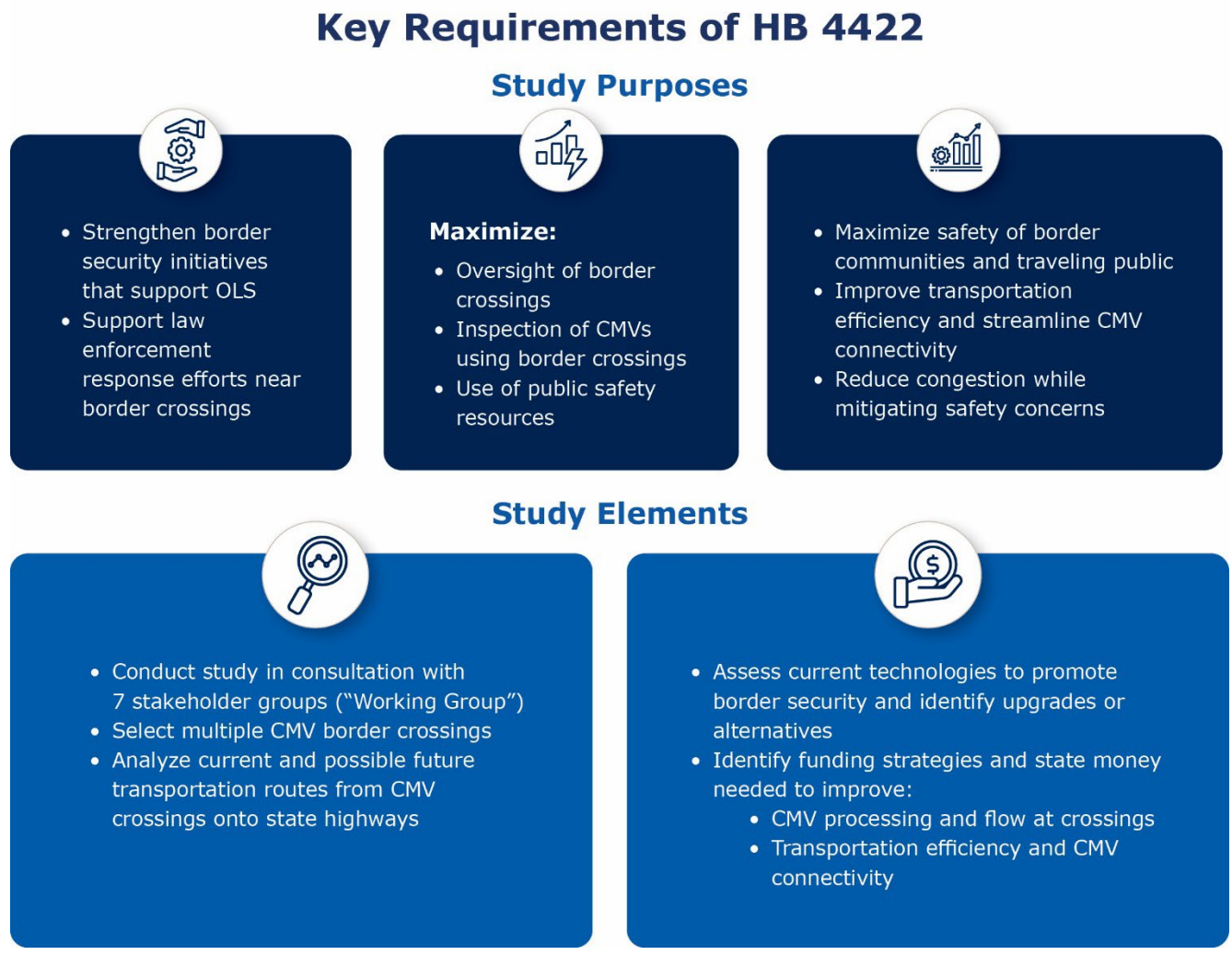
Immediate (0-2 yrs.)	Short (2-4 yrs.)	Medium (4-10 yrs.)	Long (10+yrs.)
-	3 projects, $2.9M	-	-

Chapter 6: Funding

Overview of Recommendations

House Bill 4422 called for this study on public safety, border security, and transportation infrastructure from Texas–Mexico border crossings onto the state highway system to ensure safe, efficient, and streamlined commercial motor vehicle connectivity that amplifies Operation Lone Star efforts. The study objectives and key requirements are portrayed in **Figure 68**.

Figure 68: Key Requirements of HB 4422



This chapter summarizes the **$29.4 billion in funding needs** for transportation, safety and security, and technology recommendations in this study, encompassing 638 projects across 24 programs, as well as 32 associated policies. It includes illustrations of what investment will produce in such areas as road network improvements, security and safety upgrades, and technology acquisition. Costs are reported across the three regions and for time periods ranging from immediate to long term. The chapter next explores the available funding strategies and application of public resources by which the funding needs may be reduced or closed. It concludes with the amount of state money required to improve safety, security, and efficiency of CMVs at the Texas-Mexico border.

Chapters 3, 4, and 5 reported needs and challenges in transportation efficiency, safety and security, and border technology, and presented responsive strategies, recommendations and priorities developed by stakeholders and through the Working Group. Recommendations arose from the issues in each of the three border regions, included proposed time periods for advancement, and identified costs for implementation. Where identified funding for initiatives was considered, the financial requirements focused on the unfunded needs. In addition, capital projects that are fully funded and satisfy aspects of the recommendations developed in this study were considered in each region. Thus, the specified funding needs in transportation relate to unfunded capital projects associated with each recommendation. **Table 21** below summarizes the number and types of policies and programs from recommendations included in this report.

Table 21: Policy and Program Recommendation Total Costs by Region and Use

Category	Policies	Programs
 **1. Transportation Efficiency Recommendations** **$26.8B** **FUNDING NEED**	001. Address Disproportionate Burdens 002. Strengthen Binational Coalitions Border-wide E01. Asset Management E02. BCC-DPS Coordination E03. Facility Access E04. HAZMAT Signage E05. Effective Crossing Capacity E06. Right-of-Way Acquisition E07. Directional Connectivity E08. BCC Communications E09. Routing Flexibility E10. Monitor HAZMAT Trends E11. Study Toll Policy E12. HAZMAT Route Redundancy E13. CMVs & General Mobility	E14. New CMV Routes E15. New & Improved Interstates E16. CMV Lanes E17. Border-Wide BCCs E18. New & Expanded CMV Crossings E19. HAZMAT Routing E20. Permits Clearinghouse E21. Study Permit Harmonization *Continued on next page*
 **2. Safety & Security Recommendations** **$2.0B** **FUNDING NEED**	S01. Complete CMV Driver Training Program S02. Enhance Law Enforcement Training S03. Incorporate Emergency Protocols S04. Adopt a Standard for TxDPS Facility Design S05. Allocate OLS Funds to Local Agencies S06. Share CMV Related Data Across Agencies S07. Require Crime Reporting S08. Redirect CMV Citation Revenues	S09. Enhance Highway Lighting S10. Increase TxDPS Staffing at Border Crossings S11. Increase TxDPS Staffing within Border Zone S12. Establish Inland TxDPS Facilities S13. Staff Inland TxDPS Facilities S14. Deploy VWIMs and Pull Over Areas Detection S15. Create a Local Agency Grant Program S16. Radiological Nuclear S17. Update TxDPS Infrastructure S18. Establish Static Scale Sites S19. Construct Fixed TxDPS Facilities S20. Expand Staffing at Future Border Crossing Facilities

Category	Policies	Programs
 **3. Technology Recommendations** **$631.7M** FUNDING NEED	T01. Establish Data Sharing System T02. Adopt a Standard for TxDPS Equipment and Systems T03. Connect BCCs and TxDPS Communications T04. Enable Active Management with Technology T05. Employ Smart Work Zone Technology T06. Enhance Border Communication Centers T07. Standardize BCC Technology T08. Provide Safety and Security Equipment T09. Incentivize Telematic Systems Installation	T10. Repair or Replace Non-operational Technologies at Border Crossings T11. Expand Deployment of Technology and Information Connectivity T12. Invest in Non-intrusive Inspection Devices at TxDPS Border Crossing Facilities T13. Add Safety Inspection Technologies
TOTAL: $29.4B	**32 policies**	**24 programs**

A full description of each of these policies and programs by category follows in **Table 22** through **Table 27**.

Table 22: Transportation Efficiency Policy Recommendations

Policy Recommendation	State of Texas	Localities	TxDOT	CBP	TxDPS	US Dept. of Homeland Security
O01. Address Disproportionate Burdens: Pursue at every level sources for obligated funds that reduce the adverse burdens border communities bear.	●	●	●	●	●	●
O02. Strengthen Binational Coalitions Border-wide: Strengthen or form coalitions to pursue funding with a unified voice. Inclusion of law enforcement supports safety and security.		●				
E01. Asset Management: Establish a border-wide asset management program to keep an inventory of existing State assets and their condition.			●			
E02. BCC-TxDPS Coordination: Establish coordination between Border Communication Centers (BCCs) and TxDPS to ensure efficient and effective enforcement and response strategies.		●	●		●	
E03. Facility Access: Ensure that industrial clusters are provided with multiple access routes to prevent bottlenecks and ensure smooth traffic flow.		●				
E04. HAZMAT Signage: Incorporate HAZMAT considerations to existing signage programs to develop clear and effective signage, guide drivers, and improve safety on designated routes.		●	●			
E05. Effective Crossing Capacity: Explore methods to increase effective crossing capacity, such as by adding staff, extending operational hours, and/or providing off-peak access to businesses.		●	●	●	●	
E06. Right-of-Way Acquisition: Acquire new rights-of-way (ROW) to facilitate the creation of new connections and routes.		●	●			
E07. Directional Connectivity: Continue to develop new interstates and connecting routes that balance east-west and north-south connectivity to improve the overall transportation network and enhance CMV movement.		●	●			
E08. BCC Communications: Ensure that BCCs communicate with each other in real time and maintain open lines of communication with law enforcement agencies, cross-border commercial operators, and the shipping community.		●	●		●	
E09. Routing Flexibility: Enable flexibility in border crossing assignments by shippers and customs brokers, allowing drivers to choose alternative crossings in the event of closures or significant congestion.		●				●
E10. Monitor HAZMAT Trends: Monitor trends to identify and enforce designated HAZMAT corridors.			●			
E11. Study Toll Policy: Study effect of tolling policies at individual crossings on network performance and supply chain impacts.		●	●			
E12. HAZMAT Route Redundancy: Provide redundant routing options in areas prone to congestion and where the presence of HAZMAT is prevalent to enhance safety and reliability.		●	●			
E13. CMVs & General Mobility: Recognize that initiatives improving passenger and pedestrian mobility can provide benefits for CMV operations.		●				

Table 23: Transportation Efficiency Program Recommendations

Program Recommendation	Localities	TxDOT	TxDPS	TxDMV	Funding Need ($mil.)
E14. New CMV Routes: Develop new routes for CMVs crossing the border that avoid densely populated areas, improve east-west connectivity, and reduce congestion and risk to residents.	●	●			$5,070.2
E15. New & Improved Interstates: Prioritize the development and completion of key interstate projects such as I-10, I-35, I-27, I-2, and I-69 to improve regional connectivity and support economic growth.		●			$10,743.6
E16. CMV Lanes: Design and construct CMV-friendly lanes that feature wider shoulders, provide separation from passenger activity, and facilitate cross-town CMV traffic.	●	●			$9,832.1
E17. Border-Wide BCCs: Expand border communication centers to cover the entirety of the border and include dedicated monitoring of CMV traffic for better oversight and control.	●	●	●		$191.0
E18. New & Expanded CMV Crossings: Expand or establish new CMV border crossings that facilitate the separation of commercial and passenger traffic, promoting smoother cross-border transport and encouraging/reflecting commercial development in new areas on both sides of the border.	●	●			$915.2
E19. HAZMAT Routing: Develop a study to identify needs and expand authorized routing for HAZMAT and OS/OW cargo to ensure safe and efficient transport of these types of goods.		●			$1.5
E20. Permits Clearinghouse: Create a centralized electronic clearing house for OS/OW border permits accessible to law enforcement.	●			●	$0.6
E21. Study Permit Harmonization: Develop a planning study to harmonize the permitting systems for OS/OW cargo across different issuing agencies at the border to streamline processes and reduce delays.	●			●	$0.5
Total Funding Need					**$26,754.7**

Table 24: Safety and Security Policy Recommendations

Policy Recommendation	Localities	TxDOT	TxDPS	State of Texas
S01. Complete CMV Driver Training Program: Complete the development and implementation of the CMV driver training program for cross border drivers, by TxDOT and TxDPS.		●	●	
S02. Enhance Law Enforcement Training: Provide additional training to 900 Commercial Vehicle Enforcement (CVE) officers relating to interdiction and communication regarding trending criminal activity.			●	
S03. Incorporate Emergency Protocols: Incorporate protocols within BCC operations to ensure preparedness and effective response to any emergencies that may arise on CMV routes.	●	●	●	
S04. Adopt a Standard for TxDPS Facility Design: Adopt a preferred model design for buildings, layouts, and traffic design at TxDPS facilities.		●	●	
S05. Allocate OLS Funds to Local Agencies: Explore making Operation Lone Star funds available to local law enforcement for CMV enforcement.				●
S06. Share CMV Related Data Across Agencies: Establish a policy within the border region to share CMV criminal activity among law enforcement and enforcement partners at the border aimed at strengthening consistency in uniform crime reporting and data reporting.	●		●	
S07. Require Crime Reporting: Require state and local law enforcement to report all CMV crime-related data to a consolidated source.				●
S08. Redirect CMV Citation Revenues: Redirect a portion of revenue from CMV citations to a trust fund dedicated to maintenance and implementation of safety and security measures and technology.				●

TxDPS Inspection Facility in Eagle Pass, TX. (Source: HNTB)

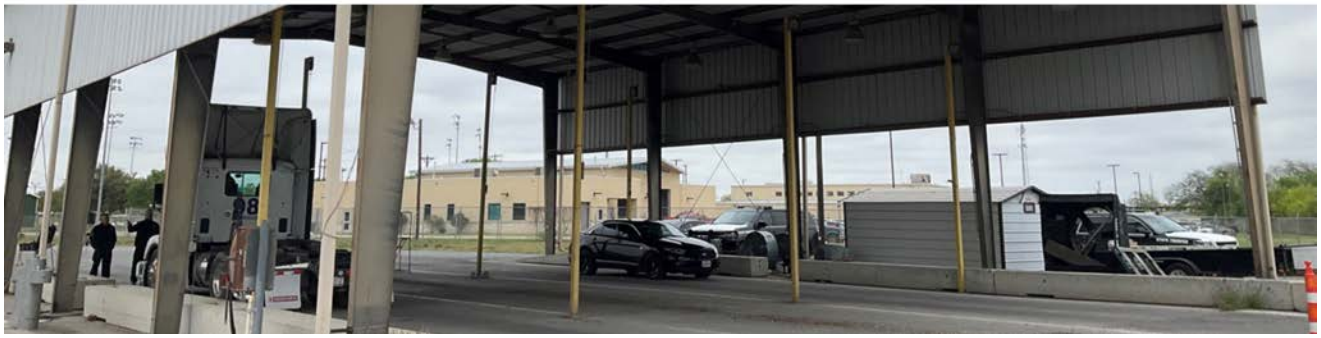


Table 25: Safety and Security Program Recommendations

Program Recommendation	Localities	TxDOT	TxDPS	Funding Need ($mil.)
S09. Enhance Highway Lighting: Provide safety lighting roadway improvements in areas where crashes occurred in unlit conditions and to enhance safety for officers performing inspection on roadways.	●	●		**$943.8**
S10. Increase TxDPS Staffing within Border Zone: Increase TxDPS presence through the addition of troopers and supervisors to screen for drugs, smuggling, and criminal activity.			●	**$196.1**
S11. Increase TxDPS Staffing at Border Crossings: Add additional TxDPS inspectors, troopers, sergeants, and administrative staff at border crossing facilities where they are understaffed.			●	**$159.9**
S12. Establish Inland TxDPS Facilities: Increase TxDPS presence through the addition of inland facilities within the 60-mile border zone based on crime hotspots to screen CMVs for security-related issues.			●	**$120.0**
S13. Staff Inland TxDPS Facilities: Add TxDPS inspectors, troopers, sergeants, and administrative staff at newly constructed inland facilities to screen for safety and security-related issues.			●	**$168.2**
S14. Deploy Virtual Weigh-in-Motion (VWIM) and Pull Over Areas: Deploy VWIMs throughout border region and construct pull-over areas for CMV inspectors to perform roadside inspections on heavily utilized CMV routes.		●	●	**$5.4**
S15. Create a Local Agency Grant Program: Create a grant proposal opportunity for local agencies with an Memorandum of Understanding with TxDPS to fund a Commercial Vehicle Enforcement unit.			●	**$15.0**
S16. Radiological Nuclear Detection: Provide staffing and equipment for radiological nuclear detection.			●	**$4.8**
S17. Update TxDPS Infrastructure: Update TxDPS facilities to include permanent, fixed buildings with inspection pits at locations where they have a presence.		●	●	**$80.0**
S18. Establish Static Scale Sites: Set up static sites for mobile patrols along CMV routes to enhance the efficiency and effectiveness of commercial vehicle inspections.		●	●	**$4.5**
S19. Construct Fixed TxDPS Facilities: Add TxDPS facilities at CMV border crossings where they do not exist.		●	●	**$160.0**
S20. Expand Staffing at Future Border Crossing Facilities: Add additional TxDPS inspectors, troopers, sergeants, and administrative staff at border crossing facilities at sites where TxDPS does not currently have a presence.			●	**$174.2**
Total Funding Need				**$2,031.8**

Table 26: Border Technology Policy Recommendations

Policy Recommendation	Localities	TxDOT	TxDPS	State of Texas
T01. Establish Data Sharing System: Establish data sharing protocols that allow for CMVs to be monitored within the border region.	●	●	●	
T02. Adopt a Standard for TxDPS Equipment and Systems: Adopt a standard for TxDPS equipment and systems and a best-practice model approach at border crossing facilities.			●	
T03. Connect BCCs and TxDPS Communications: Require BCCs and the TxDPS Communications Center to be connected upon implementation to facilitate rapid information sharing and coordinated responses to incidents.	●	●	●	
T04. Enable Active Management with Technology: Enable the active management of the border-wide CMV system by employing advanced technology to provide real-time visibility to all stakeholders involved.	●	●	●	
T05. Employ Smart Work Zone Technology: Employ smart work zone safety technology to guide CMV drivers and streamline CMV operations at construction sites.	●	●		
T06. Enhance BCCs: Enhance existing TxDPS regional communication centers to include local law enforcement in real-time.	●		●	
T07. Standardize BCC Technology: Standardize the technology used across all BCCs to ensure compatibility and seamless integration of data and communication systems.	●	●	●	
T08. Provide Safety and Security Equipment: Provide local law enforcement with equipment and systems to identify safety and security concerns in CMVs.				●
T09. Incentivize Telematic Systems Installation: Incentivize carriers for the installation of telematic systems for in-cab notifications.				●

Table 27: Border Technology Program Recommendations

Program Recommendation	Localities	TxDOT	TxDPS	State of Texas	Funding Need ($mil.)
T10. Repair or Replace Non-operational Technologies at Border Crossings: Repair or replace non-operational technologies and equipment at border crossings.		●			**$4.4**
T11. Expand Deployment of Technology and Information Connectivity: Expand deployment of roadside technologies (traffic devices, cameras) and high-speed connectivity in support of BCC operations and border crossing facilities. Explore expansion of cellular service.	●	●	●	●	**$556.5**
T12. Invest in Advanced Security Systems: Invest in advanced X-ray, non-intrusive inspection technology systems along the Texas-Mexico border to advance CMV safety, security, and efficiency that amplify OLS.			●		**$64.0**
T13. Add Safety Inspection Technologies: Add technologies at border crossings where they do not exist.			●		**$6.8**
Total Funding Need					**$631.7**

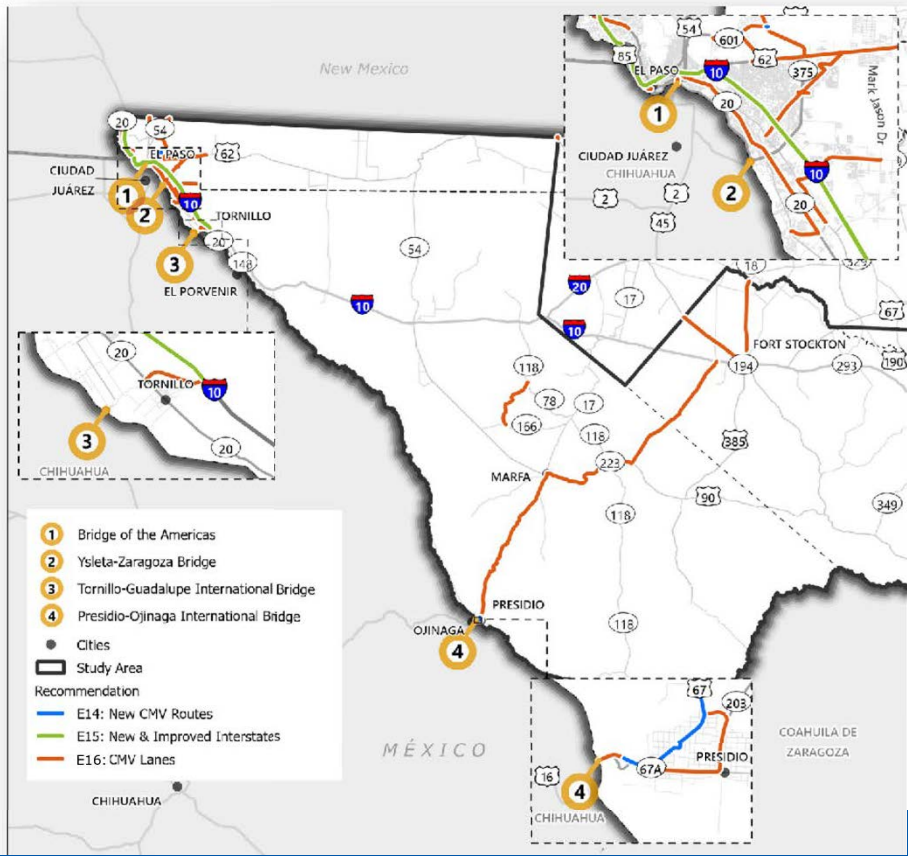
Illustration of Recommendations

Illustrations of what these recommendations will support follow.

Transportation Efficiency Recommendations

- **New CMV Routes**
  Develop new routes for CMVs crossing the border that avoid densely populated areas, improve east-west connectivity, and reduce congestion and risk to residents.
- **New & Improved Interstates**
  Prioritize the development and completion of key interstate projects such as I-10, I-35, I-27, I-2, and I-69 to improve regional connectivity and support economic growth.
- **New & Expanded CMV Crossings**
  Expand or establish new CMV border crossings that facilitate the separation of commercial and passenger traffic, promoting smoother cross-border transport and encouraging/reflecting commercial development in new areas on both sides of the border.
- **CMV Lanes**
  Design and construct CMV-friendly lanes that feature wider shoulders, provide separation from passenger activity, and facilitate cross-town CMV traffic.
- ✓ **HAZMAT Routing**
  Develop a study to identify needs and expand authorized routing for hazardous materials (HAZMAT) and oversize/overweight (OS/OW) cargo to ensure safe and efficient transport of these types of goods.

Projects Identified in the El Paso Region



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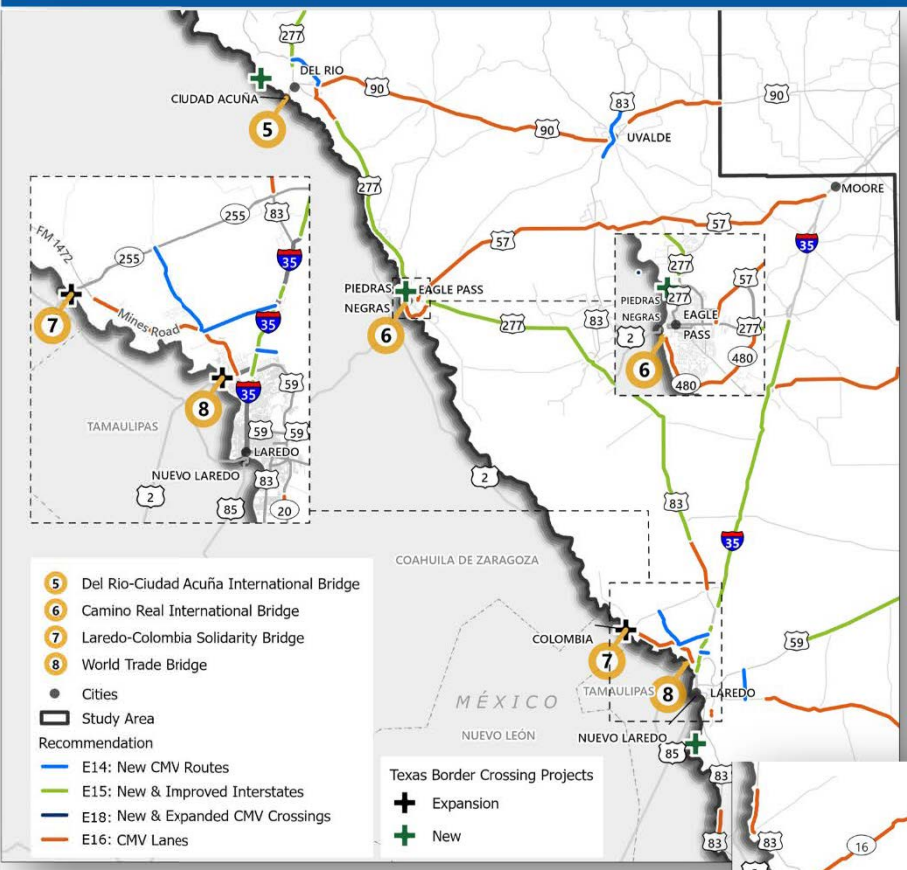
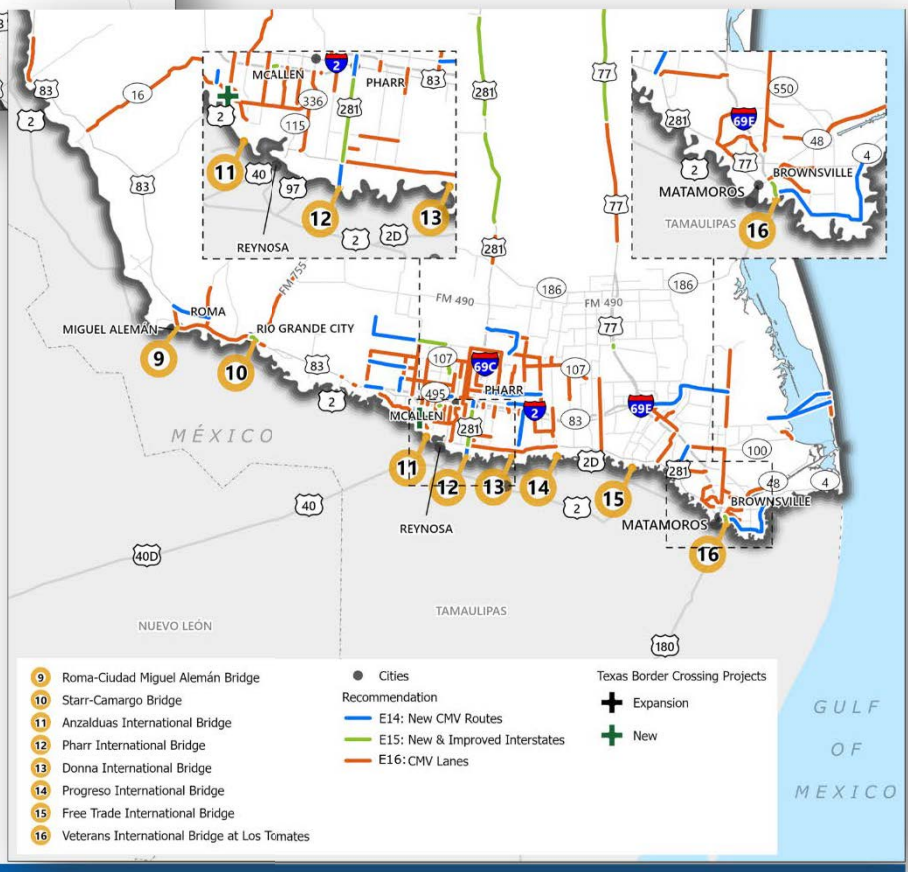
Transportation Efficiency Recommendations



Projects Identified in the Laredo Region (above)



Projects Identified in the RGV Region (right)

- ✓ **Permits Clearinghouse**
  Create a centralized electronic clearing house for OS/OW border permits accessible to law enforcement.
- ✓ **Study Permit Harmonization**
  Develop a planning study to harmonize the permitting systems for OS/OW cargo across different issuing agencies at the border to streamline processes and reduce delays.

Total Cost: $26.6 billion

Does not include BCC costs

Safety & Security Recommendations

TxDPS Staffing

Increase staffing at current TxDPS facilities to ensure that TxDPS is fully staffed at current border crossing facilities. Also, expand staffing at future TxDPS border crossing and inland facilities to ensure that these facilities are fully staffed upon construction.

TxDPS Facilities & Infrastructure

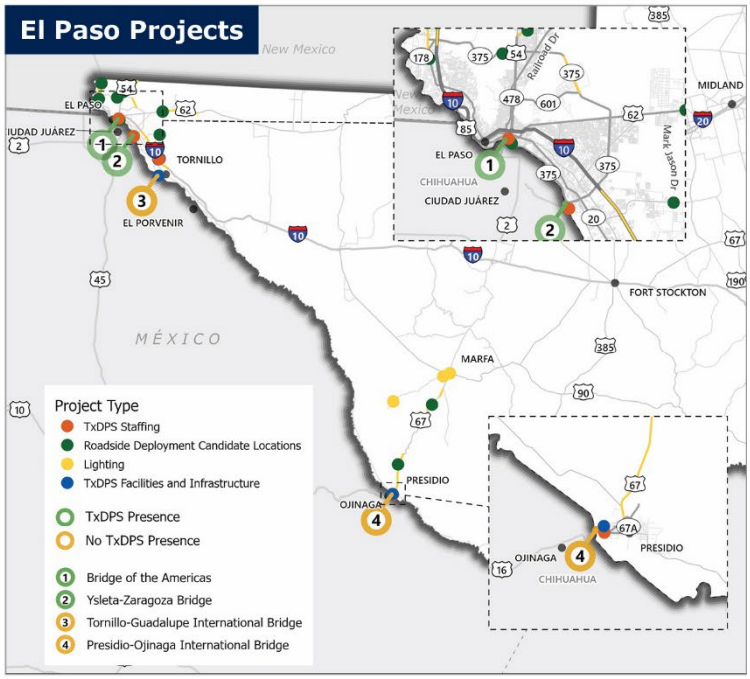
Construct fixed TxDPS facilities at border crossings where TxDPS does not currently have a fixed inspection facility and establish inland TxDPS inspection facilities within the 60-mile border zone. Where TxDPS currently has a fixed presence, update facilities to include permanent buildings and inspection pits.

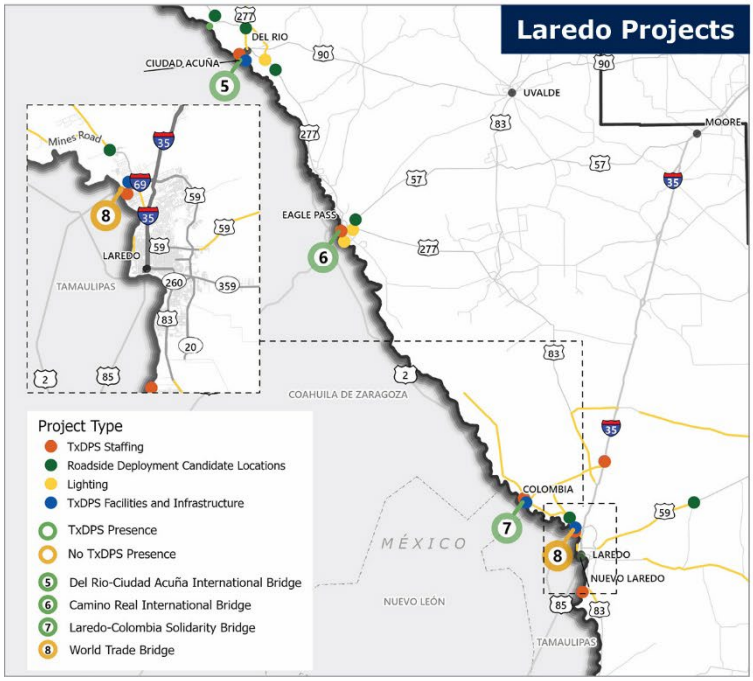
Lighting

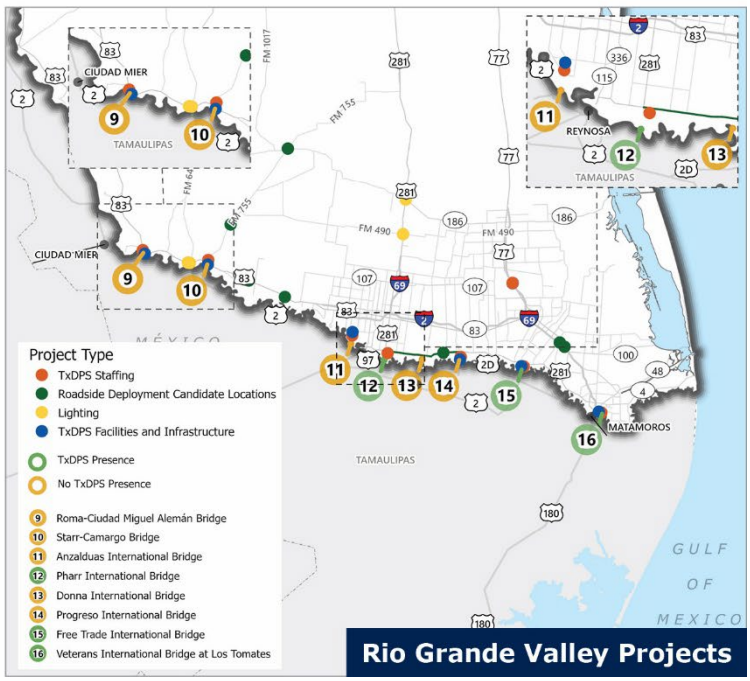
Provide safety lighting roadway improvements in areas to improve roadway safety for users of the roadway network, aiming to minimize crashes due to lack of lighting, and to enhance safety for law enforcement officers to conduct roadside inspections.

Roadside Deployment Candidate Locations

Locations of candidate locations for safety and security roadside deployments. These deployments include the establishment of static scale sites for the deployment of Virtual Weigh In Motions (VWIMs) and construction of pull over sites to enhance the efficiency of roadside inspections on heavily utilized CMV routes.







Total Cost: $2.0 billion

Border Technology Recommendations

Border Crossing Safety Technologies

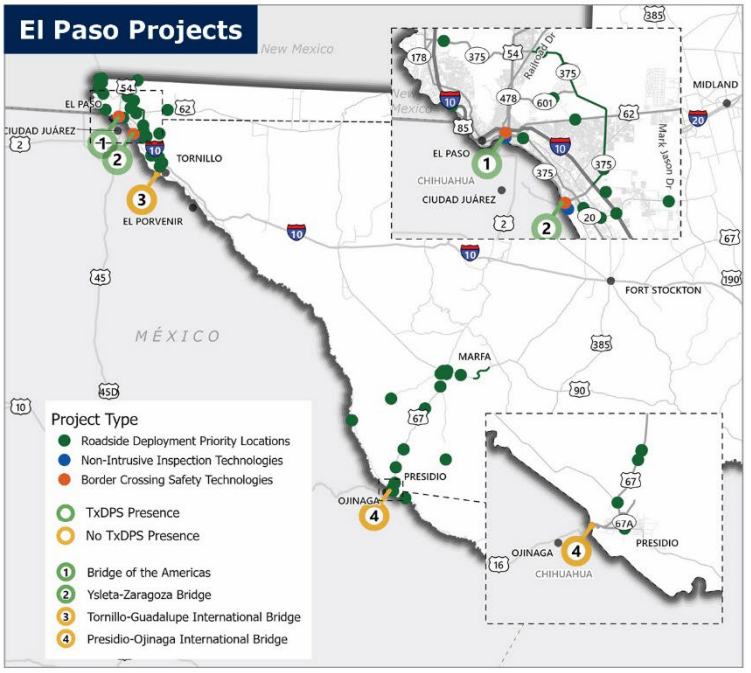
Repair, replace, and add safety inspection technologies at current TxDPS facilities to ensure consistency in technological screening equipment at the Texas-Mexico border. Technologies addressed include: Weigh in Motions (WIMs), static scales, height indicators, tire pressure anomaly systems, thermal brake cameras, USDOT readers, License Plate Readers (LPRs), Dynamic Messaging Signs (DMS), RFID readers, and hazmat placard readers.

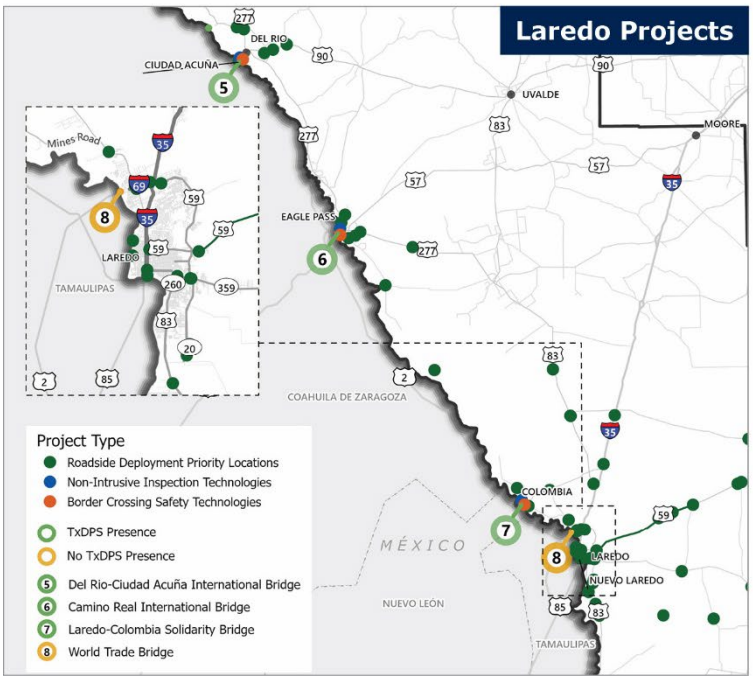
Roadside Deployment Priority Locations

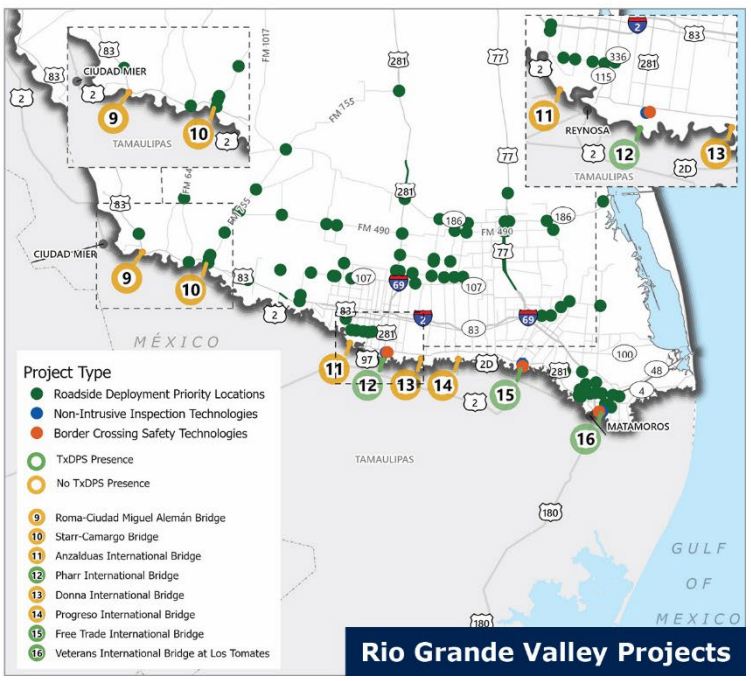
Locations of priority deployments of roadside technologies to allow for roadside screening of CMVs through technology. These initial deployments include CCTV cameras, connectivity through cellular service, Dynamic Messaging Signs (DMS), License Plate Readers (LPRs), and Virtual Weigh in Motions (VWIMs).

Non-intrusive Inspection Technologies

Add non-intrusive inspection devices at current TxDPS facilities that allow for the advancement of CMV safety, security, and efficiency along the Texas-Mexico border through increased screening efficiency.

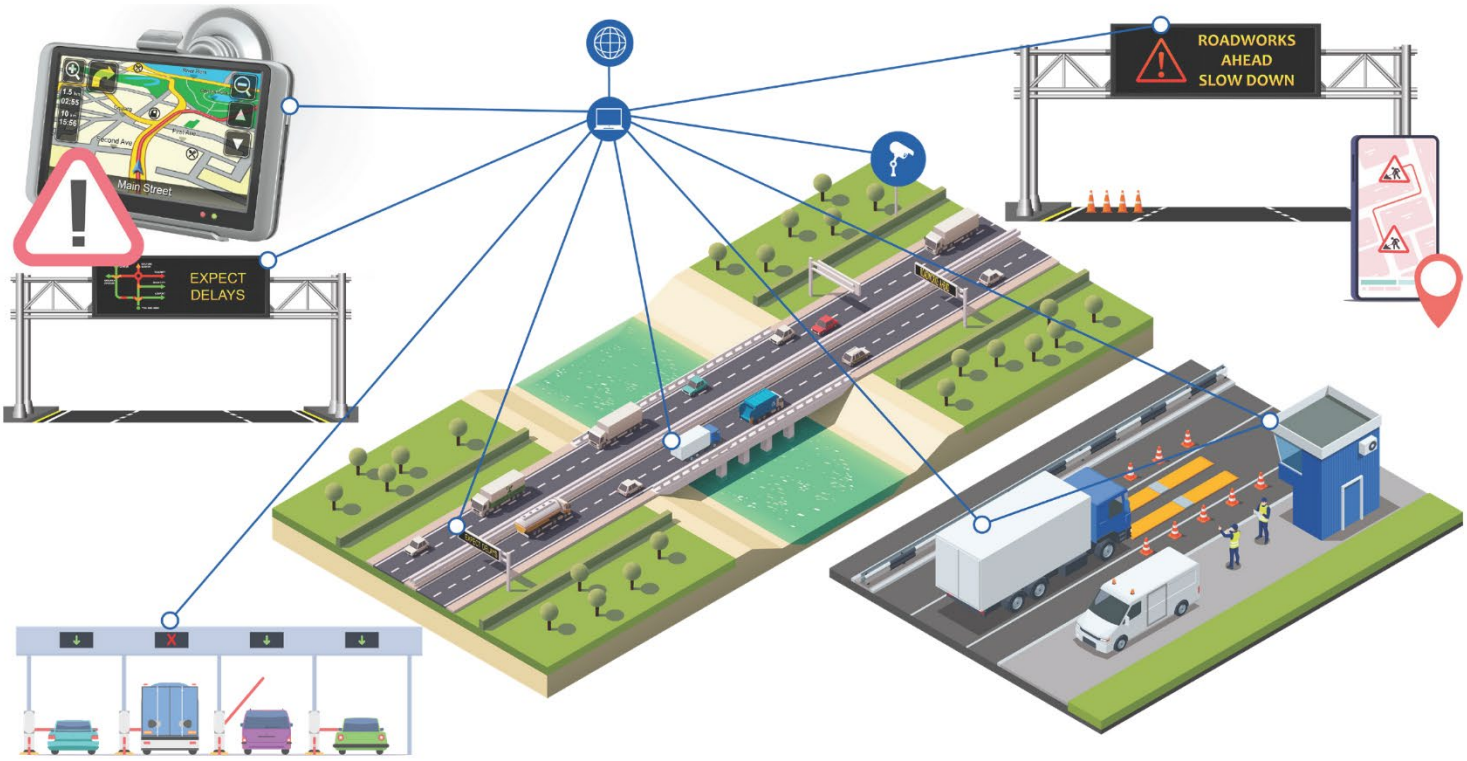






Total Cost: $632 million

BCC Recommendations



- ✓ Incorporate emergency protocols
- ✓ Establish coordination between BCCs/TxDPS
- ✓ Support BCCs with roadside technology and high-speed connectivity
- ✓ Standardize technology at BCCs
- ✓ Connect BCCs and TxDPS communications
- ✓ Enable active management with advanced technology
- ✓ Expand BCCs border-wide
- ✓ Maintain communications between BCCs and law enforcement

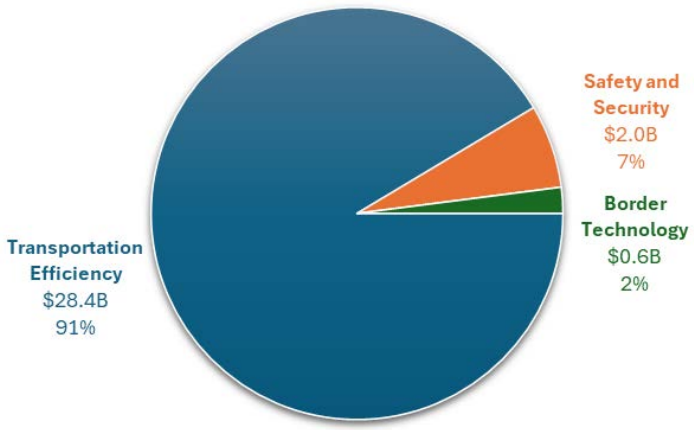
Total Cost: $747.5 million

BCCs are cross-functional, and some costs are also embedded in other recommendations

Costs, Available Funding, and Funding Need

The total cost of all cited recommendations is **$31.0 billion**. **$1.6 billion is already budgeted** for specific transportation efficiency projects through TxDOT's Unified Transportation Program (UTP). **Figure 69** summarizes the total cost of recommended programs across the entire border region. The values reflect all costs before accounting for any secured funding.

Figure 69: Total Cost by Category



The **$29.4 billion funding need** associated with the proposed program recommendations can be funded from the following sources:

$26.8 billion need related to improvements to **transportation efficiency** enhancements across the entire border.

- Dedicated state funds would be required to fully develop the range of recommendations reflected in the $26.8 billion funding need.
- Federal grants and loans could be used to partially fund some recommendations.
- Local match funding could be secured via Transportation Reinvestment Zones (TRZ), public and private CMV border crossing toll revenue, and border region MPOs.

$2.0 billion need related to **safety and security** enhancements along the border.

- $0.9 billion of the $2.0 billion corresponds to improved roadway lighting. This would likely have limited federal funding available and would require a combination of state and local funding.
- $1.1 billion of the $2.0 billion corresponds to TxDPS facilities, staffing, and equipment, which would require dedicated state funding.

$0.6 billion need related to **border technology**, including BCCs.

- These unfunded recommendations would require a state and local funding.
- Federal grants and loans could be used to partially fund some recommendations.

Figure 70 summarizes the funding need by implementation timeline, representing when investments in the state's transportation, safety and security, and technology

infrastructure are recommended. **Figure 71** displays the total funding need for all recommendations by timeline for each region.

Figure 70: Border-wide Funding Need by Implementation Timeline

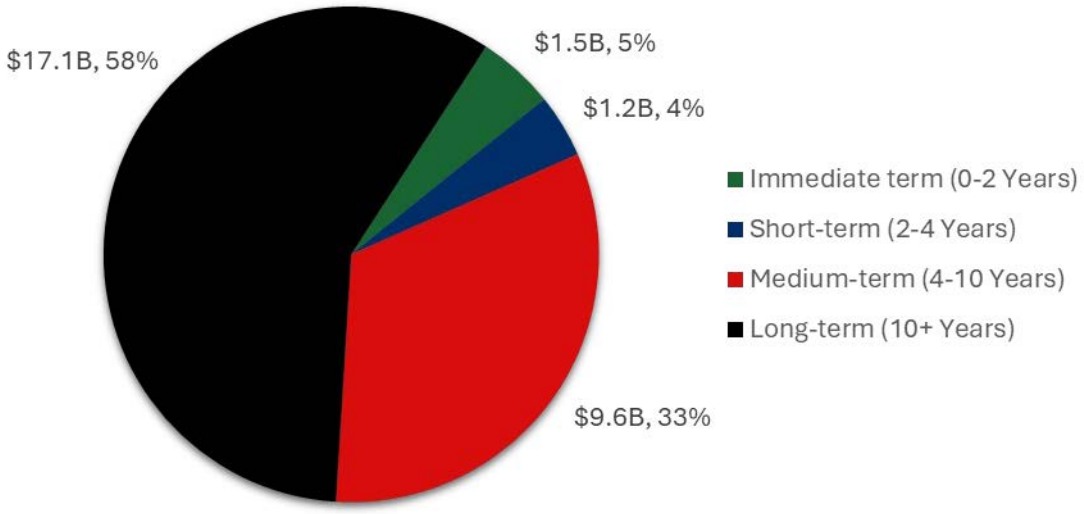


Figure 71: Border-wide Funding Need by Implementation Timeline and Region

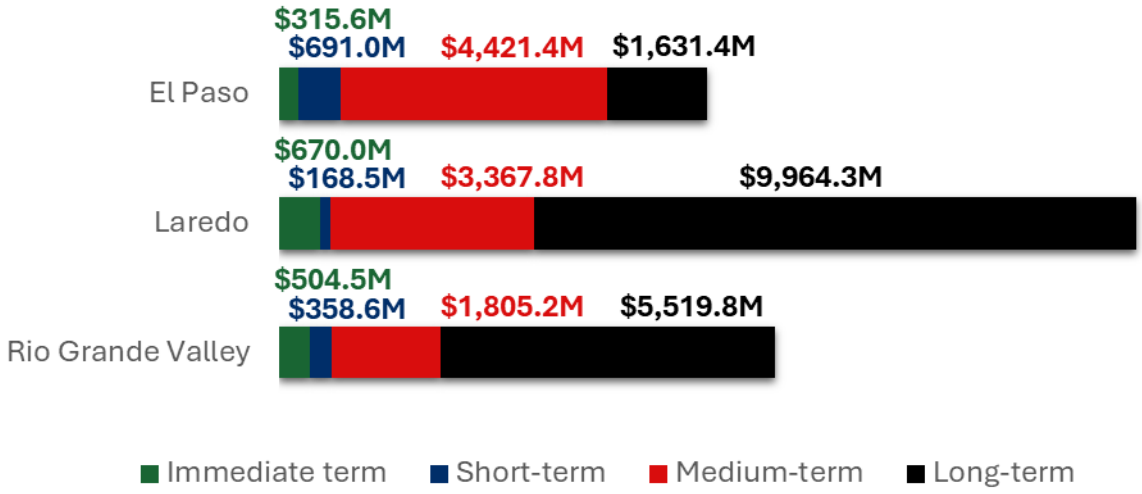


Figure 72 summarizes the number of projects by timeline for each region, and **Figure 73** summarizes the number of projects by category. This study identified 638 projects supporting CMV activity at the Texas-Mexico border.

Figure 72: Projects by Implementation Timeline and Region

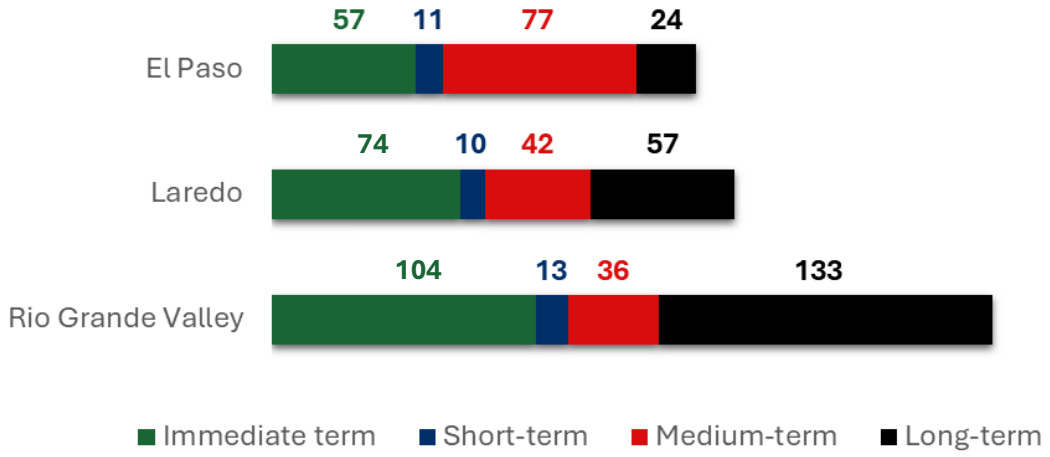


Figure 73: Projects by Category and Region

Innovative Funding Options

Overview

This section outlines potential funding sources to address the proposed enhancements in this document that are currently unfunded. More information about each source is included in **Appendix H. Figure 74** below includes sources of recurring revenue, which could be used to directly fund capital expenditures, service debt in support of capital projects and support ongoing operating costs such as staffing increases. More in-depth descriptions of the merits of each of these funding sources are included later in this chapter.

Figure 74: Annual Recurring Revenue per Incremental Tax/Fee Rate Increase

Figure 75 outlines one-time sources of funding, including grants and loans, that could be used to expedite capital project development beyond what could be achieved by relying strictly on incremental state and local taxes and fee revenue. More in-depth descriptions of the merits of each of these funding sources are included later in this chapter.

Figure 75: One-time Funding Sources

Funding Source Evaluation Matrix

The funding source evaluation matrix includes all funding evaluated side-by-side using evaluation criteria presented in **Appendix I**. The results of the evaluation are covered below, **Table 28** covering state funding sources, **Table 29** covering federal and binational sources and **Table 30** covering MPO & local funding as well private funding via P3.

Table 28: State Funding Source Evaluation Matrix

Potential Revenue Source	Evaluation Criteria				
	One-time Funding Potential	Annual Recurring Funding Potential	Yield Per Unit in FY2024 ($2024 millions)	Average Score Across Qualitative Evaluation Criteria	Tax/Fee Impact Per Household ($2024)
State Funding					
Motor Fuels Tax The uncertainty around the future of EV adoption and continued gains in fuel efficiency compromises the predictability of this as a revenue source	N/A	$190.0 M	$190 M annual revenue per $0.01 increase in the tax per gallon	3.4	$16.87
Motor Vehicle Registration Fee Revenue estimate assumes a flat $10 increase applied to all classes of vehicles including passenger vehicles, and different classes of trucks, with 100% of the increase accruing to the state highway fund	N/A	$260.0 M	$260 M annual recurring revenue per $10 increase to all motor vehicle registration fees	3.7	$23.08
Electric Vehicle Registration Fee Revenue estimate assumes a flat $40 increase applied to all classes of EVs, with 100% of the increased revenue accruing to State Highway Fund	N/A	$8.4 M	$8.4 M annual revenue per $40 increase in existing EV registration fees	3.2	$0.75
State Infrastructure Bank (SIB) The SIB current total loan book is between $150M and $200M. Interest rate discounts for economically disadvantaged counties (EDCs), with many counties along the border qualifying.	$4.0 M - $27.0 M	N/A	N/A	3.4	N/A

Potential Revenue Source	Evaluation Criteria				
	One-time Funding Potential	Annual Recurring Funding Potential	Yield Per Unit in FY2024 ($2024 millions)	Average Score Across Qualitative Evaluation Criteria	Tax/Fee Impact Per Household ($2024)
CMV Border Crossing Toll Revenue Revenue estimate assumes a flat $3 increase among tolls for each CMV type. Between 2012 and 2022, CMV crossings between Mexico and Texas increased nearly 4% per year, demonstrating a recent track record of above average growth potential.	N/A	$18.4 M	$18.4 M annual revenue per $3 increase to all CMV tolls	3.9	$1.63
Oil & Gas Revenue (Proposition 1) Will require legislature or constitutional amendment to change in Texas.	N/A	$120.0 M	$120 M increase in annual revenue per 1% increase in share of Proposition 1 fund	2.6	N/A
Sales and Use Tax (Proposition 7) Would require legislature or constitutional amendment to change in Texas	N/A	$46.6 M	$47 M increase in annual revenue for every 0.1% increase in sales tax	2.4	$4.14
Local Border Security Program Grants Only local entities are eligible for LBSP funding, making it a potential source of local match project funding.	$0.3 M - $0.5 M	N/A	N/A	3.0	N/A

Potential Revenue Source	Evaluation Criteria				
	One-time Funding Potential	Annual Recurring Funding Potential	Yield Per Unit in FY2024 ($2024 millions)	Average Score Across Qualitative Evaluation Criteria	Tax/Fee Impact Per Household ($2024)
Commercial Vehicle Citations Fines are typically set by county or municipality.	N/A	$0.8 M	$0.8 M increase in annual revenue per $25 increase in commercial vehicle citation fines	2.2	N/A
TTC Issued Bonds Texas Transportation Commission (TTC) is the source of bond funding for projects overseen by TxDOT.	N/A	N/A	N/A	3.2	N/A

Source: WSP
*Evaluation criteria included in calculated scores: magnitude (at representative unit), project eligibility & scope, distributional burden, overall requirements to meet funding needs, stability / predictability, indexed / keeps pace with inflation, growth potential in tax/fee base, regressive / neutral / progressive, nexus with transportation, legal authority to implement and ease of administration and collection. See Appendix I for additional details.

Table 29: Federal and Binational Funding Source Evaluation Matrix

Potential Revenue Source	Evaluation Criteria				
	One-time Funding Potential	Annual Recurring Funding Potential	Yield Per Unit in FY2024 ($2024 millions)	Average Score Across Qualitative Evaluation Criteria	Tax/Fee Impact Per Household ($2024)
Federal Funding					
Infrastructure for Rebuilding America (INFRA)	$8.0 M - $1,058.4 M	N/A	N/A	5.0	N/A
National Infrastructure Project Assistance Program (MEGA)	$32.0 M - $600.0 M	N/A	N/A	5.0	N/A

Potential Revenue Source	Evaluation Criteria				
	One-time Funding Potential	Annual Recurring Funding Potential	Yield Per Unit in FY2024 ($2024 millions)	Average Score Across Qualitative Evaluation Criteria	Tax/Fee Impact Per Household ($2024)
Rebuilding America Infrastructure Sustainably and Equitably (RAISE)	$0.2 M - $25 M	N/A	N/A	3.8	N/A
Strengthening Mobility and Revolutionizing Transportation (SMART)	$0.8 M - $15.0 M	N/A	N/A	4.2	N/A
Operation Stonegarden (OPSG)	$1.4 M - $37.0 M	N/A	N/A	3.4	N/A
Transportation Infrastructure Finance and Innovation Act (TIFIA) Loans	$215.0 M - $1,600.0 M	N/A	N/A	5.0	N/A
Binational Funding					
North American Development Bank (NADB) Loans	$4.0 M - $150.1 M	N/A	N/A	3.6	N/A
North American Development Bank (NADB) Grants	$0.3 M - $0.5 M	N/A	N/A	1.9	N/A

Source: WSP
*Evaluation criteria included in calculated scores: magnitude (at representative unit), project eligibility & scope, distributional burden, overall requirements to meet funding needs, stability / predictability, indexed / keeps pace with inflation, growth potential in tax/fee base, regressive / neutral / progressive, nexus with transportation, legal authority to implement and ease of administration and collection. See Appendix I for additional details

Table 30: MPO & Local and Private Funding via P3 Funding Source Evaluation Matrix

Potential Revenue Source	Evaluation Criteria				
	One-time Funding Potential	Annual Recurring Funding Potential	Yield Per Unit in FY2024 ($2024 millions)	Average Score Across Qualitative Evaluation Criteria	Tax/Fee Impact Per Household ($2024)
MPO & Local Funding					
Transportation Reinvestment Zones (TRZ)	N/A	N/A	N/A	3.4	N/A
MPO Funding	N/A	N/A	N/A	4.3	N/A
Private Funding via P3					
Private Equity	N/A	N/A	N/A	3.4	N/A
Private Debt	N/A	N/A	N/A	3.4	N/A

Source: WSP
*Evaluation criteria included in calculated scores: magnitude (at representative unit), project eligibility & scope, distributional burden, overall requirements to meet funding needs, stability / predictability, indexed / keeps pace with inflation, growth potential in tax/fee base, regressive / neutral / progressive, nexus with transportation, legal authority to implement and ease of administration and collection. See Appendix I for additional details.

State Funding Needed

The full cost of the proposed border enhancements is $29.4 billion in improvements that are currently unfunded. Moving forward with these investments would require additional state funding. Federal and local funding sources outlined in this chapter could cover a portion of the costs, and pursuing a combination of binational, private and bond issue funding would help accelerate project development by securing upfront funding, but ultimately it is likely that a new source of dedicated state funding will be required in order to develop the full scope of proposed border enhancements. A designated entity may be required to advocate for funding needs in the border region, either through the creation of a new organization or through an expanded scope with an existing entity. Any such organization would need to include active input from cities, counties and MPOs along the U.S. side of the border, along with TxDOT, TxDPS and stakeholders on the Mexican side of the border.

Federal one-time funding sources like those included in **Figure 75** potentially can help to meet a modest portion of the funding needs for infrastructure, safety and security outlined

in this report. Federal assistance programs such as discretionary grant or credit assistance programs allow leverage of non-federal resources, such as state and local contributions, through federal funding of 80% of projects costs against a state or local match of 20%.

The current UTP includes the Border State Infrastructure Funding (BSIF) funding subcategory of Category 11 funding. This subcategory is well aligned with many of the proposed border enhancements. The BSIF is reserved for the three TxDOT districts with international border crossings (Pharr, Laredo, and El Paso). Rider 11(b) of this funding is distributed to those three districts and is reserved for highway projects within 25 miles of a border crossing. Rider 11(c) funds projects recommended by the Border Trade Advisory Committee and is restricted to projects within 60 miles of the border.[11] Selection criteria include improvements that facilitate safe movement of motor vehicles at the border.[12] The underlying source of revenue for this category includes the range of TxDOT sources included in this section, such as the motor fuel taxes, vehicle registration fees, Proposition 1, and Proposition 7. Total annual appropriations to this subcategory were $60 million per year for both FY 2024 and FY 2025. Further evaluation would be required to determine if the rules and regulations on the BSIF funding subcategory would serve as a useful funding vehicle to disburse any newly dedicated state funding to the proposed border enhancements.

"El Paso County is grateful for the tireless efforts and dedication of the Texas HB 4422 Working Group throughout the year. The recommendations identified on this report will fill a critical need in border communities as we continue to navigate the challenges and opportunities that come with international trade and immigration. This was only possible through strong partnerships and collaboration between neighboring stakeholders proving that, together, we can find solutions to the most pressing issues of being a border state. Our counties need significant investments in technology and infrastructure at ports of entry to continue facilitating the flow of goods and services for the rest of the state. It is our sincere hope that the Texas Legislature allocates the funding needed to bring these projects to fruition informed by the recommendations outlined by the Texas HB 4422 Working Group."

-Ricardo Samaniego, El Paso County Judge

[11] https://www.txdot.gov/about/advisory-committees/border-trade-advisory-committee.html
[12] https://ftp.txdot.gov/pub/txdot/get-involved/tpp/utp/061024-utp-funding-categories-descriptions.pdf

Chapter 7: Trade Impacts and Next Steps

Impacts of Recommendations on International Trade Efforts

The recommendations of this study are designed to improve essential elements of Texas-Mexico trade: its safety and security by leveraging infrastructure and technological opportunities to deliver border-wide improvements at an increased efficiency and a lower cost. The importance of this trade to Texas and the United States was established in Chapter 2, it is no less important to Mexico, and the HB 4422 Working Group strongly agrees. Cross-border trade contributed nearly $70 billion to Texas GDP in 2019 and is expected to more than quadruple by 2050, spurred by the USMCA going into effect in 2020. The post-pandemic pursuit of supply chain risk reduction through nearshoring is bringing investment to Mexico. This effect is evident in the emergence of Mexico as the number one trading partner of the U. S. in 2023, and of Laredo as the top port in the U.S. According to the U.S Department of Commerce Advisory Committee on Supply Chain Competitiveness (DOC ACSCC), the performance factors that shape decisions in supply chain logistics are cost, speed (or time to market), reliability, safety, and risk, for which security is a critical component. These factors influence business location and supplier selection, which trade efforts seek to attract. They are all in play in commercial nearshoring strategies, and they are all supported by the recommendations of this study. Expectations for growth are not realized automatically; they must be supported with improvements and investments that earn and accommodate it, and locations that want growth can benefit that way.

$70B

Cross-border trade **contributed nearly $70 billion** to Texas GDP in 2019 **and is expected to more than quadruple by 2050**.

Communities on both sides of the border are supportive of trade as vital to their economies, as stakeholders in this study expressed clearly, yet rapid growth and development can lead to safety issues if not proactively addressed. Businesses engaged in site location must consider safety for their employees as well as efficiency in goods mobility. The recommendations of this study address safety in two ways. First, the strategies that move CMV traffic away from town centers and design traffic lanes for CMV

requirements reduce the likelihood of incidents and improve public perceptions of driving conditions. In some cases, these strategies have corresponding initiatives in Mexico as well. Binational community support is enhanced in this way. Second, the specific improvements to CMV inspection and monitoring bring multiple benefits accruing to industry and to communities. For example:

- Supply chain managements grade their carriers on safety, and methods of assuring safety are desirable to them.
- CMVs crossing the border northbound typically return southbound; thus, required repairs to faulty vehicles in one direction lead to better equipment in both directions.
- Enhanced law enforcement inspection procedures using available technology encourage higher standards for managers of CMV fleets. This improves the safety of CMVs overall and reduces the probability of equipment breakdowns enroute that contribute to congestion and delay shipments.
- Training for binational drivers in pre- and post-inspection procedures elevates the safety of CMVs overall and reduces the likelihood of delay in border crossing.
- BCCs help manage the clearance of breakdowns, which has value for safety in itself. Moreover, the CMV monitoring and communications capabilities that undergird BCC functions enable both real-time reaction to unsafe conditions and data collection to foster analytics for enhanced planning and operations.

Security is a concern to all parties in cross-border trade. Mexican carriers track the location and timing of incidents such as cargo theft in order to plan around them. Escorts are used with some shipments, and CMVs are kept moving to reduce the chances of interference. In-vehicle technology is widely used by Mexican and U.S. carriers for visibility to the driver, the tractor and the trailer, with options to shut down the engine remotely if CMVs are inappropriately stopped or traveling out of route. Technology of that sort protects against misuse of CMVs for trafficking or smuggling both at and beyond the border crossing. Private systems can interact with public systems recommended in this study, such as facial recognition and license plate readers for tractor and trailers, making it possible to clear reliable CMVs quickly and flag questionable ones for tracking during their current journey and their next one. Operation Lone Star is assisted by such measures, and BCCs can help to implement them. The recommended information and communications technologies enhance the collaboration of all parties involved in law enforcement, state and local, and make it more effective. In short, the recommendations of this study help protect the integrity of cross-border shipping and the organizations responsible for it. This is in the common interest of Texas and Mexico because it guards

the communities on both sides of the border, and because the businesses that will drive growth in binational trade are protective of their reputations, their cargo, and their personnel.

This study identifies nearly $30 billion in needed investment. The HB 4422 Working Group asserts that cross-border coordination and collaboration are key to funding such investment. They add that improving communication, fostering partnerships among agencies, and increasing technology in the way this study sets forth can help its recommendations come to fruition.

> *If implemented the recommendations from this study will indeed result in more efficient, safe and secure border trade.*
>
> – Texas A&M Transportation Institute

Next Steps

This is a report to the governor, lieutenant governor, and the Texas legislature, providing recommendations established through the collaboration of stakeholders throughout the Texas-Mexico Border region. Next steps are at the discretion of the recipients of this report. The report itself offers a substantiated set of recommendations, but it is not an action plan. Creation of such a plan is a reasonable next step if action is to be taken at all.

Important elements include:

- Funds to be made available by the state, in the forms it determines;
- Additional sources of funds that may be pursued, such as through binational initiatives;
- The timing and uses of funds;
- Policies to be adopted, and whether funds would be tied to their implementation; and,
- The parties responsible for acting on recommendations.

In addition, the recommendations of this report have been organized by region. Stakeholders within those regions may be free to adopt policies within their jurisdiction, to

undertake programs for which they have or can obtain resources, and to come together on joint initiatives.

The recommendations proposed in this report were developed through the study's Working Group for commercial motor vehicle activity along the Texas-Mexico border. They promote border security, public safety, transportation connectivity, efficiency and technology deployment through policies and investments border-wide and over near and long-term time horizons, fulfilling the requirements of House Bill 4422.

"The Texas-Mexico border really shows how important our relationship with Mexico is—not just for Texas, but for the entire United States. The growing trade along our border underscores the importance of this study and its vision for success. Texas Trucking Association is proud to be a proactive partner and help enhance public safety and transportation infrastructure in the state. This report effectively achieves the law's intent, and we're ready to collaborate with our many colleagues to implement its findings in the years to come."

John D. Esparza, President & CEO - Texas Trucking Association

List of Appendices

Pharr International Bridge. Source: TxDOT