RESOLUTION NO. MPO 2018-04

BY THE LAREDO URBAN TRANSPORTATION STUDY
METROPOLITAN PLANNING ORGANIZATION POLICY COMMITTEE

ADOPTING THE 2015-2040 METROPOLITAN TRANSPORTATION PLAN (MTP)

WHEREAS, the Laredo Urban Transportation Study (LUTS), the designated Metropolitan Planning Organization (MPO) for the Laredo Urban Area, has reviewed the proposed revision(s) of the 2015-2040 Metropolitan Transportation Plan (MTP); and,

WHEREAS, the Laredo Urban Transportation Study finds that the proposed revision(s) of the 2015-2040 Metropolitan Transportation Plan (MTP) meets the high priority improvements necessary for the LUTS area;

NOW THEREFORE BE IT RESOLVED, that the Laredo Urban Transportation Study, as the designated Metropolitan Planning Organization for the Laredo Urban Area, adopted the proposed revisions of the 2015-2040 Metropolitan Transportation Plan (MTP), which are attached hereto and made a part hereof for all purpose:

We certify that the above resolution was adopted on June 18, 2018 at a public meeting of the Policy Committee of the Laredo Urban Transportation Study.

(for)

Honorable Pete Saenz
Mayor of Laredo and Chairperson of the
MPO Policy Committee

Nathan Bratton
MPO Director

David M. Salazar,
TxDOT, District Engineer

Laredo 2045 MTP Update & FAST Act Compliance Project

Outline for Updating the Laredo 2040 MTP for Compliance with the FAST Act

The Fixing America's Surface Transportation Act, or FAST Act, was signed into law by President Obama on December 4, 2015. The bill funds surface transportation programs at over $305 billion for fiscal years 2016 through 2002. The emergence of the FAST Act does not represent an abandonment of the programs and planning requirements established under MAP-21, the previous federal transportation bill. In fact, the FAST Act maintains the provisions from MAP-21 with minor revisions and additional requirements. The most significant changes include:

- MPO officials representing transit providers are granted equal authority to that of other MPO officials. A representative of a transit provider is permitted to also represent a local community.
- MPOs are encouraged to consult with officials responsible for tourism and natural disaster risk reduction when developing Metropolitan Transportation Plans (MTPs) and Transportation Improvement Programs (TIPs).
- The scope of the metropolitan planning process is expanded to include three new planning factors: improving transportation system resiliency and reliability, reducing or mitigating stormwater impacts of surface transportation, and enhancing travel and tourism.
- The MTP must include consideration of the role that intercity buses serve in reducing congestion, pollution, and energy consumption.
- Ports and private providers of transportation (including intercity bus operators and employer-based commuting programs) shall be offered the opportunity to comment on the MTP.
- The MTP must assess capital investment and other strategies that reduce vulnerability of the existing transportation infrastructure to natural disasters.
- The FAST Act continues MAP-21's overall performance management approach.
- The FAST Act includes provisions focused on ensuring the safe, efficient, and reliable movement of freight. The FAST Act establishes a National Multimodal Freight Network, and a National Highway Freight Network.

The existing Laredo 2040 MTP was updated to bring the document into compliance with the new FAST Act requirements. A summary of updates are organized by Chapter and Section below.

Chapter 1: Planning Context

This chapter provides an overview of the Laredo MPO and the 2040 MTP. References to MAP-21 were updated to reference the FAST Act. Legislative mandates were also updated, and the three new planning factors were introduced.

MPO Structure

This section provides an overview of membership and composition of the MPO Policy and Technical Advisory Committee. The section text has been slightly updated to reflect minor changes in the Technical Advisory Committee representation which occurred in 2015 since the previous MTP adoption.

Legislative Mandates

This section provides a brief background on the past and current federal transportation bills. The FAST Act has been added to the list of federal transportation bills, and acknowledged as the current bill. The section describing the regulations introduced by MAP-21 has been summarized and rewritten to show that the bill is historic and no longer current. A section giving a detailed but concise overview of the FAST Act including any changes, revisions, and additions relevant to the Laredo 2040 MTP was added.

Transportation Planning Factors

This section has been updated to reference to the Final Rule on Statewide and Metropolitan Transportation planning for May 27, 2016 and acknowledge the three additional planning factors that are now required for consideration in the metropolitan planning process. Each of the three new planning factors have been added in the numbered list and include definitions of the factor and importance for considering the factor for the Laredo MPO region. Following addition of these new required planning factors, numbering of the additional planning factors (not required by federal law but considered by the MPO) was also updated.

(NEW) 9. Resiliency and Reliability
(NEW) 10. Reduce or Mitigate Stormwater Impacts
(NEW) 11. Travel and Tourism
(NUMBERING UPDATE) 12. Stewardship of Financial Resources
(NUMBERING UPDATE)13. Consideration of All Groups of People

Development and Content of the Metropolitan Transportation Plan

The CFR citation number was updated to 23 CFR § 450.324 to reflect current FAST Act regulation reference. The content of the table was updated to reflect updates of the new regulation (including consideration of intercity buses, and reference to reducing vulnerability to natural disasters). A section to the table on performance measures was also added.

Consistency with State Plans

Relevant state plans, particularly TxDOT plans, are referenced in this section. The references were updated to reference the most recent version of each plan.

Strategic Plan (2013-2017)

Updated reference to the Strategic Plan for 2017-2021.

Texas Strategic Highway Plan (SHSP)

Updated reference and image to the Texas Strategic Highway Safety Plan for 2017-2022.

Report on Texas Bridges (as of September 2012)

Updated reference to Report on Texas Bridges (as of 2016).

Unified Transportation Program (UTP)

Updated reference and image to Unified Transportation Program for 2018.

(NEW) Texas Freight Mobility Plan

Reference to the 2017 Texas Freight Mobility Plan was added.

Other Related Plans

In addition to statewide plans, other related plans are identified in this section. Text has been added to include completion of the most recent Transit Development Plan in 2017 to demonstrate the additional coordination with FAST Act guidelines that further stress the role of public transportation in metropolitan planning considerations. In addition, the Limited English Proficiency that was adopted in 2016 has been added to the list of related plans to further demonstrate the MPOs' commitment to planning to involve all people and additional Public Participation Planning activities.

MTP Planning Process

Figure 1-1 shows the flow of inputs, analysis, and public participation involved in the development of the 2040 MTP. While the MTP was developed under the provisions of MAP-21 as noted in the flowchart, due to the signing of the FAST Act in 2015, this graphic was revised in 2018 for compliance with new provisions from the bill.

(NEW) Performance Measures

A section on Performance Measures was added to replace the subsection on performance measures in the MAP-21 portion of "Legislative Mandates". The Laredo MPO will adopt the federally required performance measures in coordination with TxDOT. The Laredo MPO will adopt the first target for safety performance measures using TxDOT's target of two percent reduction by 2033. The MPO will continue coordination with TxDOT on data collection, analysis, reporting, and target setting for the additional performance measures as they are released. Adoption of the remaining performance targets will occur in the 2045 MTP.

MTP Overview

This section provides a brief summary and outline of the rest of the document and chapters. Reference to Chapter 11, which was originally titled "Safety and Security", has been updated to better reflect FAST Act requirements and is now titled "Safety, Security, and Resiliency".

Chapter 2: Regional Context

This chapter describes the geography, history, land use, land use policies, historic districts, and major destinations/traffic generators within the Laredo MPO. This chapter is not affected by the new FAST Act requirements and does not need any updates for compliance.

Chapter 3: Socioeconomic Data

This chapter describes the socioeconomic data and analysis of that data involved in making the recommendations of the 2040 MTP. This chapter is not affected by the new FAST Act requirements and does not need any updates for compliance.

Chapter 4: Public Participation

This chapter describes the public outreach process that was used to gather input on the MTP development. While this chapter documents a public outreach process that has already been completed, a new section will be added to describe the new requirements from the FAST Act and how the process has been updated.

Planning Context

This section summarizes the public outreach efforts that were coordinated in the development of the Laredo 2040 MTP. Text has been added to indicate updates to the Public Participation Plan which were adopted in 2017 for compliance with the FAST Act. It indicates the inclusion of representatives for public ports and private providers of transportation in the stakeholder database to provide better coordination. It notes that while Employer-based transit incentives are not currently in place, there has been interest from private industry on the potential for advancing these types of initiatives in the future. This coordination is included in the most recent Transit Development Plan and Marketing Plan and referenced in this text addition.

Chapter 5: Roadways

This chapter provides a detailed overview of the roadways within the MPO region – the classifications, traffic volumes, level of service, crash data, bridges, border crossings, best practices, and more. This chapter has been updated to include sections on the National Freight Highway Network and the National Multimodal Freight Highway Network. References to MAP-21 were also appropriately updated to references to the FAST Act. Updated maps of these newly designated networks are included and numbering of maps has been updated throughout this chapter accordingly.

National Highway System

Section text was briefly updated to reference policy guidance provided by FHWA on principal arterials designated by the NHS under the FAST Act.

(NEW) National Freight Highway Network

This section provides a brief overview of the National Freight Highway Network and details the hierarchy of subsystem roadways within the NFHN. The section identifies and includes a new map of assets that are part of the NFHN within the Laredo MPO region.

(NEW) National Multimodal Freight Network

This section provides an overview of the National Multimodal Freight Network and identifies which assets are part of the NMFN within the Laredo MPO region. This section now includes a map identifying these local assets designated as part of the NMFN.

Best Practices and Strategies for Roadway Improvements

This section describes strategies for preserving, maintain, and improving the operational efficiency of the transportation system. A subsection on Resiliency and Reliability will be added to address strategies to reduce the vulnerability of the existing transportation infrastructure to natural disasters.

(NEW) Resiliency and Reliability

Under the FAST Act, the MTP must include an assessment of capital investment and other strategies to preserve the existing and future transportation system and reduce the vulnerability of the existing transportation infrastructure to natural disasters. This section will discuss the risks associated with natural disasters, and propose a GIS based strategy to assess the roadway infrastructure within the MPO region for vulnerabilities to natural disasters that will be applied in the 2045 MTP. This section will also address the reduction or mitigation of stormwater impacts on surface transportation.

Crash Data

Text has been updated in this section to note that additional information on safety performance measures has been added to Chapter 13 of the 2040 MTP to meet performance monitoring related requirements of the FAST Act.

Best Practices and Strategies for Roadway Improvements

This section identifies strategies employed by the MPO to preserve and maintain transportation infrastructure. The section text was updated to include references to new planning factors: resilience and reliability and reduce/mitigate stormwater impacts as required by the FAST Act. A new Stormwater Management Section was added for compliance with the FAST Act requirements and to detail relevant state and local design guidance for stormwater management.

Travel Demand Management

This section describes the means to influencing travel patterns and behavior to improve system performance by decreasing or shifting travel demand. This section was updated to add strategies for intercity buses and employer-based commuting programs such as carpool, vanpool, transit benefit, parking cash out, shuttle, and telework programs.

Land Use and Urban Design Considerations

This section describes the best practices that the Laredo MPO uses in regard to land use and urban design considerations for the region. The FAST Act requires consideration of the Urban Street Design Guide (NACTO) and the Highway Safety Manual (AASHTO). This section was updated to include that these two documents will be used as references when developing design criteria and standards.

Exhibit A

(NEW) Travel and Tourism

One of the new planning factors required by the FAST Act is enhance travel and tourism. This section was updated to note how the Laredo MPO region has been working to incorporate tourism into the planning process, including representative organizations for the MPO technical committee and to note that representatives from travel and tourism are included in the updated Public Participation Plan and interested parties/stakeholder list.

Chapter 6: Public Transportation

This chapter reviews and analyzes the transit systems available within the Laredo MPO area. The FAST Act places an emphasis on how intercity buses can contribute to congestion relief. Minor text updates in this chapter were made for consistency with terms used in the new FAST Act requirements – specifically to "intercity bus" and "vanpools".

Service Performance Measures

This section provides information on operational performance measures used to identify levels of operating and cost efficiency and effectiveness for public transportation services. Text in this section was updated to clarify the difference between the federally required performance measures from the FAST Act and these more general service performance measures that are used to evaluate transit performance. Text was also updated to include information on the TAM Final Rule and reference to a Memorandum of Understanding (MOU) that has been adopted between the MPO, TxDOT, and El Metro.

Greyhound

This section describes Greyhound operations, which is the major private provider of transportation in the region. The section was retitled "Intercity" and slightly rewritten to give greater emphasis and recognition to the service as an intercity city bus. An introductory narrative was added, noting the significance of intercity buses in the region. International bus services crossing the border have also been added to this section.

System Preservation and Maintenance

This section identifies how public transportation system preservation and maintenance are conducted in the region. The title of this section has been updated to "System Resiliency and Maintenance" to more appropriately capture new language and direction of the FAST Act. Text has been added to indicate the recently completed Asset Management Plan that was developed in line with the most recent Transit Development Plan update and to meet FAST Act requirements for more prescribed public transportation asset management practices.

Land Use and Development Considerations

This section identifies the importance of land use and transportation interactions in developing effective public transportation in the region, including incorporating appropriate design guidance in land use planning. The FAST Act requires that the AASHTO Highway Safety Manual and the NACTO Urban Street Design Guide be considered in developing design criteria. Text in this section was updated to reference these documents in developing design criteria.

Chapter 7: Bicycle and Pedestrian

This chapter describes the needs and planned projects related to bicycle and pedestrian infrastructure in the region. This chapter is not significantly affected by the new FAST Act requirements.

Bicyclist and Pedestrian Safety Projects

Under MAP-21, funding for funding for bicycle and pedestrian projects was provided under the Transportation Alternatives Program (TAP). The FAST Act; however, eliminates the TAP and replaces it with Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA). These TA funds include all projects and activities that were previously eligible under TAP including pedestrian and bicycle facilities, recreational trails, and SRTS projects. Text has been updated in this section to indicate this change in funding mechanisms.

Chapter 8: Airport

This chapter discusses the existing conditions of the Laredo International Airport, including the physical characteristics and operational statistics, forecast of future traffic, and strategies to improve the operations of the airport.

Proposed Strategies

This section describes strategies to continue investment in LRD and enhance Laredo's ability to attract businesses and passengers. Text will be added to this section to describe strategies regarding enhancing travel and tourism as per FAST Act provisions.

Accessibility

This section describes how providing safe and secure facilities at airports is essential to attracting passengers. Text has been added to note that safe and secure facilities are essential to attracting passengers and "enhancing travel and tourism" as well since this subject is provided greater attention within the FAST Act provisions.

Chapter 9: Freight and Goods Movement

This chapter describes the freight activities in the Laredo MPO region and addresses infrastructure, projected freight flows, and issues and challenges faced by the freight industry. References to MAP-21 has been updated to reference the FAST Act.

Congressional High Priority Corridors

This section describes corridors designated as priority corridors. The National Highway Freight Network and the National Multimodal Freight Network were introduced in Chapter 5. A brief acknowledgement and summary on these systems has been added within this section as well.

Highway Network

Text was added to identify the roadways that are designated as part of the National Highway Freight Network and the National Multimodal Freight Network within the Laredo MPO region.

Railroad Network

Text was added to identify railroad assets that are designated as part of the National Multimodal Freight Network within the Laredo MPO region.

Texas Freight Mobility Plan Listening Session

Text in this section was updated to note that the current Texas Freight Plan was adopted in 2017 and how it helps to meet FAST Act requirements to develop comprehensive short- and long-range freight planning and investments. The section title was updated to "Texas Fright Mobility Plan" now that this has been completed. References to MAP-21 were also updated to reference the FAST Act appropriately.

Chapter 10: Congestion Management Process

This chapter describes the congestion management process for the Laredo MPO region. The FAST Act provides examples of employer based travel demand reduction strategies – intercity bus, employer based programs (carpool, vanpool, transit benefits, parking cash-out, telework). The FAST Act also adds job access projects as a CMP strategy. This chapter was updated to reference these new provisions.

Identification of Strategies

This section text was updated to add reference to intercity bus and employer-based commuting programs to the examples of Transportation Demand Management strategies. Text was also updated to include reference to the Advanced Transportation and Congestion Management Technologies Deployment Program (ATCMTD) program that provides competitive grants for the development of advance technology and congestion management. This program was established under the FAST Act.

Chapter 11: Safety and Security

This chapter describes the responsibilities of MPOs to ensure the security and safety of the transportation system by coordinating with agencies that have direct influences on specific security, safety, or emergency planning. The chapter title has been updated to "Safety, Security, and Resilience" in recognition of new provisions for resiliency planning under the FAST Act. Much of the text in the original document already includes resiliency planning but this title change and text updates within the chapter to include the term "resiliency" better help to incorporate FAST Act provisions. References to MAP-21 were appropriately updated to reference the FAST Act throughout this chapter.

Introduction

This section provides high level definitions for safety and security. The section has been updated to include reference to the FAST Act planning factor for resilience. The added text distinguishes security and resilience concepts and describes how they are addressed in the chapter. Additional information specific to stormwater management has also been added to further clarify how stormwater management responsibilities are carried out in the region.

Federal Highway Administration

This section summarizes the safety efforts that the FHWA undertakes. The new safety performance measures as part of the FAST Act and MPO planning process are noted in a final bullet point on efforts.

State Agencies – Texas Department of Transportation

Section text was updated to include reference to the TxDOT *Hydraulic Design Manual,* which includes a section on Stormwater Management. This text was added per FHWA direction as a means to address stormwater mitigation activities.

Regional and Local Agencies – Webb County

This section was updated to reference to the functions of the Webb County Planning Department in relation to resiliency as per new FAST Act provisions and planning factors. The Webb County Planning and Physical Development Department is involved in supporting the resiliency of the transportation system through regulatory enforcement of land use and development activities including floodplain development permits and building permits in compliance with federal laws and local regulations. The department also provides technical assistance for issues related to water and wastewater facilities, transportation, road and drainage improvements, parks and recreational facilities, and public buildings. Through coordination with multiple representatives from both the private and public sectors, the department develops and maintains GIS data that is essential to planning for safety, security, and resilience. GIS data collected by the department can be used to identify transportation assets vulnerable to natural disasters and extreme weather events as well as utilization by emergency response providers.

City of Laredo Plan – Emergency Management Plan

A reference was added in this section to a web resource which acts as a hub for emergency operations as per guidance from FHWA's checklist regarding the FAST Act and demonstrating coordination of regional plans with emergency management planning activities.

Chapter 12: Financial Plan and Recommended Planned Improvements

This chapter discusses the long range financial constraints and opportunities for the Laredo MPO region over the 25-year horizon. This plan includes details on recommended projects for the region.

Funding Sources

Text describing that the future funding source is uncertain has been removed. This was written with the expected expiration of MAP-21 and when a future federal transportation bill had not been fully developed. The funding source is now certain with passage of the FAST Act. Text was updated accordingly.

Roadway and Bicycle/Pedestrian Funding Source

This section includes a table of various roadway and pedestrian/bicycle related funding sources from TxDOT and funding allocations. Text was updated slightly to clarify that the funding structures identified were ones available at the time of the MTP plan.

Chapter 13: Benefits, Impacts, and Next Steps

This chapter quantifies some of the benefits and impacts of the plan and discusses next steps for implementation of the plan. References to MAP-21 were appropriately updated to the FAST Act throughout the chapter.

Benefits and Impacts

This section identifies the goals considered in developing transportation improvements. Bullets in this section were rearranged to update the order of goals to be consistent the order and updated planning factors identified in Chapter 1. Additional references to resilience and reliability were added in text to be consistent with the FAST Act updated planning factors.

Economic Benefits

Minor text edits were included to add reference to the new FAST Act planning factor "enhance travel and tourism".

Environmental Assessment

The FAST Act introduced the reduction or mitigation of stormwater from surface transportation. This section text was edited to include reference and acknowledgement of this new planning factor.

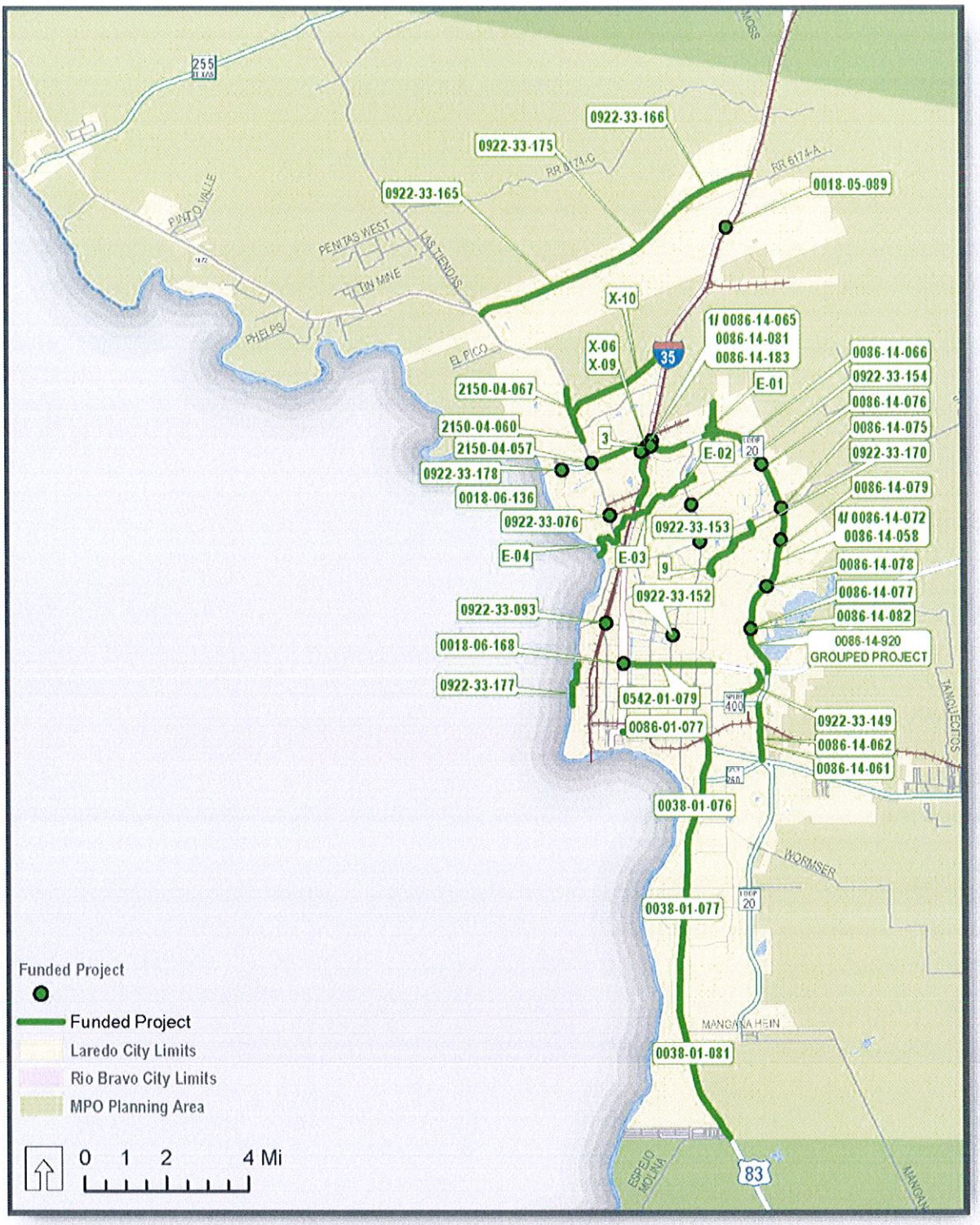
Environmental Mitigation Activities

References to MAP-21 were removed and reference to stormwater reduction/mitigation was added based on new FAST Act planning factors.

Exhibit B (the draft 2020-2045 MTP revisions) may be located in the attached CD or at the following link.

www.cityoflaredo.com/planning/mpo/external/MTP_2015_2045_ch1-13.pdf

Figure 12-1: Roadway and Bicycle and Pedestrian Projects



0092-33-178 WORLD TRADE BRIDGE

Description: the construction of inspection booths at world trade bridge.

Letting Year: 2021
Total Project Cost (2014 Dollars): $9,612,067
YOE Cost: $12,067,384
Programmed Amount:
Category 10: $12,067,384

Other Amount: $0
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is not close to 100-year flood plains, low income areas, or cultural resources.

Table 12-10: Roadway and Bicycle/Pedestrian Projects Summary

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
7, 11	0086-14-061	Loop 20	SH 359 to Spur 400	Widen existing bridge	2015	$10,245,646	$10,655,472	$8,524,378	$2,131,094
1, 2, 4	0086-14-062	Loop 20	1.09 S. of Spur 400 to Spur	New Nonfreeway	2015	$16,936,138	$17,613,584	$1,506,867	$16,106,717
8	0018-06-168	IH 35	At US 59 intersection	Improve traffic signal on	2015	$96,146	$99,992	$81,702	$18,290
8	0038-01-076	US 83	Palo Blanco to SH 359	Improve traffic signals -	2015	$124,873	$129,868	$109,625	$20,243
8	0038-01-077	US 83	Cielito Lindo to Palo Blanco	Improve traffic signals – interconnect signals	2015	$171,131	$177,976	$131,375	$46,601
8	0086-01-077	US 83	IH 35 to SH 359	Improve traffic signals -	2015	$174,922	$181,919	$153,625	$28,294
8	0542-01-079	US 59	IH 35 to Arkansas	Improve traffic signals -	2015	$140,963	$146,602	$123,750	$22,852
8	2150-04-057	FM 1472	At Loop 20	Improve traffic signal, interconnect signals, and	2015	$90,700	$94,328	$77,074	$17,254
8	2150-04-060	FM 1472	Killam Industrial Blvd	Install raised median	2015	$149,669	$155,656	$128,438	$27,218
9	9	Alexander Hike and Bike Trail	Zacate Dam to Del Mar Blvd	Construct hike and bike trail	2015	$986,078	$1,025,521	$1,025,521	$0
10	0086-14-051	Loop 20	0.50 mi west of Milo interchange to 3000 feet east	Schematic, environmental, ROW-survey/mappin	2015	$4,256,385	$4,426,640	$4,000,845	$425,795
~~10~~	~~0922-33-076~~	~~At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr~~		~~Re-align intersection~~	~~2015~~	~~$3,377,269~~	~~$3,512,360~~	~~$1,440,411~~	~~$2,071,949~~
11	0922-00-060	VA	Districtwide	Upgrade bridge rail and MBGF	2015	$3,059,036	$3,181,397	$2,500,000	$681,397
12	0038-01-081	US 83	Cielito-Lindo Blvd (NB) to Espejo Molina Rd (NB)	Resurface of existing highway	2015	$253,823	$263,976	$6,593,622	$0
1,2M, 11	0086-14-066	Loop 20	0.45 m. east of Internation Blvd.to 0.25 m. west of Mcpherson	Construction of interchange	2016	$21,059,119	$22,777,543	$583,634	$22,193,909
9	E-01	Manadas Creek Hike and Bike Trail, Phase III	United High School to Loop 20	Construct hike and bike trail	2016	$886,846	$959,213	$959,213	$0
~~10~~	~~0922-33-093~~	~~Calton Rd~~	~~Santa Maria Ave~~	~~Construct overpass~~	~~2016~~	~~$23,309,669~~	~~$25,211,738~~	~~$12,926,124~~	~~$12,285,614~~
10	0086-14-058	Loop 20	East of International Blvd to US 59/Loop 20 interchange	Schematic, environmental, ROW-survey/mappin g & PSE	2016	$3,880,224	$4,196,850	$3,500,000	$696,850

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
11	0922-00-056	VA	Districtwide	Upgrade bridge rail and MBGF	2016	$3,089,177	$3,341,254	$2,500,000	$841,254
Local	0922-33-165	Hachar Parkway	FM 1472 to 0.1 m. E. of Beltway Parkway	Schematic, environmental for 5.07 miles of 5 lane rural roadway	2016	$1,016,063	$1,016,063	$0	$1,016,562
10 (CBI)	0922-33-166	Hachar Parkway	0.1 m. E. of Beltway Parkway to IH 35	Schematic, environmental, and preliminary engineering for a 5 lane rural roadway.	2016	$300,000	$300,000	$300,000	$60,000
Prop 1 (Cat 2) and 7	2150-04-067	FM 1472 (Mines Rd.)	Killam Industrial Blvd to 0.3 miles north of Mueller Blvd.	Construct one additional northbound travel lane, and the design and partial reconstruction of the existing outside lane.	2016	$5,782,000	$5,782,000	$1,300,000	$0
2, 7, 12	1/0086-14-065	Loop 20	At IH 35	Construct overpass and approach roadways	2017	$22,727,143	$25,564,945	$25,564,945	$0
8	0922-33-152	McPherson Rd	At Calton Rd	Install raised median	2017	$231,362	$260,251	$203,829	$56,422
8	0922-33-153	McPherson Rd	At Del Mar Blvd	Install raised median and add right turn lane	2017	$573,721	$645,358	$505,445	$139,913
8	0922-33-154	McPherson Rd	At International Blvd	Install raised median	2017	$347,446	$390,830	$306,098	$84,732
9	E-02	Manadas Creek Hike and Bike Trail, Phase IV	McPherson Rd to North Central Park	Construct hike and bike trail	2017	$335,305	$377,172	$377,172	$0
11	0922-33-149	Chacon Creek	Eastwoods Park to US 59	Construction of a pedestrian trail at Chacon Creek in Laredo (Phase 3)	2017	$1,786,746	$2,009,846	$1,410,000	$599,846
9, local	0922-33-170	Zacated Creek Hike and Bike Trail	Zacate Creek	Design and construction of hike and bike trail.	2017	1,250,000*	$1,416,278	$1,000,000	$250,000
7	0922-33-175	Hachar Parkway	FM 1472 to IH 35	PS&E and Row mapping for 5 lane rural road	2017	$1,452,866	$1,634,277	$1,307,421	$326,855

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
10-CBI	0922-14-081	IH 35	IH 35 and Loop 20	ITS for interchange facility over IH35	2017	$924,556	$1,040,000	$800,000	$240,000
2, 7	3	Loop 20	At IH 35	Construct ramps from IH 35 southbound to Loop 20 eastbound, and from Loop 20 westbound to IH 35 southbound	2018	$44,200,000	$51,707,748	$9,276,602	$42,431,146
9	E-03	Manadas Creek Hike and Bike Trail, Phase V	IH 35 to McPherson Rd	Construct hike and bike trail	2018	$654,910	$766,152	$766,152	$0
~~7~~	~~0922-33-165~~	~~Hachar Parkway~~	~~FM 1472 to 0.1 m. E. of Beltway Parkway~~	~~Construction of 5.07 miles of 5 lane rural roadway~~	~~2018~~	~~$33,060,222~~	~~$41,831,728~~	~~$21,437,521~~	~~$20,394,207~~
9	E-04	Manadas Creek Hike and Bike Trail, Phase VI	Rio Grande River NW of water treatment plant	Construct hike and bike trail	2019	$746,471	$908,196	$908,196	$0
11	0922-00-951	VA	Districtwide	Upgrade bridge rail and MBGF	2019	$3,089,178	$3,758,457	$2,500,000	$1,258,457
4	0018-06-183	IH 35	.5 miles S. of US59-SL20 to .5 miles east of IH35/US59-SL20	Construct direct connector interchange (DC#5)	2019	$30,412,668	$34,637,499	$31,173,749	$3,463,750
10	0922-33-093	Calton Rd	Santa Maria Ave	Construct overpass	2019	$18,464,190	$21,249,609	$11,499,829	$9,749,780
10	0922-33-076	At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr		Re-align intersection	2019	$2,761,130	$1,987,857	$1,098,378	$889,479
9	0922-33-177 (prev. 0922-33-900)	MSC	Anna Park to LCC campus	River Vega Hike and Bike Trail	2019	$797,766	$970,604	$652,638	$317,966
7, 10	4/0086-14-072	Loop 20	International Blvd to US 59	Upgrade to interstate standards	2020	$101,058,139	$175,000,000	$6,897,669	$168,102,331
11	0922-00-953	VA	Districtwide	Upgrade bridge rail and MBGF	2020	$3,089,177	$3,908,795	$2,500,000	$1,408,795
~~2,12~~	~~0086-14-078~~	~~US 59~~	~~.5 miles N of Jacaman to .5 miles S of Jacaman~~	~~Construct interchange~~	~~2020~~	~~$23,539,285~~	~~$30,976,093~~	~~$2,153,139~~	~~$28,822,954~~
2,12	0086-14-078	US 59	.5 miles N of Jacaman to .5 miles S of Jacaman	Construct interchange	2021	$19,962,291	$22,438,723	$17,950,979	$4,487,744

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
7	0922-33-165	Hachar Parkway	FM 1472 to 0.1 m. E. of Beltway Parkway	Prel. Eng./Construction of 5.07 miles of 5 lane rural roadway	2021	$26,077,429	$32,339,796	$25,871,837	$6,467,959
10	0922-33-178	World Trade Bridge (Insp. Booths)	World Trade Bridge		2021	$9,612,067	$12,067,384	$9,653,907	$2,413,477
~~2~~	~~0086-14-075~~		~~0.5 mi. S. of Del Mar to 0.5 mi. N. of Del Mar~~	~~Construct grade separation~~	~~2021~~	~~$21,336,934~~	~~$28,077,950~~	~~$16,397,181~~	~~$11,680,769~~
RMA (local)	X-10	Vallecillo Rd.	FM 1472 to IH 35	Schematic and environmental for contruction of 5 lane roadway	2021	$266,699	$300,000	$0	$300,000
11	0922-00-955	VA	Districtwide	Upgrade bridge rail and MBGF	2021	$3,089,178	$4,065,147	$2,500,000	$1,565,147
1, 2,4,12	0018-06-136	IH 35	Shiloh Dr. to.25 m N. of US 59/IH 69W	Widen mainlanes and construct overpass	2021	$54,742,802	$67,435,054	$53,948,043	$13,487,011
~~4~~	~~0018-05-089~~	~~IH 35~~	~~0.5 miles S. of Uniroyal Interchange to 1.0 N. of Uniroyal interchange~~	~~Replacement of existing bridge~~	~~2021~~	~~$79,348,894~~	~~$104,417,731~~	~~$58,500,000~~	~~$45,917,731~~
4	0018-05-089	IH 35	0.5 miles S. of Uniroyal Interchange to 1.0 N. of Uniroyal interchange	Replacement of existing bridge	2022	$62,293,851	$83,477,632	$75,129,869	$8,347,763
2	0086-14-075	US 59	0.5 mi. S. of Del Mar to 0.5 mi. N. of Del Mar	Construct interchange	2022	$23,957,067	$30,692,033	$24,553,627	$6,138,406
2	0086-14-079	US 59	0.5 mi. S. of University to 0.5 mi. N of University	construct grade separation	2022	$16,750,065	$21,458,953	$17,167,162	$4,291,791
11	0922-00-960	VA	Districtwide	Upgrade bridge rail and MBGF	2022	$3,089,178	$4,227,753	$2,500,000	$1,727,753
2	0086-14-076	US 59	0.5 mi. S. of Shiloh Rd to 0.5 mi. N. of Shiloh Rd.	Construct interchange	2022	$21,372,487	$27,380,859	$21,904,688	$5,476,172
~~2~~	~~0086-14-076~~	~~US 59~~	~~0.5 mi. S. of Shiloh Rd to 0.5 mi. N. of Shiloh Rd.~~	~~Construct grade seperation~~	~~2023~~	~~$24,000,574~~	~~$34,160,300~~	~~$14,831,770~~	~~$19,328,530~~
11	0922-00-970	VA	Districtwide	Upgrade bridge rail and MBGF	2023	$3,089,178	$4,396,863	$2,500,000	$1,896,863

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
7	0922-33-166	Hachar Parkway	0.1 m. E. of Beltway Parkway to IH 35	Construction of 5 lane rural road	2023	$24,190,742	$34,430,969	$17,152,535	$17,278,434
2/Prop1	0086-14-077	US 59	International Airport	Construct interchange	2024	$14,947,015	$22,125,233	$12,306,676	$9,818,557
7	X-06	IH 35	At Loop 20	Construct ramp from Loop 20 Westbound to IH 35 Northbound	2037	$35,520,000	$87,546,696	$7,454,863	$80,091,833
7	X-09	IH 35	At Loop 20	Construct ramp from Loop 20 Eastbound to IH 35 Southbound	2039	$35,520,000	$94,690,506	$7,454,863	$87,235,643
			Total			$868,804,609	$1,222,021,229	$558,582,987	$665,180,109

Figure 13-1: Natural Resources and Federally Funded Projects

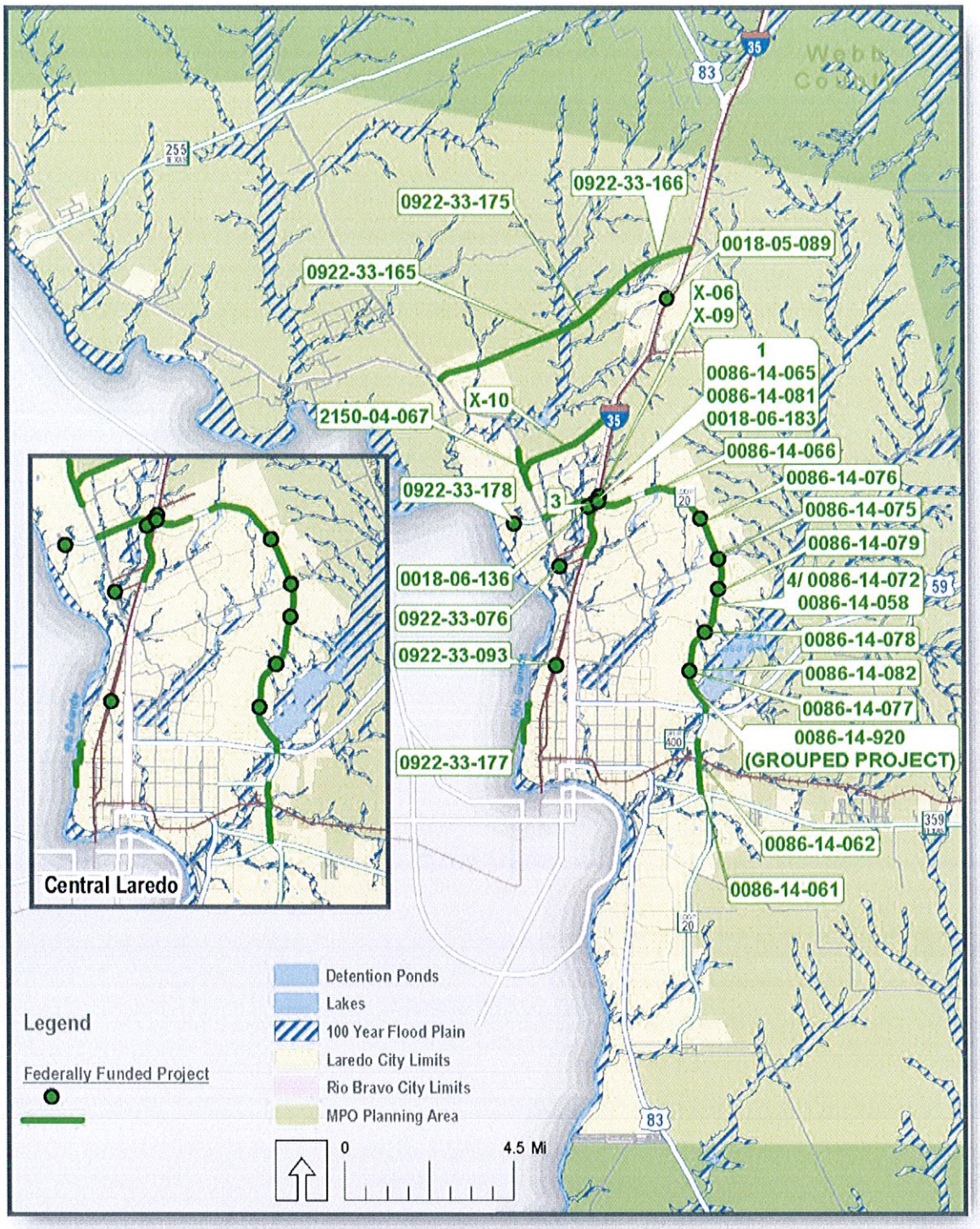


Figure 13-2: Cultural Resources and Federally Funded Projects

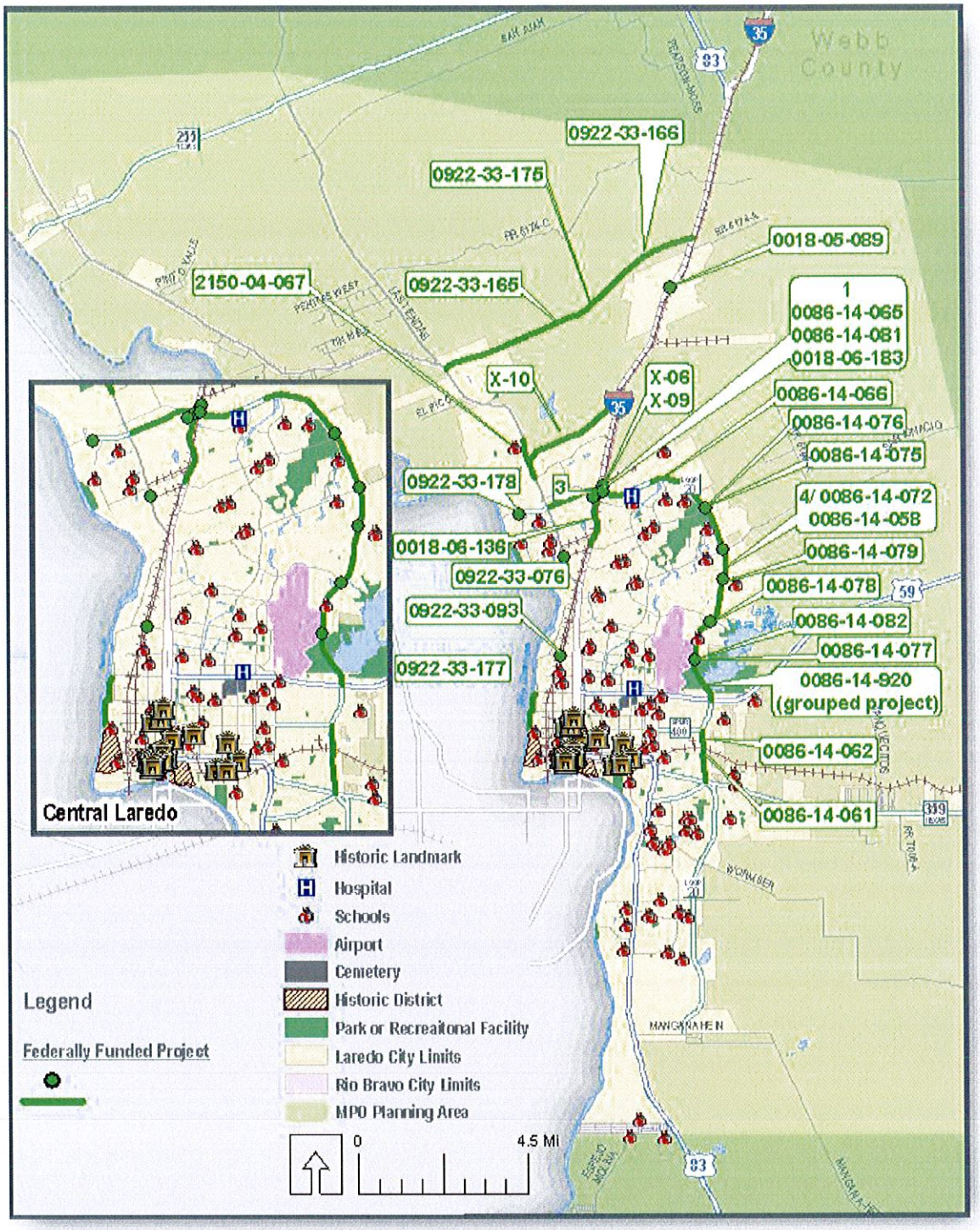


Table 13-1: Federally Funded Projects Environmental Assessment Results

ID	Roadway	Buffer Distance (Ft)	100-YR Flood Plain	Water Bodies	Airport	Cemetery	Historic Site	Medical Facility	Park and Rec. Facility	School
0086-14-061	Loop 20	400	☑							
1, 0086-14-065	Loop 20	500	☑							
0086-14-066	Loop 20	500	☑	☑						
3	Loop 20	500	☑							
4, 0086-14-072, 0086-14-058	Loop 20	400	☑	☑	☑				☑	☑
X-06	IH 35 at Loop 20	500	☑							
X-09	IH 35 at Loop 20	500	☑							
0922-33-076	City Street	500	☑							
0922-33-093	City Street	500								
0086-14-062	Loop 20	400	☑							
2150-04-067	FM 1472	400								
0922-33-165	Hachar Parkway	400	☑							
0922-33-166	Hachar Parkway	400	☑							
0922-33-175	Hachar Parkway	400	☑							
0086-14-077	Loop 20	500			☑					
0086-14-078	Loop 20	500								
0086-14-082	Loop 20	400	☑		☑					
0086-14-920 (Grouped Project)	Loop 20	400	☑	☑	☑					
0018-05-089	IH 35	400								
0018-06-136	IH 35	400	☑							
0018-06-183	IH 35 at Loop 20	400	☑							
0922-33-177	Anna St	500	☑							
0086-14-075	Loop 20	500								
0086-14-076	Loop 20	500								
0086-14-079	Loop 20	500								
0922-33-178	World Trade Bridge	400								

their potential to split or isolate parts of the community. Widening of existing roadways was deemed not as critical, but was still scrutinized for potential impacts. Alternative mode investments in transit service and bicycle and pedestrian facilities were considered to provide positive impacts to the minority and low-income populations of the region. For those locations that do not currently have multimodal transportation facilities, alternative mode services and facilities would provide additional, lower-cost transportation options to increase the mobility of these populations and their access to the community.

As part of this transportation plan update, 2012 data by Census tract from the U.S. Census Bureau was used to identify the geographic distribution of low-income populations. Because the Laredo region is predominantly Hispanic, locally identified colonias were also used for the environmental justice assessment. Within Texas, colonias are defined as economically distressed residential areas located in unincorporated land along the US-Mexico border, often lacking basic public infrastructure, including potable water, sewer systems, electricity, paved roads, and safe and sanitary housing. Residents of colonias are mostly low-income individuals seeking access to affordable living accommodations.

In order to determine which Census tracts are considered low income in the Laredo region, the U.S. Census data that shows the number of households in poverty and total households in Census tracts in 2012 were used. A Census tract is considered to be a low income area if its percentage of households in poverty is higher than regional average.

Table 13-3 identifies which projects are located in Environmental Justice areas**,** while **Figure 13-3** and **Figure 13-4** present the locations of Environmental Justice populations and the priority projects within this MTP.

Table 13-3: Federally Funded Projects and Environmental Justice Population

ID	Roadway	Limits	Buffer Distance (Ft)	Low Income Census Tract	Colonia
0086-14-061	Loop 20	Clark Blvd to SH 359	400	☑	
0086-14-062	Loop 20	Clark Blvd to SH 359	400	☑	
1, 0086-14-065, 0086-14-081	Loop 20	At IH 35	500		
0086-14-066	Loop 20	At International Blvd	500		
3	Loop 20	At IH 35	500		
4, 0086-14-950, 0086-14-058	Loop 20	International Blvd to US 59	400		
X-06	IH 35	At Loop 20	500		
X-09	IH 35	At Loop 20	500		
0922-33-076	City Street	At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr	500	☑	
0922-33-093	City Street	At the intersection of Calton Rd and Santa Maria Ave	500	☑	

Table 13-4: Federally Funded Projects and Environmental Justice Population (Continued)

ID	Roadway	Limits	Buffer Distance (Ft)	Low Income Census Tract	Colonia
0086-14-062	Loop 20	1.06 mi south of Spur 400 to Spur 400	400	☑	
2150-04-067	FM 1472	Killam Industrial Blvd to .3 Mi North of Muller Memorial Blvd	400		
0922-33-175	Hachar Parkway	FM 1472 to IH35 West Frontage Road	400		
0922-33-165	Hachar Parkway	FM 1472 to .1 Mi East of Beltway Parkway	400		
0922-33-166	Hachar Parkway	.1 Mi East of Beltway Parkway to IH35 Frontage Rd	400		
0086-14-077	Loop 20	At Laredo International Airport	500		
0086-14-078	Loop 20	At Jacaman Rd	500		
Pending	Loop 20	Jacaman Rd to US 59 (Saunders St)	400		
0018-05-089	IH 35	Upgrade of Overpass over Uniroyal	400		
0018-06-136	IH 35	Shiloh Dr to .25 Mi N of US 59/ I69W	400		
0018-06-183	IH 35 to Loop 20	.5 Mi E of IH 35 to .5 Mi S of US 59-SL 20	400		
0086-14-075	Loop 20	At Del Mar Blvd	500		
0086-14-076	Loop 20	At Shiloh Rd	500		
0086-14-079	Loop 20	At University Blvd	500		
0922-33-177	Anna St		500		
0922-33-178	World Trade Bridge		400		

Figure 13-3: Low Income Areas and Federally Funded Projects

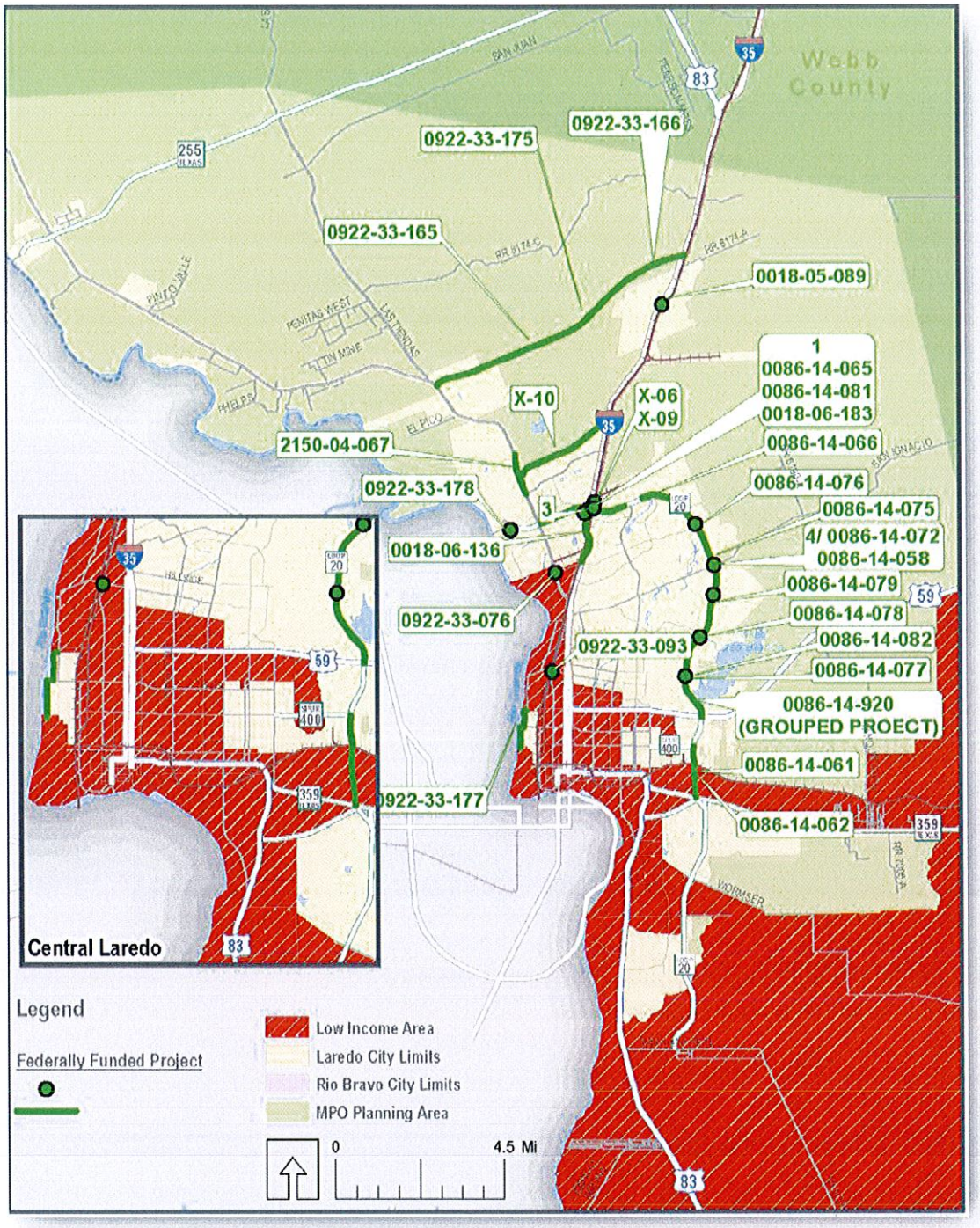
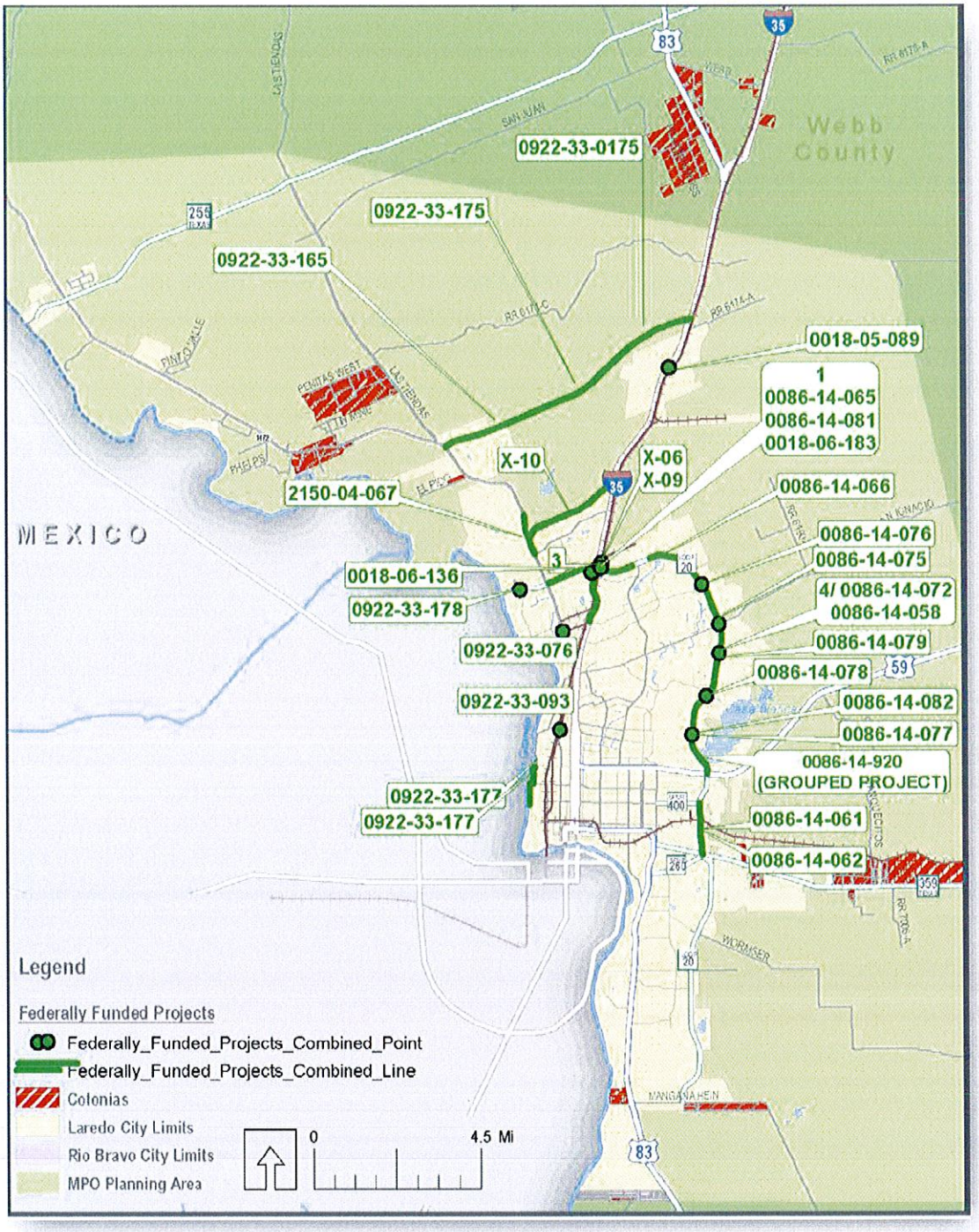


Figure 13-4: Colonias and Federally Funded Projects



Background materials

SUPPLEMENTAL FAST ACT COMPLIANCE DOCUMENTATION FOR METROPOLITAN & STATEWIDE TRANSPORTATION PLANNING PROCESS

(Due on or after 05-27-18)

The Laredo MPO has included details for each item on this checklist to demonstrate compliance of the 2040 MTP with FAST Act requirements. While the MPO has been proactive in addressing these new planning requirements even prior to the passage of the FAST Act, some additions and edits to the 2040 MTP have been made to best demonstrate compliance and provide the information requested in this checklist. A track changes version of chapter updates has been submitted as a summary of all changes made in the MTP chapters to aid in this review as well. In addition, the Laredo MPO is currently initiating its 2045 MTP, which will build upon initial and newly enhanced coordination efforts as well as performance based planning requirements.

1. Update Public Participation Plan (PPP) to include: a) public ports; b) private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefits program, parking cash-out program, shuttle program, or telework program). (Ref: 23 CFR 450.316(a))
    - *Please include documentation on how the PPP has been updated by the MPO to incorporate the new stakeholders identified under the FAST Act metropolitan and statewide planning regulations cited above. If, for example, your region does not currently include a parking cash-out program or transit benefits program for the area users, please simply state so here. Please include the current date of your most recently updated PPP adopted by the MPO policy board and a web-link to this documentation for future reference purposes.*

The Public Participation Plan (PPP) for the Laredo MPO was updated/adopted in May of 2017 to be compliant with 23 CFR 450.316. This update may be found online at: http://www.laredompo.org/files/Public_Participation_Plan.pdf

(a) While there are no maritime ports within the Laredo MPO limits, the Laredo Port of Entry contains five border crossings, including four vehicular bridges owned and operated by the City of Laredo, Texas and Nuevo Laredo, Tamaulipas and one rail bridge (Texas-Mexican Railway International Bridge) that is owned and operated by the Texas Mexican Railway (KCS) an Kansas City Southern de Mexico. The Laredo MPO's Interested Parties List includes representatives from Laredo Customs and Border Protection as well as the Border Patrol who have responsibilities over the Port of Entry to Laredo. All interested parties are invited to all MPO meetings and receive agendas for

meetings. In addition, the Laredo MPO maintains a stakeholder outreach list, which includes the Logistics and Manufacturing Association of Port Laredo. All members of the stakeholder list receive invitations and notifications for public meetings conducted for development and adoption of the MTP.

(b) The Laredo MPO's Stakeholder List has been updated to include Greyhound, the intercity bus operator within the region. The region does not currently include employer-based commuting programs; however, there has been interest and coordination with private companies in industrial parks along or near current public transportation routes on the potential to provide these types of employer-based commuting programs in the future. These potential transit incentive partnerships that have resulted from ongoing coordination with the MPO are detailed in the most recent El Metro Marketing Plan (2017) and Transit Development Plan (TDP). As part of the 2045 MTP Update, the MPO will continue to coordinate in furthering these strategic transit incentives types of programs.

2. Demonstrate consultation with agencies involved in: a) tourism; b) natural disaster risk reduction. (Ref: 23 CFR 450.316(b))
   - *Identify which agencies within your metropolitan planning area that you have demonstrated consultation with as part of your MTP and TIP development that are involved in regional tourism activities (including consultation with local Chamber of Commerce, major public sporting and tourism sponsors and activities, festivals, etc. within your region. Perhaps include weblinks to major sporting events, festivals, and other tourism activities within your region. For natural disaster risk reduction perhaps include documentation of which emergency management or centers operate within the city or county (or perhaps FEMA/DHS coordination) that you have engaged within as part of your metropolitan transportation planning process. Perhaps include hurricane evacuation maps (if applicable) or links to these types of State or local emergency management activities, operations, and agencies onto the MPO's homepage.*

While this consultation was not specifically encouraged as part of previous federal transportation law and is more explicitly encouraged via the FAST Act, the Laredo MPO has long recognized the importance of consultation and coordination with these agencies and the 2040 MTP included such consultation.

In *Chapter 1: Planning Context*, the MPO structure involving the policy committee, technical committee, and planning staff is introduced. A representative from South Texas Economic Development is a member of the technical committee and is involved regional tourism activities in the MPO area. Both the technical and policy committee are comprised of members that are involved in natural disaster risk reduction and emergency

management including the mayor of Laredo, three councilpersons, two county commissioners, a county judge, and representatives from the city, county, FHWA, TxDOT, and the airport.

In *Chapter 11: Safety, Security, and Resilience*, the chapter extensively details federal, state, regional, and local agencies and programs that are involved in the planning process and active within the Laredo MPO area. The 2010 MTP was updated to include the MPO's adoption of the FHWA Vulnerability Assessment and Adaptation Framework to assess the region for vulnerabilities to natural disasters and has identified infrastructure that is vulnerable to flooding due to physical locations within the 100-year floodplain. The 2040 MTP was also updated to include reference that the City of Laredo maintains the Emergency Operations Center (EOC) for the region, and the Laredo MPO is coordinating with the Laredo EOC to include web links to state and local emergency management authorities and information on the MPO website.

3. MPO(s), State(s), and the providers of public transportation shall jointly agree upon and develop specific written provisions for cooperatively developing and sharing information related to: a) transportation performance data; b) the selection of performance targets; c) the reporting of performance targets; d) the reporting of performance to be used in tracking progress toward attainment of critical outcomes for the region of the MPO & the collection of data for the State asset management plan for the NHS. (Ref: 23 CFR 450.314(h))
   - *Document the form of written agreement whether existing MOU/MOA or other form used to meet compliance with this new FAST Act requirement under 23 CFR 450.314(h), identify which key stakeholders have signed this MOU/MOA (or other form) and a brief description of their roles and responsibilities related to the performance-based planning and programming process. These are due by May 27, 2018.*

The Laredo MPO has a Memorandum of Understanding (MOU) with TxDOT and Laredo's public transportation operator (El Metro), which was signed in February 2018 to meet requirements under 23 CFR 430.314(h). A copy of the MOU is attached with this checklist. It is signed by the Mayor of Laredo, who is the chairperson of the MPO, the General Manager for El Metro, and the TxDOT District Engineer. The MOU identifies cooperative mutual responsibilities for carrying out MPO planning activities and performance based planning and programming.

4. Incorporate two new planning factors: a) Improve the resiliency and reliability of the transportation system and reduce or mitigate storm-water impacts of surface transportation; b) Enhance travel and tourism. (Ref: 23 CFR 450.206(a)(9&10) and 306(b)(9&10))
   - *Document how the two new FAST Act metropolitan planning factors have been addressed within the transportation planning process, including what analysis framework was utilized to ensure the resiliency and reliability of the transportation system (example: GIS mapping for visualization purposes) or to identify and reduce storm-water impacts of surface transportation*

through policies and design standards (example: TxDOT Roadside Design Manual or local public agency geometric design criteria) used within the metropolitan area. For purposes of enhancing travel and tourism, perhaps include discussion of how the PPP and outreach efforts have been implemented to incorporate additional stakeholders related to travel and tourism within the metropolitan planning region.

The Laredo MPO has long incorporated resiliency, stormwater reduction, and travel and tourism into the planning process, just under different names. *Chapter 13: Benefits, Impacts & Next Steps* details the MPO's recommendations for environmental mitigation measures and environmental assessments.

(a) The 2040 MTP was updated to better incorporate the planning factor ***improve the resiliency and reliability of the transportation system***. To better incorporate resiliency and reliability within the planning process, *Chapter 11: Safety, Security, and Resiliency* describes the MPO's adoption of the FHWA Vulnerability Assessment and Adaptation Framework to assess the region for vulnerabilities to natural disasters. Following this framework, the MPO has identified infrastructure that is vulnerable to flooding due to physical locations within the 100-year floodplain using GIS visualizations. Previous to the updated version, the standing MTP applied a similar GIS approach to environmental assessments to identify cultural and environmental assets in relation to transportation projects.

Chapter 11: Safety, Security, and Resiliency of the 2040 MTP was updated to incorporate the planning factor ***reduce or mitigate stormwater impacts of surface transportation***. To incorporate stormwater reduction mitigation, the transportation planning process has been updated to reference and apply the *TxDOT Hydraulic Design Manual* which provides guidelines on both structure and non-structural stormwater management practices that serve to reduce or mitigate the impacts of stormwater from surface transportation. The planning process was also updated to include the Webb County Planning and Physical Development Department which facilitates the regulatory enforcement of land use and development activities including floodplain development permits and building permits in compliance with federal and local regulations.

(b) Regarding the planning factor ***enhance travel and tourism***, *Chapter 4* of the 2040 MTP was updated to describe that the Laredo MPO maintains a contact list of groups and individuals which have expressed interest in transportation planning activities. As required by 23 CFR 450.316 (b), the MPO has expanded the contact list as described in the updated PPP to seek consultation with agencies and officials responsible for tourism and natural disaster risk reduction. Interested parties related to tourism who are invited to all meeting and receive

all agendas include The Laredo Convention and Visitor's Bureau, the Laredo Development Foundation, and the Laredo Chamber of Commerce. Additional outreach and coordination with these agencies will build upon these coordination efforts in developing the 2045 Laredo MTP.

5. Include consideration of intercity buses (in both MTPs and Statewide Long-Range Transportation Plans). (Ref: 23 CFR 450.216(b) and 324(f)(2))
   - *Document how the long-range metropolitan transportation plan (MTP) has addressed intercity buses (e.g., Greyhound and other transit bus providers) within the region. Mapping of intercity bus terminals, intermodal facilities, and bus routes within the MTP is suggested as one option and how these facilities link to major highway networks and arterials within the metropolitan planning region.*

While consideration of intercity buses was not required by previous federal transportation law and required under the FAST Act, the Laredo MPO has long considered the role of intercity buses within the region. Prior to the update, the standing 2040 MTP included a section on the role Greyhound plays in the MPO area and a description of the location of the Greyhound station at the El Metro Transit Center. With the update, the section title was updated from "Greyhound" to "Intercity Transportation" and additional intercity bus operators providing service to international destinations from the El Metro Transit Center are given reference. Within this chapter, the MTP discusses the one major transit center, the Laredo Transit Center, located in downtown Laredo, and provides a map of bus routes within the system overlaid on the roadway network.

6. MTP includes an assessment of capital investment and other strategies to preserve the existing and future transportation system and reduce the vulnerability of the existing transportation infrastructure to natural disasters. (Ref: 23 CFR 450.324(f)(7))
   - *Document how the MPO included an assessment of the existing transportation system (both highway and transit routes) – for example: using GIS mapping or other framework analysis tools- to help reduce the vulnerability of the existing and future transportation infrastructure to natural disasters including extreme weather events like flooding, hurricane impacts, drought, etc. as applicable for the MPO geographic region.*

Previous to the 2040 MTP update, the standing 2040 MTP provides recommendations for environmental assessments and mitigation activities to be conducted for implementation of transportation projects that could potentially impact environmental and cultural assets in *Chapter 13: Benefits, Impacts & Next Steps (Environmental Assessment section)*. In addition, the standing 2040 MTP takes a GIS approach to identifying and

mapping environmental and cultural resources in relation to existing and planned transportation improvements as described in *Chapter 13*. *Chapter 13* also details potential environmental mitigation activities that can be taken for specific environmental and cultural resources.

With the update to the 2040 MTP, *Chapter 11: Safety, Security, and Resilience* is updated to include the MPO's adoption of the FHWA Vulnerability Assessment and Adaptation Framework to assess the region for vulnerabilities to natural disasters. With this update, the MPO has collected geospatial data on transportation infrastructure and natural features in the region to identify transportation infrastructure that is vulnerable to natural disasters and extreme weather events using a GIS analysis approach. The MPO has identified critical roadway and railway transportation assets in the MPO planning area that are vulnerable to flooding in *Chapter 11: Safety, Security, and Resiliency*.

7. MTP includes a description of the (Federally required) performance measures and performance targets used in assessing the performance of the transportation system. (Ref: 23 CFR 450.324(f)(3))
   - *Document how the MPO included safety and Transit Asset Management (TAM) performance targets are used in assessing the performance of the transportation system. As the 2-year phase-in deadlines approach for PM2 (pavement and bridge condition) and PM3 (NHS, Freight, and CMAQ) performance targets on or after May 20, 2019, and the MPO adopts these subject performance targets, include documentation of how these additional targets will be used in assessing the performance of the transportation system within the MPO planning region. For additional information on applicable dates for TPM and timelines for implementation, please see:* https://www.fhwa.dot.gov/tpm/rule/timeline.pdf

With the update of the 2040 MTP, a section on performance measures was added to *Chapter 1: Planning Context*. This section includes a description of the federally required performance areas and performance measures. TxDOT has adopted the performance targets of a two percent reduction of the five safety performance measures by 2022. The Laredo MPO adopts the federally required performance measures and the performance targets in coordination with TxDOT. The Laredo MPO has adopted TxDOT's performance targets of a two percent reduction of the safety performance measures by 2022. Adoption of the remaining performance targets will occur in the 2045 MTP update and as TxDOT adopts statewide performance targets for the remaining performance areas and performance measures.

8. MTP includes a system evaluation report evaluating the condition and performance of the transportation system with respect to the (Federally required) performance targets including progress achieved by the MPO toward the performance targets. (Ref: 23 CFR 450.324(f)(4))

— *Document how the MTP has supported the performance targets associated with safety, TAM, and PM2 (on or after May 20, 2019) and PM3 (on or after May 20, 2019) and how progress has been achieved by the MPO toward these adopted system performance targets. For additional information on applicable dates for TPM and timelines for implementation, please see: https://www.fhwa.dot.gov/tpm/rule/timeline.pdf*

Chapter 1: Planning Context was updated to include a section on performance measures. The Laredo MPO is coordinating with TxDOT to develop a system to report progress in achieving performance targets. At this time, TxDOT and the Laredo MPO have only adopted performance targets for the safety performance measures. The Laredo MPO is continuing coordination with TxDOT on the data collection, analysis, reporting, and target setting for the performance measures. The 2045 MTP update will include the development of a performance evaluation reporting system that will evaluate progress toward achieving performance targets and will demonstrate this compliance prior to the May 2019 deadline. Development of a comprehensive performance based evaluation approach to the 2045 MTP is still in development at this time and will consider best practices from FHWA, US EPA, and state based performance measures and targets to tailor those measures and targets of evaluation to the metropolitan planning process.

9. STIP/TIPs include (to the maximum extent practicable) a description of the anticipated effect of the STIP and TIP toward achieving the performance targets identified by the State in the long-range statewide transportation plan and by MPO in the MTP. (Ref: 23 CFR 450.218(q) and 326(d))

— *Document how the STIP/TIPs have an impact towards achieving the performance targets associated with safety, TAM, and PM2 (on or after May 20, 2019) and PM3 (on or after May 20, 2019) and how progress has been made by the MPO. Include discussion in both MTP and STIP/TIP on how performance targets have been impacted by the list of projects and programs shown in the documents.*

At this time, the Laredo MPO has adopted performance targets for safety and TAM, in coordination with TxDOT and in compliance with federal regulations. The 2019-2022 TIP supports the achievement of performance targets associated with safety and TAM through the selection of projects that support the achievement of these performance targets. The 2045 MTP update will include the development of an evaluation report that can be used to assess the progress of projects in achieving performance targets.

10. STIP/TIPs include a linkage from the investment priorities in the TIP/STIP to achievement of performance targets in the plans. (Ref: 23 CFR 450.218(q) and 326(d))

    — *Document how the project selection process used in the TIP/STIP has been improved to address safety, TAM and PM2 (on or after May 20, 2019) and PM3 (on or after May 20, 2019) and how performance targets will be achieved in the transportation planning process.*

The Laredo MPO project selection process includes a criterion for safety, for which technical points are awarded based on the crash rate. As TxDOT adopts performance targets for the outstanding performance areas, the Laredo MPO will continue to incorporate criteria in the project selection process that will support the selection of projects that will help achieve performance targets. The 2045 MTP update will provide recommendations on how the project selection process should be improved to support the selection of projects that will achieve performance targets. Laredo MPO will demonstrate this linkage prior to the May 2019 deadline.

11. Statewide plan shall include a description of the performance measures & targets and a systems performance report assessing the performance of the transportation system. (Ref: 23 CFR 450.216(f)(1&2))

    N/A (State DOT)

12. Statewide plan and STIP updates should apply asset management principles consistent with the State Asset Management Plan for the NHS and the Transit Asset Management Plan and the Public Transportation Safety Plan in the statewide planning process. (Ref: 23 CFR 450.208(e))

    N/A (State DOT)

LAREDO URBAN TRANSPORTATION STUDY
ACTION ITEM

DATE: 06-21-18	**SUBJECT:** MOTION Receive public testimony and approve Resolution No. MPO 2018-04, adopting the proposed amendment(s) of the 2015-2040 Metropolitan Transportation Plan (MTP): 1. Amending Chapters 1-13, as indicated in attached Exhibits A and B to achieve compliance with the Fixing America's Surface Transportation Act (FAST Act). 2. Amending Table 12-10, entitled Roadway and Bicycle/Pedestrian Project Summary; and, Figure 12-1, entitled Roadway and Bicycle/Pedestrian Projects, Table 12-11, entitled Roadway Projects; and, Figure 13-1, entitled Natural Resources and Federally Funded Projects; and, Figure 13-2, entitled Cultural Resources and Federally Funded Projects; and, Figure 13-3, entitled Low Income Areas and Federally Funded Projects; and, Table 13-1, entitled Federally Funded Projects Environmental Assessment Results; and, Table 13-3, entitled Federally Funded Projects and Environmental Justice Populations; and, Figure 13-4 entitled Colonias and Federally Funded Projects, as necessary to incorporate the following revisions: a. ***Adding*** project CSJ 0922-33-178 for the construction of inspection booths at the World Trade Bridge, with an estimated construction cost is $12,067,384. Estimated letting date FY 2021. MTP 15-40/REV 09

INITIATED BY: TXDOT	**STAFF SOURCE:** Nathan Bratton, MPO Director
COMMITTEE RECOMMENDATION: Approval	**STAFF RECOMMENDATION:** Approval.

PREVIOUS ACTION:
On December 15, 2014 the Policy Committee adopted the 2015-2040 Metropolitan Transportation Plan (MTP). The Policy Committee approved revision #1of the MTP on April 20, 2015. On October 19, 2015 the Policy Committee approved revision #2. On March 21, 2016, the Policy Committee approved revision #3 and also approved a ten day public review and comment period for revision #4. On December 21, 2015, the Policy Committee approve the allocation of 4.482 million dollars in Proposition 1, Category 2 (MPO) funds to the project identified as CSJ 2150-04-067 for the widening of pavement to provide additional travel lanes on FM 1472 (Mines Road) from Killam Industrial Boulevard to 0.3 miles north of Mueller Boulevard with an estimated letting date of August 2016. On June 20th, 2016, the Policy Committee approved the initiation of a 10 day public review and comment period for the proposed MTP revisions. On July 18th, 2016, the Policy Committee approved revision #5 of the MTP. Revision #6 was approved on October 17, 2016. On March 20th, 2017, the Policy Committee initiated a 10 day public review and comment period, which was subsequently adopted on April 17th, 2017. On July 17, 2017, the Policy Committee approved a ten day public review and comment period for revision #8, which was also subsequently adopted on August 2, 2017. On May 21, 2018, the Policy Committee approved a ten day public review and comment period for revision #9.

BACKGROUND: The development of the MTP is federally required in to assure the continuation of federal transportation funds. The plan must address, at a minimum, a continuous twenty-year planning horizon.

The Fixing America's Surface Transportation Act, or FAST Act, was signed into law by President Obama on December 4, 2015. The bill funds surface transportation programs at over $305 billion for fiscal years 2016 through 2020. The emergence of the FAST Act does not represent an abandonment of the programs and planning requirements established under MAP-21, the previous federal transportation bill. In fact, the FAST Act maintains the provisions from MAP-21 with minor revisions and additional requirements.

The existing Laredo 2015-2040 MTP must be updated to bring the document into compliance with the new FAST Act requirements. The outline for the required updates is organized by Chapter and Section.

See attachments for full details of all proposed revisions.

COMMITTEE RECOMMENDATION: Approval	**STAFF RECOMMENDATION:** Approval.

CHAPTER 1

PLANNING CONTEXT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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CHAPTER 1: PLANNING CONTEXT

Introduction

A transportation system influences every aspect of a region's growth and prosperity because it acts as an important network, linking the various nodes of activity where people live, work, and play. Therefore, it is critical to plan a transportation network in a manner that provides for the safe, secure, efficient, and accessible mobility of people and goods. The **Laredo 2015-2040 Metropolitan Transportation Plan** (MTP) is the comprehensive, multimodal, and coordinated transportation plan for the Laredo metropolitan area. As such, the MTP seeks to promote strategies for operating, maintaining, managing, building, and financing the transportation network in order to advance the region's long-term goals and overall quality of life.

The MTP identifies policies, programs and projects for each mode of travel including roadways, public transit, bicycle, pedestrian facilities, aviation, rail, and freight movement that will be necessary to meet the region's transportation needs through the year 2040. Essentially, the MTP serves as a guide and blueprint for transportation improvements and investments in the Laredo region for the next 25 years

Within the Laredo MTP, current and future regional issues as well as existing transportation conditions are analyzed in order to prioritize future transportation programs and projects. Moreover, available financial resources and funds have also been identified in order to implement the programs and projects in the MTP.

The MTP was prepared by the Laredo Urban Transportation Study (LUTS), which acts as the Laredo Metropolitan Planning Organization (MPO), through a continuing, coordinating, and comprehensive effort that included input from a variety of stakeholders.

Laredo MPO

A Metropolitan Planning Organization (MPO) is a federally mandated entity responsible for coordinating transportation planning, policies, and programming in urbanized areas with populations of 50,000 or more. The existence of MPOs are required in order to ensure that federally funded transportation projects and programs are based on a continuing, cooperative, and comprehensive (3-C) planning process. The Laredo Urban Transportation Study (LUTS), also known as the Laredo Metropolitan Planning Organization, is the designated MPO for the Laredo region responsible for transportation planning in accordance with the federal metropolitan planning requirements.

LUTS is required to work cooperatively with federal, state, and local governments and local transportation service providers within the context of a well-defined metropolitan transportation planning process. LUTS does not lead the implementation of transportation projects, but rather serves as the venue for planning and programming for transportation improvements within the Laredo region. Furthermore, as required by federal legislation, LUTS must provide the public and interested parties with reasonable and meaningful opportunities to be involved in the transportation planning process.

MPO Planning Documents

In order to carry out its function as the coordinating agency for transportation planning, LUTS develops, implements, monitors, and updates a variety of transportation plans including the **Unified Planning Work Program** (UPWP), the **Transportation Improvement Program** (TIP), and this **Metropolitan Transportation Plan** (MTP). The UPWP is essentially an annual work program and budget and identifies all activities to be undertaken by each member agency in a fiscal year. The TIP is the short-range program of transportation projects based on the long-range MTP and covers a period of four years. Finally, the MTP is the long-range, financially constrained transportation plan for the region covering a planning horizon of 25 years. According to federal law, all MTPs must be updated every four or five years. For the Laredo metropolitan area, the MTP must be updated every five years, because it is in attainment for certain air quality standards.

MPO Structure

LUTS is comprised of a policy committee, technical committee, and planning staff to support transportation planning activities. A set of by-laws, adopted in 1994 and subsequently revised in 1997, 2000, ~~and~~ 2007, and 2015, establishes the structure and representation of the MPO. The Policy Committee, comprised of representatives from the city, county, ~~and~~ state, and transit provider, has the decision-making authority and is responsible for overseeing transportation planning efforts. The Technical Committee, comprised of representatives from the same entities plus those from school districts and the private sector, serves in an advisory role to the Policy Committee and is responsible for professional and technical review of work programs, policy recommendations, and transportation planning activities. City of Laredo Planning Department staff supports the efforts of both committees in transportation planning and works in cooperation with the Texas Department of Transportation (TxDOT) and other entities to carry out various planning tasks.

Commented [JSP1]: This section slightly updated to reference updated MPO structure and participants from 2015.

MPO Policy Committee

City of Laredo
- *Mayor of Laredo (Chair)*
- *Three (3) City Councilpersons*

Webb County
- *County Judge (Vice Chair)*
- *Two (2) County Commissioners*

State of Texas
- *TxDOT Laredo District Engineer*
- *TxDOT Laredo District Transportation Planning and Development Director*

Legislative Mandates

In the mid-twentieth century, transportation planning was primarily focused on highway building and expansion to accommodate the increased use of automobiles. Through the decades, the focus has shifted to establishing a multimodal transportation system including roadways, public transit, and bicycling and pedestrian facilities. As a result, more recent transportation laws, regulations, and policies have encouraged the development of a multimodal transportation planning process. In recent decades, metropolitan transportation planning has been shaped and defined by ~~three~~ four successive significant federal acts: the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the 1998 Transportation Equity Act for the 21st Century (TEA-21), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, the Moving Ahead for Progress in the 21st Century Act (MAP-21), and current authorization, the Fixing America's Surface Transportation Act (FAST Act), from 2015.

ISTEA, signed into law on December 18, 1991, is heralded as the first piece of federal transportation legislation intended to define the federally aided transportation program in the post-Interstate Highway System era. This landmark transportation act diverged from traditional transportation planning requirements and advocated for a collaborative, integrated, and multimodal approach to transportation planning and funding. Further, it gave more powers to MPOs, provided for more flexible funding strategies, and required the consideration of many planning factors that addressed such societal issues as energy conservation, economic development, and system preservation.

MPO Technical Committee

City of Laredo

- *City Bridge Director*
- *City Engineering Director*
- *City Planning Director*
- *City Traffic Safety Director*
- *El Metro General Manager*
- *Laredo International Airport Director*
- ~~*Laredo Independent School District*~~
- ~~*United Independent School District*~~

Webb County

- *County Engineering Director*
- *County Planning Director*
- *County Rural Transit Director*
- *South Texas Economic Development Representative*

Texas Department of Transportation

- *TxDOT Laredo District Transportation Planning and Development ~~Director~~Representative*
- *TxDOT Laredo District Planning Coordinator (Vice-Chair)*
- *TxDOT Laredo District Laredo Area Engineer*
- ~~*TxDOT Funding/Safety Administrator*~~
- *TxDOT Transportation Planning and Programming Staff Member*

Federal Highway Administration

- *FHWA Planning Engineer*

Private Sector

- *Kansas City Southern Railroad*
- *Union Pacific Railroad*
- *Transportation Service Providers*
- *Laredo Independent School District Representative*
- *United Independent School District Representative*
- *Texas A&M International University (TAMIU) Representative*
- *Laredo Community College (LCC)*

TEA-21 was enacted June 9, 1998 and authorized the federal surface transportation programs and funding from 1998 to 2003. TEA-21 continued many of the planning

Commented [JSP2]: This section has been updated to include FAST Act and to streamline discussion of MAP-21 with new federal transportation that has been passed.

requirements of ISTEA and emphasized a total of seven planning factors for metropolitan and statewide transportation planning. As with ISTEA, there was a continued focus on public involvement in the planning process, but with an increased emphasis on including such stakeholders as transit operators and freight suppliers, as well as including traditionally underserved populations such as minorities and low-income groups. Additionally, there was added focus on environmental issues and an integration of environmental process requirements.

The surface transportation program legislative act, **SAFETEA-LU**, was signed into law on August 10, 2005, and authorized the federal surface transportation programs and funding from 2005 to 2009. The $286 billion legislation represented the largest surface transportation investment in our country's history. SAFETEA-LU addresses several challenges prevalent in transportation today including improving safety and security, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, heightening public participation, and protecting the environment. The extensions of SAFETY-LU made the original act continue and covered the time period from 2009 to 2012.

MAP-21 was signed into law on July 6, 2012 and provided funding for surface transportation programs at over $105 billion for the years 2013 and 2014. ~~It provides needed funds and is the first multi-year transportation authorization enacted since 2005. It provides funding for surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014.~~ An important feature of this bill is the establishment of a performance- and outcome-based program. The purpose is that states will invest resources in projects that collectively will make progress toward the achievement of the national goals. In addition to introducing performance measures, MAP-21 set the course for investment in highways, created jobs and supported economic growth, supported the USDOT's aggressive safety agenda, streamlined federal highway transportation programs, accelerated project delivery, and promoted innovation. ~~The seven national performance goals for Federal-aid highway programs are the following.~~

~~Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads~~

~~Infrastructure condition - To maintain the highway infrastructure asset system in a state of good repair~~

~~Congestion reduction - To achieve a significant reduction in congestion on the National Highway System~~

~~System reliability - To improve the efficiency of the surface transportation system~~

~~Freight movement and economic vitality - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development~~

~~Environmental sustainability - To enhance the performance of the transportation system while protecting and enhancing the natural environment~~

~~Reduced project delivery delays - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices~~

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~~The performance measures should be established in the following areas:~~

~~Pavement condition on the Interstate System and on remainder of the National Highway System (NHS)~~

~~Performance of the Interstate System and the remainder of the NHS~~

~~Bridge condition on the NHS~~

~~Fatalities and serious injuries—both number and rate per vehicle mile traveled—on all public roads~~

~~Traffic congestion~~

~~On-road mobile source emissions~~

~~Freight movement on the Interstate System~~

~~Congress is currently discussing potential new federal surface transportation legislation or the extension of MAP-21~~

MAP-21~~,~~ was built on the foundations of previous transportation bills, and ~~provides~~ provided the primary authoritative direction for the development of the 2040 Laredo MTP and overall metropolitan transportation planning process. ~~MAP-21 encourages scenario planning efforts as MPOs prepare the long-range metropolitan transportation plans to consider alternative demographic growth, revenue options, and other factors. Requirements for statewide and metropolitan long-range plans and short-term transportation improvement programs continue under MAP-21, including the eight planning factors required by SAFETEA-LU to be considered in the planning process. Yet the long-range plans should incorporate performance measures used in assessing system performance and progress.~~

At the time of this plan's development, MAP-21 was current transportation bill funding surface transportation in the country. Since the adoption of this plan, ~~a~~the FAST Act, which is the successor transportation authorization bill, has been enacted. This plan ~~has been~~was subsequently updated in 2018 ~~to be compliant~~for compliance with ~~the new federal transportation bill~~FAST Act requirements.

The ~~latest surface transportation program legislative act, the~~ **FAST Act**, was signed into law on December 4, 2015. Funding surface transportation programs at over $305 billion for fiscal years (FY) 2016 through 2020, the FAST Act is the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act focuses on safety, maintains the established structure of various programs related to highways, continues efforts to streamline project delivery, and provides a dedicated federal funding source for freight projects.

The information in this section is provided to acknowledge the existence of FAST Act and to note its implications for transportation planning. It is also important to note that the emergence of the FAST Act does not represent an abandonment of the programs and planning requirements established under MAP-21~~, the previous federal transportation bill~~. In fact, FAST Act builds on the program structure and reforms introduced by MAP-21. MAP-21 introduced critical changes to the planning process by linking investment priorities to the

achievement of established performance targets in key areas such as safety, infrastructure condition, congestion, system reliability, emissions, and freight movement. The FAST Act maintains the provisions from MAP-21 with minor revisions. The most significant changes are described below.

- MPO officials representing transit providers are granted equal authority to that of other MPO officials. A representative of a transit provider is permitted to also represent a local community.
- MPOs are encouraged to consult with officials responsible for tourism and natural disaster risk reduction when developing MTPs and TIPs.
- The MTP must assess capital investment and other strategies that reduce vulnerability of the existing transportation infrastructure to natural disasters.
- The scope of the metropolitan planning process is expanded to include improving transportation system resiliency and reliability, reducing or mitigating stormwater impacts of surface transportation, and enhancing travel and tourism.
- The MTP must include consideration of the role that intercity buses serve in reducing congestion, pollution, and energy consumption.
- Ports and private providers of transportation (including intercity bus operators and employer-based commuting programs) shall be offered the opportunity to comment on the MTP.
- ~~The MTP must assess capital investment and other strategies that reduce vulnerability of the existing transportation infrastructure to natural disasters.~~

During the time of the development and adoption of the 2040 MTP, the current transportation funding bill was MAP-21. The plan was developed in compliance with all federal regulations of the time. With the passage of the FAST Act, MPOs have been required to address the new federal requirements introduced by this bill. The standing 2040 MTP meets many of these new requirements and required minor revisions and additions to meet compliance with the FAST Act.

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Transportation Planning Factors

Commented [JSP3]: Section has been updated to include additional planning factors added as part of the FAST Act.

On ~~February 14, 2007~~May 27, 2016, the U.S. Department of Transportation promulgated the Final Rule on Statewide and Metropolitan Transportation Planning. Within 23 CFR § 450.306, a series of ~~eight~~ eleven planning factors are identified and required to be considered in the metropolitan transportation planning process. The MPO's approach to these planning factors is as follows.

1. Economic Vitality: The transportation network provides the region with access to jobs, shopping, education, and recreational activities. It also enables inter-regional travel and affects freight movement and international trade. Therefore, the transportation network must be planned for in such a way as to maintain mobility and increase system efficiency. The MTP provides recommendations for projects and strategies that should relieve congestion on key transportation corridors that provide access to primary activity centers such as jobs, schools, shopping, and

other recreational activities. Further, improvements to infrastructure supporting freight movement and air travel are also considered in the MTP in order to increase regional and global competitiveness.

2. Safety: Motorized and non-motorized users of the transportation system expect and deserve a safe experience while travelling. As such, the Laredo MPO has developed this plan with safety considerations forefront in mind. Strategies to improve safety include developing transportation system management techniques such as access management, system expansion projects within congested corridors to increase capacity, designing new facilities to meet current design standards, and reducing the number of at-grade intersections – especially for rail and vehicular traffic.

3. Security: In a post 9/11 and Katrina nation, concerns for security have gained more prominence in transportation planning. As a major international gateway, serious consideration has been given to possible threats, both natural and man-made, while developing this plan.

4. Accessibility and Mobility: Improving the mobility of both people and freight is a key objective of the Laredo MPO. By adding new transit centers, constructing new interchanges, building bikeways, planning for new freight railroad facilities and a new international border crossing, the MPO is performing the proper planning and making the necessary investments to increase the accessibility and mobility of both people and goods.

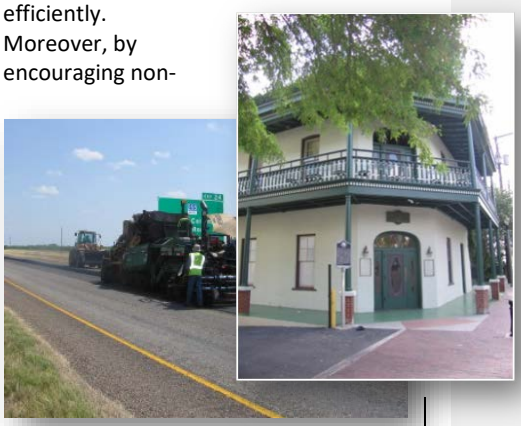
5. Environment, energy conservation, planned growth: People are increasingly more conscious of their actions on the environment, making sure natural resources can sufficiently meet today's needs and those of future generations. As such, new technologies and alternative energy sources are becoming increasingly sought after. As growth and development occurs, the amount of travel increases, which in turn, leads to increased congestion, poorer air quality, and wasted fuel. Therefore, the MPO encourages smarter growth supported by sounder transportation investments in order to improve the quality of life for all residents in the Laredo region.

6. Modal Integration and Connectivity: The Laredo 2015-2040 MTP includes projects that support a balanced, multimodal system. Specifically, the MPO is investing in new transit centers, additional bike paths, and strategic additions to the roadway system, all of which promote better integration of modes and enhance system connectivity.

automobile methods of travel, the burden on the existing roadway system can be reduced.

8. System Preservation: While growth in the region certainly calls for increased transportation capacity, it is just as important to maintain the existing infrastructure in a state of good repair. As such, the Laredo MPO has dedicated 42% of available highway funding in this MTP to system preservation efforts.

7. System Management and Operation: Getting the most out of the existing transportation infrastructure is a key goal of the Laredo MPO. By investing resources in ITS solutions, improving access management along existing roadways, and improving existing intersections and interchanges, the existing system can perform more efficiently. Moreover, by encouraging non-



9. Resiliency and Reliability: The ability to effectively manage, operate, and maintain a safe and reliable transportation system under disruptive circumstances has become increasingly important. Resiliency and reliability involve several components including emergency response, redundancy in the transportation system to ensure mobility, travel demand management, and reducing vulnerability of the transportation system during extreme weather events. The City of Laredo's Pre-Disaster Mitigation Plan serves as a blueprint for the prevention of hazards and emergency situations by developing strategies for resistance to disasters. The 2040 MTP provides an overview of security, safety, and resiliency related issues and ongoing efforts that are coordinated and considered in the MTP process to protect the transportation network, infrastructure, users of the transportation system, modes of travel, and transport of goods in the Laredo region.

10. Stormwater Mitigation: As the Laredo MPO area continues to grow, transportation infrastructure ~~will~~must keep pace with development. An increase in transportation infrastructure is an increase in impervious surface cover across the region. Reducing or mitigating the impacts stormwater from the impervious surfaces is needed to protect and enhance both the built and natural environments. This 2040 MTP includes a discussion on potential environmental mitigation activities that might be needed in implementing transportation infrastructure.

11. Travel and Tourism: Travel and tourism is essential to the economic vitality of the region. Investments in improvements that enhance travel and tourism will support economic growth by resulting in a more efficient movement of people and goods. This 2040 MTP provides recommendations for projects to preserve, protect, and improve access to these community assets that serve as popular destinations for both residents and visitors.

Additional Transportation Planning Factors

In addition to these federally mandated planning factors, the Laredo MPO has formally considered two additional factors in developing this MTP.

12. ~~9.~~ Stewardship of financial resources: It is essential that public dollars are spent in the best way possible. Because of this, it is important to prioritize projects and programs that most effectively and efficiently address the region's transportation needs. The Laredo MPO has taken this role seriously and has developed an MTP that strikes the proper balance between preserving the existing transportation infrastructure and expanding its capacity to accommodate future growth.

13~~10~~. Consideration of all groups of people: As with any public asset, it is important to ensure that all transportation resources and benefits are fairly distributed to all people, regardless of race, national origin, or income. This is especially important for minority, low-income, elderly, disabled, and other such historically underserved populations. The MPO has tried to maintain a level of social and geographic equity in the selection of its regional transportation investments.

Development and Content of the Metropolitan Transportation Plan

Within 23 CFR § 450.~~322~~324, specific requirements of the metropolitan transportation planning process and content of the MTP are outlined. The approach of the Laredo MPO to address these requirements is included in **Table 1-1**.

Commented [JSP4]: Updated table to reflect specific requirements of MPO planning process under FAST Act regulations.

Table 1-1: MTP Content Requirements

Content Requirement	Required Content in Laredo MTP
The transportation planning process shall address at least a 20-year planning horizon	This plan has a 26 year planning horizon, covering the years from 2015 to 2040.

Content Requirement	Required Content in Laredo MTP
The transportation plan shall include both long-range and short-range strategies that lead to an integrated multimodal transportation system	The long-range MTP includes specific projects and strategies for all transportation modes, including roads, transit, bicycle/pedestrian facilities, aviation, rail, and intermodal facilities. Further, the needs of freight transportation have also been considered. The MTP categorizes projects as short-term (2015-2024) and long-term (2025-2040). In addition, the MTP includes illustrative projects that are beyond the financial capacity of the MTP. These projects are considered to be very long-term (beyond 2040). Should additional funding become available, it is expected that some of these projects would be moved to the long-term horizon.
The MPO shall review and update the transportation plan at least every four years in nonattainment areas and maintenance areas and at least every five years in attainment areas	Because the Laredo metropolitan planning area is considered to be in attainment for ozone or carbon monoxide, the plan is on a five year update cycle. This MTP reflects a completely new, updated plan that supersedes the previous plan which was approved in December of 2009, and subsequently updated in 2011, 2012, and 2013. The next MTP update is expected to occur in 2019.
In metropolitan areas that are in nonattainment for ozone or carbon monoxide, the MPO shall coordinate the development of the transportation plan with the Transportation Control Measures (TCMs) in the State Implementation Plan (SIP)	The Laredo metropolitan planning area is considered in attainment for ozone and carbon monoxide; therefore this requirement is not applicable.
The MPO shall base updates on the latest available estimates for population, land use, travel, employment, congestion, and economic activity	The 2040 Laredo MTP is based on the most recent available set of socioeconomic and transportation planning data. Specifically, the most recent existing land use data was utilized. In addition, up to date population and employment data was developed for the regional travel demand model. Finally, the future year socioeconomic data was developed to account for currently planned developments as well as areas of the region most suitable for growth. Additional details of the development of these data can be found in Chapter 3.
The transportation plan shall include current and projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan	As part of the transportation planning process, the MTP project development team updated the regional travel model, which was used to predict future vehicular travel in 2040. In addition, the MTP includes an analysis of projected freight movement through the region.
The transportation plan shall include existing and proposed transportation facilities that should function as an integrated system	Chapter 5 through 9 of the MTP includes a thorough discussion of the existing transportation system, while Chapter 12 includes a list of planned projects that will shape the future transportation system. Roadway, transit, bicycle, pedestrian, aviation, rail, and freight movement are also addressed within the MTP.

Content Requirement	Required Content in Laredo MTP
The transportation plan shall include a description of the performance measures and targets, with a system performance report evaluating MPO progress in meeting performance targets	The federal performance areas and associated performance measures for the Laredo MPO are discussed in Chapter 1.Monitoring and management of performance measures are discussed in Chapter 13.
The transportation plan shall include operational and management strategies to improve the performance of existing transportation facilities	In Chapter 5 through 9, the MTP addresses operational and management strategies to improve the performance of the existing system in order to relieve congestion and enhance the safety and mobility of people and goods in the Laredo region.
The transportation plan shall consider the results of the congestion management process in TMAs	Chapter 10 and Chapter 12 discuss the summary of the congestion management process adopted by the MPO and how the CMP will be incorporated into the MTP development.
The transportation plan shall include an assessment of capital investment and other strategies to preserve the existing system and provide for multimodal capacity increases and reduce vulnerability to natural disasters	The MTP addresses capital investment strategies to preserve existing transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs. In particular, Chapter 12 outlines capacity enhancing projects for various modes of transportation.
The transportation plan shall include transportation and transit enhancement activities, including consideration for intercity buses	The MTP includes a list of transportation enhancement projects in Chapter 12.
The transportation plan shall include descriptions of all existing and proposed transportation facilities in sufficient detail for conformity determinations. In all areas (regardless of air quality designation), all proposed improvements shall be described in sufficient detail to develop cost estimates	The MTP project development team worked closely with project proponents to sufficiently define the scope of all projects to develop reasonable cost estimates. The MTP projects listed in Chapter 12 present both project descriptions and cost estimates.
The transportation plan shall include a discussion of potential environmental mitigation activities to restore and maintain environmental functions affected by the transportation plan	In Chapter 13, the MTP includes a discussion of the environmental impacts of the transportation plan and potential mitigation efforts. In addition, various stakeholders were invited to a roundtable discussion to address such environmental impacts and mitigation efforts.
The transportation plan shall include pedestrian walkway and bicycle transportation facilities	The MTP recognizes the importance of providing sufficient pedestrian and bicycle facilities. The existing and proposed Chacon Creek and Manadas hike and bike trails are significant facilities to support non-motorized travel options.

Content Requirement	Required Content in Laredo MTP
~~The transportation plan shall include transportation and transit enhancement activities~~	~~The MTP includes a list of transportation enhancement projects in Chapter 12.~~
The transportation plan shall include a financial plan that demonstrates how the adopted transportation plan can be implemented and that meets several requirements as outlined in 23 CFR § 450.322	A financially constrained plan with costs and revenues in year of expenditure dollars is presented in Chapter 12. Only reasonably available funding sources were considered. The MTP was developed cooperatively with TxDOT, the City of Laredo, Webb County, and El Metro.
The metropolitan planning organization shall consult with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation regarding development of the transportation plan	The Laredo MPO's public participation plan calls for involving all stakeholders in the development of the MTP, including the agencies with an interest in the areas of land use management, environmental resources, environmental protection, conservation, and historic preservation. Moreover, representatives of such entities were invited to participate in a series of roundtable discussions. In addition, historic and regional conditions were inventoried and are reflected in Chapter 2. Finally, the Texas Commission on Environmental Quality, the Texas Historical Commission, and the Texas Soil and Water Conservation Board were invited to comment on the plan.
The transportation plan ~~shall include a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects~~should integrate priorities, goals, countermeasures, or projects contained in the Highway Safety Improvement Program as well as emergency relief and disaster preparedness plans and strategies and policies that support homeland security and safeguard the personal security of all motorized and non-motorized users	The MPO recognizes the importance of providing a safe and secure transportation system, and Chapter 11 is dedicated to these issues. In addition, several transportation projects included in the plan explicitly address safety and security issues.
The MPO shall provide interested parties with a reasonable opportunity to comment on the transportation plan	The Laredo MPO strictly adheres to its public participation plan and has provided all interested parties (including citizens, public agencies, freight shippers, freight carriers, representatives of users of pedestrian walkways and bicycle facilities, representatives of the disabled, and others) with extensive opportunity and ample time to comment on all aspects of the MTP. The process by which the MTP was developed is presented later in this chapter and included substantial and proactive public outreach efforts.
The MTP shall be published or otherwise made readily available for public review	The Laredo MTP is made available for public review through both printed copies available at the MPO offices and electronically accessible formats through the MPO's website: www.ci.laredo.tx.us/city-planning/Departments/MPO/index.html. In addition, the draft document was made available for public review at the Laredo City Planning office for a 30-day period between November x and December x, 2014.

Content Requirement	Required Content in Laredo MTP
The MPO shall not be required to select any project from the illustrative list of additional projects included in the financial plan	Although an illustrative list of additional projects is included in the MTP, the MPO acknowledges that it will not be required to select any from that list.
In nonattainment and maintenance areas for transportation-related pollutants, the MPO must make a conformity determination on any updated or amended transportation plan in accordance with transportation conformity regulations	The Laredo metropolitan planning area is considered in attainment for ozone and carbon monoxide; therefore this requirement is not applicable.

Consistency with State Plans

The Texas Department of Transportation (TxDOT) is responsible for planning, designing, building, operating, and maintaining the state's transportation system, in cooperation with local and regional entities. Within TxDOT, there are 25 district offices that oversee the agency's responsibilities in each district area as well as 22 divisions and 12 offices located in Austin, which serve in an administrative and technical capacity for the district offices. TxDOT is governed by the Texas Transportation Commission, which is a five-member commission appointed by the governor with the advice and consent of the Texas Senate.

TxDOT's Laredo District plays a significant role in regional transportation planning.

The TxDOT Laredo District Office works in cooperation with LUTS to carry out transportation planning tasks and activities in the Laredo MPO region. In addition, it oversees the implementation of transportation projects throughout an eight-county area in south Texas.

The following statewide plans have been identified as pertinent to the metropolitan transportation planning process:

Commented [JSP5]: Additional, more recent statewide plans have been added to this section.

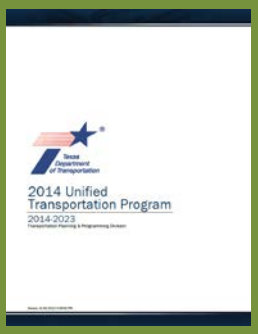
Strategic Plan (~~2013-2017~~2017-2021) – This document is an overarching policy statement designed to provide a framework for taking action within TxDOT. It addresses strategies and tactics that are necessary in order for TxDOT to fulfill its mission and goals over five years (~~2013-2017~~2017-2021) and establishes performance measures to monitor its progress.

Texas Strategic Highway Safety Plan (SHSP) – In 2006, TxDOT led the effort to create the first SHSP for Texas. This document seeks to implement effective highway safety countermeasures and change the current driving culture in order to reduce the human and societal costs of motor vehicle traffic crashes, deaths, and injuries on public roads. The most recent update of SHSP is the ~~2013~~ 2017 version. In 2018, TxDOT adopted 5 safety performance measures which will be discussed later on in this chapter.

TxDOT's Strategic Highway Safety Plan seeks to implement effective highway safety countermeasures

Report on Texas Bridges (as of September ~~2012~~2016) – This document describes the conditions of publicly owned vehicular bridges and tracks the progress that TxDOT has made towards its goals of improving bridge conditions. It also outlines a plan to improve Texas bridges and meet TxDOT's goals.

Unified Transportation Program (UTP) – This document is a 10-year plan approved by the Texas Transportation Commission and addresses 12 different categories of funding that will guide transportation project development and construction in the state of Texas. The current version is ~~2014-2023~~2018-2027. The UTP is further divided into two documents; the Statewide Mobility Program (STP) and the Statewide Preservation Program (SPP). It represents a medium-range planning document that should be consistent with MTPs across the state.



TxDOT's UTP addresses 12 different categories of funding that will guide transportation project development and construction in Texas

Texas Freight Mobility Plan – The FAST Act requires each state to develop a freight plan that comprehensively addresses short- and long-term freight planning activities and investments. The 2017 Texas Freight Mobility Plan establishes goals and strategies to guide investment decisions and prioritize projects that align with the state's transportation and economic development goals. The plan serves as a guide that outlines priorities for freight investments, identifies facilities that are critical for economic growth and the movement of goods, strategizes for enhanced economic growth and competitiveness, expands freight policies, ensures consistency with neighboring states and federal goals and objects, and provides a realistic implementation plan.

Other Related Plans and Studies

The Laredo 2015-2040 MTP is the most current transportation plan for the Laredo area. As with most planning documents, it both builds upon and incorporates the ideas, issues, and recommendations of past and current planning efforts. The following plans and studies served as valuable inputs into the development of the MTP.

Border Crossing Travel Time Study: This 2008 study was developed for the TxDOT Transportation Planning and Programming Division (TPP) in order to evaluate short-term improvement options for passenger and freight flow on roadways within the surrounding area of each international border crossing within TxDOT's Laredo District.

Laredo Transit Development Plan: A five-year plan examining policies, operations, capital issues, and funding with El Metro Transit's fixed route and paratransit services was completed in 2016. This plan supports the transit element of the MTP with recommendations for projects funding bus replacements, operational costs, updated routes, bus-only lanes and bus queue jumper lanes, and the development of transit centers and maintenance facilities.

Laredo District Border Master Plan: This 2012 Plan is defined and supported by the U.S./Mexico Joint Working Committee on Transportation Planning and Programming, the Federal Highway Administration and the U.S. Department of State. The purpose of this long range plan is to inventory transportation and port of entry (POE) infrastructure that promote trade, and prioritize planned transportation and POE projects in the Laredo district.

Bus Rapid Transit Feasibility Study: This 2011 study for the Laredo MPO assessed the feasibility for Bus Rapid Transit (BRT) service in the Laredo region and developed implementing strategies. After exploring different potential BRT scenarios, several BRT routes were recommended.

City of Laredo Downtown Signalization Report: This study was prepared for the Laredo MPO in April of 2008 in order to evaluate traffic conditions in the city's downtown street network and determine the feasibility of coordinated timing plans for 70 intersections in the downtown area.

Comprehensive Plan of Laredo, Texas: This plan was adopted in August 1991 by the City of Laredo and last amended in 2011. It provides a basis and vision for a coordinated planning approach in managing the city's future growth.

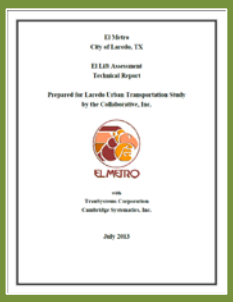
Congestion Management Process: This 2014 report documents the implementation of the congestion management process mandated by federal rules.

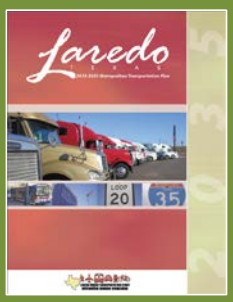
Del Mar Corridor Study: The study was published in 2011, prepared for the LUTS. It assesses the Del Mar Boulevard corridor from Santa Maria Avenue to just east of Loop 20 and identified mobility improvements. Recommendations were developed to meet corridor measures of effectiveness and address identified stakeholder concerns.

El Lift Assessment Technical Report: This 2013 report evaluates El Metro's ADA complementary paratransit service and assists with the development of the ADA Plan Update. Recommendations were given to improve operations and service of the paratransit service.

Historic Urban Design Guidelines: This 1997 report was produced for the City of Laredo in order to provide guidance for the historic preservation and development of the city's historic districts.

Laredo International Airport Master Plan Study Update: This 2014 study evaluated current airport conditions and future development scenarios and provides a basis for planning and





Recent Laredo Area Planning Documents

continued development decisions.

Laredo Metropolitan Transportation Plan 2010-2035: Prepared in 2009 and routinely modified to reflect additional federal reporting requirements and refined priorities, the 2010-2035 plan has served as the long-range transportation plan for the Laredo MPO for the past five years. It is replaced by this plan.

Laredo Traffic Calming and Access Management Workshop Report: This 2008 report was prepared for the Laredo MPO and analyzes workshop findings and next steps for using traffic calming and access management strategies for improving traffic operations.

Long Range Thoroughfare Plan: This plan, developed by the City of Laredo and recently updated in 2013, provides a basis for establishing a hierarchical street network that takes into account current and future land use patterns and represents the ultimate build-out of the city's major roadway network.

McPherson Road Mobility and Capacity Study: This 2010 study was prepared for the Laredo MPO and evaluates existing and projected traffic conditions on McPherson Road between Loop 20 and US 59 to develop recommendations for mobility improvements.

Recent Laredo Area Planning Documents

Public Participation Plan: ~~Developed~~ Updated by the Laredo MPO in 2017, this document serves as the plan for involving all citizens and transportation stakeholders in the public involvement process for metropolitan transportation planning.

South Texas Planning Region Public Transportation Coordination Plan: Originally developed in December of 2006 for the South Texas Development Council Economic Development Program and then subsequently updated in July of 2008, this plan establishes a basis for a coordinated human service transportation network in the South Texas Planning Region.

Texas Urban Mobility Plan (TUMP): Prepared by the Laredo MPO in cooperation with TxDOT, the purpose of this plan was to go beyond the MTP and focus on all transportation needs necessary to reduce congestion and improve mobility, regardless of funding availability.

Limited English Proficiency Plan:

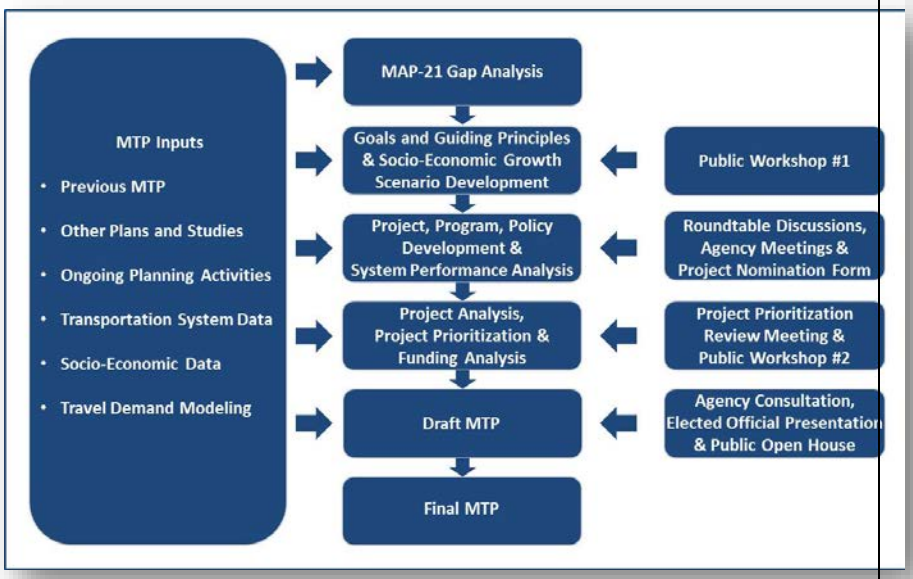
In accordance with the Title VI of the Civil Rights Act of 1964, the Laredo MPO adopted the Limited English Proficiency Plan in 2016 to address the responsibilities of the MPO as a recipient of federal assistance as they relate to the needs of individuals with limited English proficiency skills. The plan helps to identify reasonable steps for providing language assistance to persons with limited English proficiency who wish to access services provided.

MTP Development Process

The **Laredo 2015-2040 Metropolitan Transportation Plan** was developed as a by-product of a continuous, comprehensive, and cooperative transportation planning process. The **2015-2040 MTP** was developed over a two-year period and involved city, county, state, and federal agencies, the business community, community advocates, and other interested stakeholders.

A traditional planning process of defining goals and objectives, assessing existing conditions, predicting future needs, developing, evaluating, and prioritizing investments, and formulating funding strategies was used to develop this plan. Figure 1-1 shows the flow of inputs, analysis, and public participation involved in the development of the 2040 MTP. While the MTP was developed under the provisions of MAP-21 as noted in the flowchart, due ~~Due~~ to the signing of the FAST Act in 2015, this MTP was revised in 2018 for compliance with new provisions from the bill.

Figure 1-1: MTP Development Flow Chart



Vision and Guiding Principles

Because the MPO has engaged in a well-founded continuous transportation planning process, the overarching vision and guiding principles of this plan reflect those of the previously adopted plan.

MPO VISION

Develop a transportation system that offers safe, efficient, affordable travel choices for people and goods, while supporting economic development and long-term quality of life.

Guiding Principles

1. Be proactive in addressing future transportation needs.
2. Increase viable, affordable travel choices for people and goods.
3. Enhance the economic vitality by efficiently and effectively connecting people to jobs, goods, and services, and by moving goods within the region and beyond with an integrated multimodal transportation system.
4. Promote the unique identities and qualities of neighborhoods, communities, and the region as a whole.
5. Minimize overall environmental impacts and improve environmental quality.
6. Meet future needs without generating emissions that threaten public health, air quality, global climate and biological diversity.
7. Adapt to changing lifestyles, patterns of travel, new technologies, new methods of communication, and other trends.
8. Foster sustainable development that accommodates the diverse needs of all residents including those of future generations.
9. Promote competitive freight options by improving existing transportation system.
10. Comply with state and federal requirements and respond to all updates in requirements.

Performance Measures

The development and implementation of performance measures for MPOs serves as a means to assess how the transportation system and/or the MPO is functioning and operating. Performance measures can inform the decision-making process and improve accountability for the efficient and effective implementation of programs and projects. Performance measures serve the following functions for the Laredo MPO:

- During the **Plan Development** process, performance measures provide a framework to benchmark performance and the effects of alternatives. This data can help inform decision-making between trade-offs and help communicate the anticipated ~~imapcts~~impacts of different investment strategies.
- Performance measures support **Plan Implementation** by emphasizing the Laredo MPO guiding principles and integrating them into budgeting, program structure, project selection, and implementation policies.

Commented [JSP6]: Section on performance measures added as per requirements under the FAST Act.

- System performance relative to the vision and guiding principles of the Laredo MTP ca be tracked and reported to support **Accountability** for plan implementation and results.

The performance measures for the Laredo MPO ~~area~~ were determined by the federally required performance measures for state departments ~~fo~~of transportation and MPO~~T~~s to use as outlined in MAP-21 and FAST Act. The National Performance Rule Making (NPRM) identified five performance areas required for State DOTs and MPOs. These performance areas include Safety, Pavement and Bridge Measures, System Performance of NHS, Freight, and CMAQ and Transit Asset Management. According to the NPRM, State DOTs and MPOs are to establish quantifiable statewide performance targets for the required performance measures to be achieved over a 4-year performance period, with the first performance period starting in 2018. MPOs may establish targets by either supporting the State DOT's statewide target, or defining a target unique to the metropolitan planning area each time the State DOT establishes a target. In accordance with MAP-21, the NPRM proposed providing MPOs with an additional 180-day period to set targets following the date on which the State DOT established their targets.

The Laredo MPO has adopted the federally required performance measures in coordination with TxDOT. In addition, the Laredo MPO adopts the first target for the safety performance measure using TxDOT's target of a 2 percent reduction by 2022. The Laredo MPO is continuing coordination with TxDOT on the data collection, analysis, reporting, and target setting of these performance measures. Adoption of the remaining performance targets will occur in the 2045 MTP update.

Table 1-2: MTP Performance Measures Content Requirements

Federal Performance Area	Performance Measure
Safety	• Number of fatalities • Rate of fatalities per 100 M Vehicle Miles Traveled (VMT) • Number of serious injuries • Rate of serious injuries per 100 M VMT • Number of non-motorized fatalities and serious injuries
Pavement and Bridge Measures	• % of Interstate pavements in Good condition • % of Interstate pavements in Poor condition • % of Non-Interstate NHS pavements in Good condition • % of non-Interstate NHS pavements in Poor condition • % of NHS bridges by deck area classified as in Good condition • % of NHS bridges by deck area classified as in Poor condition
System Performance	• Travel time reliability on the interstate and non-interstate NHS • Track travel time reliability index • Annual hours of peak hour excessive delay per capita • Non-SOV travel in specific urbanized areas

Federal Performance Area	Performance Measure
Transit Asset Management	• *% of non-revenue vehicles met or exceeded useful life benchmark* • *% of revenue vehicles met or exceeded useful life benchmark* • *% of assets with condition rating below 3.0 on FTA TERM Scale*

Plan Amendment Process

As the MPO carries out their continuing, cooperative, and comprehensive (3C) planning process, amendments to this Plan are expected. These may occur due to changes in project priorities, funding availability, or state and/or federal guidance. Amendments to the Plan require adoption by the MPO Policy Committee, following an opportunity for the general public to review and comment.

MTP Overview

Laredo's geography, history and existing land use, along with a description of major traffic generators, are included in **Chapter 2, Regional Context**.

The summary of the socioeconomic conditions of the Laredo MPO region is presented in **Chapter 3, Future Socioeconomic Conditions**. The main factor in determining future transportation need is the magnitude and location of future population and employment. The development of the forecasted socioeconomic conditions of the Laredo region is presented.

Chapter 4, Public Participation identifies the efforts of the LUTS to solicit input from public and stakeholder into the development of this MTP.

Both current and future conditions and needs of roadways in the region are summarized in **Chapter 5, Roadways**. This chapter also discusses maintaining and enhancing an efficient and safe roadway system that will effectively meet future demands while optimizing existing financial resources.

Chapter 6, Transit reviews the existing transit systems, facilities, and services, identifies the transit service gaps and issues, and suggests strategies and policies to address the overall demand for public transit services.

With the significant amount of bicycle and pedestrian traffic in the city **Chapter 7, Bicycle/Pedestrian Plan** presents the existing conditions and context for bicycle and pedestrian system needs in the Laredo MPO region.

Airports play an important role in dealing with the increasing demand of both passenger and freight traffic. Laredo International Airport is the primary airport in the Laredo MPO region and provides air transportation services for both passengers and cargo. **Chapter 8, Airport** provides discussion about existing conditions of the airports, issues of concern and needs, and strategies to improve these needs.

As the Laredo MPO region is a nationally significant freight gateway connecting the United States to the rest of the globe, **Chapter 9, Freight and Goods Movement** presents an in-

depth look at the current state of freight transportation in the region, what challenges lie ahead, and how the region can accommodate the substantial growth that is expected to occur in the future.

Because Laredo is now considered a TMA, congestion management process (CMP) must be implemented. **Chapter 10, Congestion Management Process** presents the summary of the CMP adopted by the LUTS and how the CMP will be incorporated into the MTP development.

Again, due to its position and role as a national gateway, safety and security are of paramount concern within the Laredo region. As such, **Chapter 11, Safety, ~~and~~ Security, and Resiliency** focuses on safety, ~~and~~ security, and resiliency issues and what current and future programs will keep both our transportation system and its users safe from both internal events and external threats.

The project selection process, the list of the projects that will be funded through this MTP, and how the region will pay for the recommended projects in the plan are presented in **Chapter 12, Financial Plan and Recommended Plan Improvements**.

Finally, **Chapter 13, Benefits, Impacts, and Next Steps** presents how this plan will impact the region and what benefits it will provide. In addition, this chapter presents how the MPO can monitor the performance of the transportation system in the future so that it can ensure its investments are having the intended results and so that it can make adjustments to this plan, as events warrant.

CHAPTER 4

PUBLIC PARTICIPATION

TABLE OF CONTENTS

LIST OF TABLES

No table of figures entries found.

LIST OF FIGURES

No table of figures entries found.

For the development of this MTP, the MPO broadened its stakeholder involvement efforts to be more consistent with federal transportation planning guidelines. Input was sought and received from elected officials, government agencies, the business community, community advocates, as well as the public at large.

The 2015-2040 MTP was developed through the consensus of both the general community as well as the public and private entities included within the MPO's Policy Board and Technical Committee. Throughout its transportation planning process, the MPO has provided a wide range of opportunities for the public to be involved in the development of this MTP.

The public participation process of the 2015-2040 MTP was consistent with all MAP-21 federal transportation planning guidelines at the time of this plan's development. The FAST Act; however, has since expanded public participation requirements. The Public Participation Plan (PPP) for the Laredo MPO was updated in May of 2017 to be compliant with 23 CFR 450.316. As required by 23 CFR 450.316 (a), the PPP was updated to include providing opportunity for input from public ports and private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program). In addition, the Laredo MPO maintains a contact list of groups and individuals which have expressed interest in transportation planning activities. As required by 23 CFR 450.316 (b), the MPO has expanded the contact list as described in the PPP to seek consultation with agencies and officials responsible for tourism and natural disaster risk reduction.

Commented [GRJ1]: Vanessa: We recommend having conference call(s)/written correspondence with representatives involved in tourism and natural disaster risk reduction to demonstrate that the MPO has initiated contact and consultation that will be further pursued for the 2045 MTP planning process. We could then document that these officials have been contacted to meet compliance of the FAST Act and start the conversation. A sentence or two would be added to this paragraph to note this in the final version to FHWA.

We have some thoughts but would like to confirm with you which agencies/groups we should meet with related to resiliency/natural disaster planning, stormwater planning, and tourism.

English/Spanish Public Meeting Flyer – Public Meeting #1

Advertising Placard in El Metro Buses – Public Meeting #1

Public Meeting # 1 participants identify areas with congestion issues in Laredo.

Project Kickoff Meeting

A project kickoff meeting was held on Wednesday, December 4, 2013 with the Technical Advisory Committee. At this meeting, the project scope and schedule were reviewed, and members of the MPO Technical Advisory Committee were provided an opportunity to discuss their main concerns about the development and content of the new MTP.

Public Meeting #1

On Thursday, February 27, 2014, the first in a series of three public workshops was held. Various outreach methods were used to advertise the meeting and encourage public participation. The

following list summarizes the outreach efforts prior to the public meeting:

- Email and hardcopy invitations were distributed to a list of over 200 individuals which was compiled by the MPO. The invitation was prepared in both English and Spanish.
- The advertisement was placed in the Laredo Morning Times newspaper on Sunday, February 16, 2014 and again on Sunday, February 23, 2014. The Laredo Morning Times also published a story about the public meeting on Tuesday, February 25, 2014.
- Flyers advertising the meeting were placed in all three Laredo Public Library locations on February 6, 2014.
- The MPO also coordinated with Texas A&M International University and the Laredo Community College to get the public meeting flyer posted at campus common areas.
- Advertisements were placed in the El Metro Bus System buses to inform the transit riding public about the meeting and flyers were placed at bus stations.
- The City of Laredo put a link on their website home page to the public meeting flyer.
- The City of Laredo also ran a slide of the public meeting details on all three of their public access channels, starting on February 7, 2014 and running up to the public meeting on February 27, 2014.
- The Public Information Officer for the City of Laredo emailed an invitation to the public meeting to all their contacts on Friday, February 21, 2014 and again the day before the meeting on February, 26, 2014.

The workshop was intended to introduce the planning process to the public and collect public opinions on the transportation issues and needs for the region. Approximately 53 members of the community and representatives from various public entities were in attendance at the workshop held on Tuesday, February 27, 2014 at the Laredo Public Library.

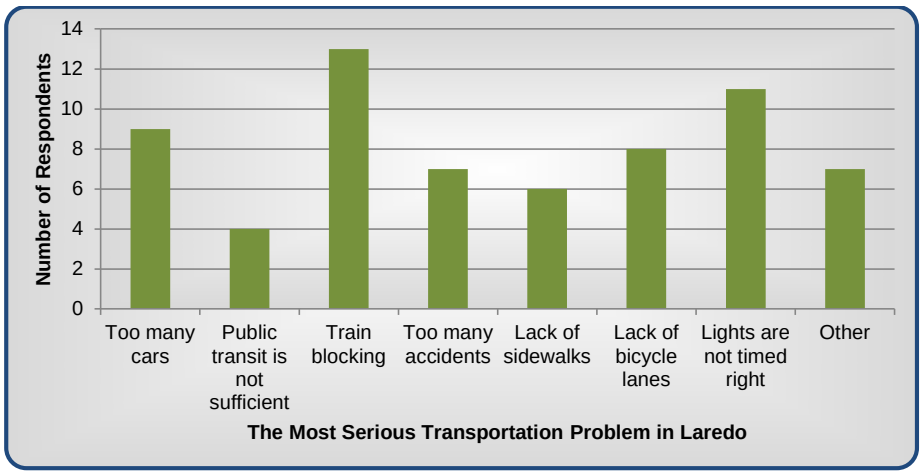
The public meeting used an open house format for the public to provide input anytime during the scheduled time. The public meeting contained exhibits on large posters as well as projected on the wall through a looped presentation. The list of exhibits presented at the public meeting is as follows:

- Introduction to Laredo MPO
- Introduction to the MTP
- MTP – Vision and Goals
- 2035 MTP – Funded projects
- Traffic Counts in Laredo region
- High Crash Locations in Laredo region
- Bicycle / Pedestrian Crashes in Region
- 2013 to 2040 Population Growth
- 2013 to 2040 Employment Growth

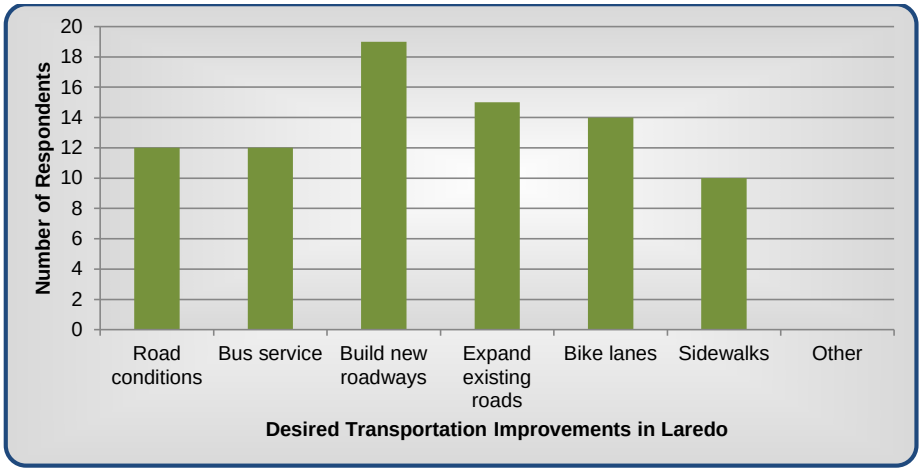
Participants were able to view the exhibits and exchanged ideas with representatives from the city and MPO. In addition, participants were given a set of bilingual frequently asked questions and a survey available in both English and Spanish. Also, an aerial map of the region was prepared for the participants to identify where they live and work in order to let study team members identify the effectiveness of the outreach campaign. Four data collection big-size maps were prepared to allow participants to write transportation issues directly at the locations on the map, and the comments were collected into tables.

The meeting helped the public to know more about the current progress of the MTP update as well as helped the study team members know the perceptions of the transportation systems from the public and what and where the transportation needs are. From the data collection maps, areas with transportation issues such as congestion, safety concern, transit, pedestrian and bicycle facilities, and signal timing coordination were identified. Responses to the specific survey questions are also helpful to provide a contour of how the respondents see their communities or Laredo MPO region as a whole with regard to transportation systems. Of note, being asked to provide ratings for different aspects of transportation systems, 42 percent of the respondents rated traffic congestion issue as poor and 46 percent rated bicycle lanes/paths as poor. Below are the survey results of some other questions:

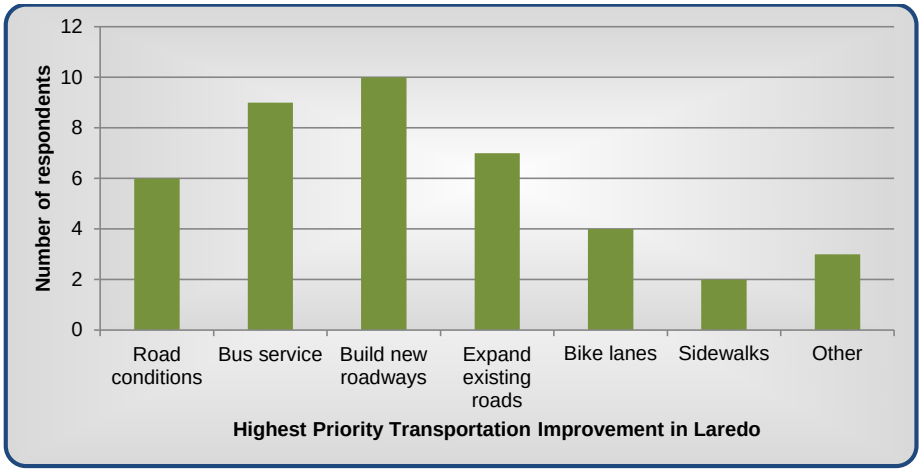
- What do you think is the most serious transportation problem in the Laredo region?



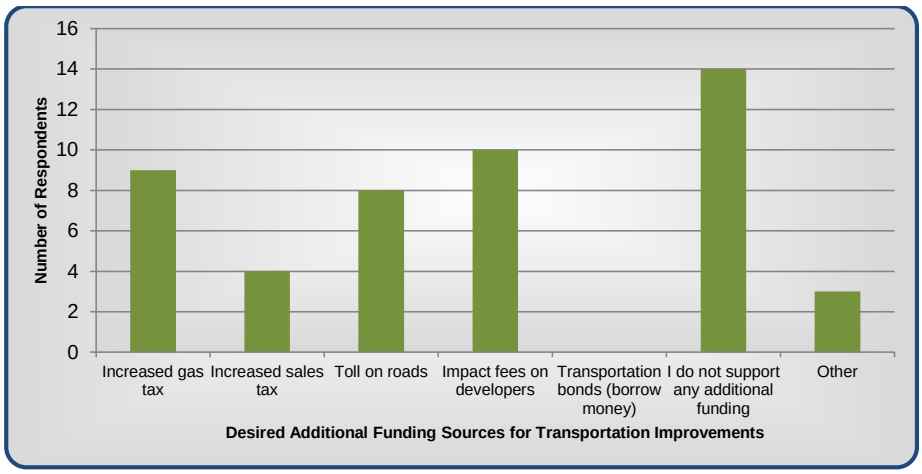
- Can you please describe the specific improvement(s) you would like to see made?



- If you indicated that more than one of the above projects should be high priority, please select which project should be the highest priority.



- Which of the following sources would you support to fund transportation improvements?



Public Meeting #1 participants discuss current and potential transportation issues

Roundtable Discussions

In an effort to obtain additional input from a variety of perspectives, the MPO hosted a series of thematic roundtable discussions at Laredo City Hall Conference Room on Wednesday, July 9 and Thursday, July 10, 2014 just before Public Workshop #2. The purpose of the meetings was to explore "what it will take" to satisfy the mobility needs of the Laredo MPO region, from public sector transportation investments and land use policies to private sector economic and community development initiatives. The four roundtables were attended by about 40 individuals and were organized around the following four themes:

- **Economic Development/Community Preservation:** a forum for members of both public and private sector agencies and organizations that will play a key role in the future development of the region, focused on ways to optimize and coordinate transportation and land development, promote economic development, and address the growing concern of environmental stewardship and historic preservation.
- **Multi-Modal/Special Constituents:** a forum for public transportation service providers and related organizations focused on regional strategies to optimize all

transportation modes to meet the mobility needs of the region over the next 25 years.

- **Safety and Security:** a forum for public and private community service agencies focused on the health, safety, and security of local residents to discuss how the transportation system can best serve people of all ages and abilities.
- **Freight and Goods Movement:** a forum for regional carriers, shippers, and members of the international trade industry focused on issues related to the transportation system's capacity, accessibility, and reliability, both now and in the future.

Roundtable Discussion participants engage in dialog about critical transportation planning themes.

Public Meeting #2

The second public meeting was held on Thursday, July 10, 2014 at Laredo Public Library. The purpose of the meeting was to discuss and comment on the ongoing development of the Laredo MTP. As public meeting #1, various outreach methods were used and are summarized as follows:

- Email and hardcopy invitations were distributed to a list of over 200 individuals which was compiled by the MPO. The invitation was prepared in both English and Spanish.
- An advertisement was placed in the *Laredo Morning Times* newspaper on Sunday, June 22, Sunday, June 29, and Sunday, July 6, 2014.
- The *Laredo Morning Times Online* also published a story about the public meeting on Friday, June 13, 2014.
- Flyers advertising the meeting were placed in the main Laredo Public Library (100), Bruni Plaza Branch Library (50), Inner City Library (50), Barbara Fasken Library (50) and the Santa Rita Express Library (50) on June 23, 2014. Advertisements were placed in the El Metro Bus System's 45 buses and Transit Vans to inform the transit-riding public about the meeting.

Laredo Public Access Television – Public Meeting #2

Laredo Morning Times Article – Public Meeting No.2

- The City of Laredo put a link to the public meeting flyer on their website home page.
- The City of Laredo broadcasted the public meeting details on all three of their public access channels.
- The public information officer for the City of Laredo sent out a media release to more than 125 people advertising the public meeting.
- Finally, an article ran Friday, July 11, 2014, discussing the public meeting.

Following the same open house type format as the Public Workshop #1, this was the second opportunity for the public to discuss the 2015-2040 MTP and provide input on transportation issues. At the meeting, informative poster exhibits were presented in both English and Spanish. The exhibits were also available on a larger scale projected on the wall through a looped presentation. The list of exhibits presented at the public meeting is as follows:

- 2035 MTP – Funded Projects
- High Crash Locations
- Bicycle and Pedestrian Crashes
- Projected 2040 Population
- Projected 2040 Employment
- Metropolitan Planning Organization
- Overview of the MTP Update
- MTP Vision
- 2015 – 2040 Laredo Metropolitan Transportation Plan Public Meeting #2 – Submitted Projects
- 2015 – 2040 Laredo Metropolitan Transportation Plan Public Meeting #2 – Other Projects

Participants were provided with a list of 49 potential projects and asked to rank the top 10 projects based on their perceived priority. Participants were also encouraged to submit additional projects they think worth being considered to be potential projects. The results of the prioritization process were then taken into account in the formal MPO project evaluation criteria. In addition, data collection maps showing the region were also available for participants to identify transportation related issues.

Public Meeting #2 participants help shape investments priorities

Project Nomination Form

To comply with the Public Participation Plan of the Laredo MPO, a bilingual project nomination form was advertised in Laredo Morning Times and sent to the contacts in the MPO's contacts database. The public were requested to submit projects of interests to the MPO. The project nomination period was from April 1, 2014 to June 30, 2014.

The project nomination form distributed during the period from April, 2014 to June, 2014

Project Prioritization Meeting

On October 20, 2014, the MPO's Technical Advisory Committee convened a meeting to review the list of candidate transportation projects and their scoring. This meeting served to solidify the timing of investments and make recommendations on which projects should be select into the MTP period of 2015-2040. The MPO's policy Advisory Committee then approves a set of projects which are projected to receive federal funding during the MTP period.

Agency Consultation

During the plan's public review period draft copies were sent to the Texas Council on Environmental Quality, the Texas Historical Commission, and the Texas State Soil and Water Conservation Board.

Presentation to Elected Officials

To fulfill the MPO's public participation plan requirements, presentations of the draft plan were given to the Policy Advisory Committee at the meetings on November 17, 2014.

Public Meeting #3

As part of the formal, mandatory 20-day public review period of the MTP, the MPO conducted the third public Meeting at the Laredo City Library on Thursday, November 20, 2014 from 4pm to 6pm. It follows the same open house type of meeting as the first two public meetings. The purpose of the meeting is to allow the public to review and provide comments for the draft version of the MTP document. Various public outreach efforts have been made and summarized as follows:

- Email and hardcopy invitations were distributed to a list of over 200 individuals which was compiled by the MPO. The invitation was prepared in both English and Spanish.
- An advertisement was placed in the *Laredo Morning Times* newspaper on Date 1, 2, and 3.
- The *Laredo Morning Times Online* also published a story about the public meeting on Date.
- Flyers advertising the meeting were placed in the main Laredo Public Library, Bruni Plaza Branch Library, Inner City Library, Barbara Fasken Library and the Santa Rita

Express Library on Date 1. Advertisements were placed in the El Metro Bus System's 45 buses and Transit Vans to inform the transit-riding public about the meeting.

- The City of Laredo put a link to the public meeting flyer on their website home page.
- The City of Laredo broadcasted the public meeting details on all three of their public access channels.
- The public information officer for the City of Laredo sent out a media release to more than 125 people advertising the public meeting.

At the meetings, posters showing the contents of the MTP were displayed and participants were guided through the posters to get to know different aspects of the MTP. The contents were also projected onto the wall through looped presentation for the public to view. The list of exhibits presented at the public meeting is as follows:

- Metropolitan Planning Organization
- Overview of the MTP Update
- MTP Vision
- Existing Roadway Level-of-Service from the TxDOT Travel Demand Model
- Future Roadway Level-of-Service from the TxDOT Travel Demand Model
- Fiscally constrained roadway projects
- Fiscally constrained transit projects

Open House Attendees preview the 2015-2040 MTP

CHAPTER 5
ROADWAYS

TABLE OF CONTENTS

LIST OF TABLES

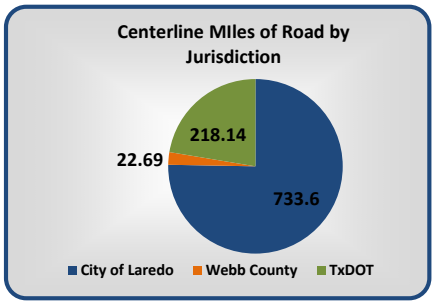
LIST OF FIGURES

CHAPTER 5: INTRODUCTION

The Laredo MPO region has a well-established multimodal transportation network including roadways, railroads, a fixed route transit system, and bicycle and pedestrian facilities. This chapter discusses this interconnected network and addresses both current and future conditions and the needs of roadways in the region. This chapter also discusses about maintaining and enhancing an efficient and safe roadway system that will effectively meet future demands while optimizing existing financial resources.

Major Roadways

The roadway network within the Laredo MPO region consists of interstate, freeway, arterial, collector, and local roadways. TxDOT maintains 218.14 centerline miles of state roadways, while Webb County maintains 22.69 centerline miles of roadways, and the City of Laredo maintains 733.60 miles of roadways within the Laredo MPO region.



Interstate 35

Often referred to as the NAFTA Superhighway, Interstate 35 (IH 35) travels northward from Laredo, through the heart of Texas, and as far north as the Canadian border in Duluth, Minnesota. Current average daily traffic along IH 35 ranges between 20,000 vehicles per day (vpd) in the northern portion of the MPO Planning area to 116,000 vpd just south of Mann Road. Speed limits range between 30 miles per hour (mph) approaching the international border to 70 mph in rural areas. IH 35 primarily consists of four to six lanes of roadway, but changes into two one-way streets consisting of a total of ten lanes as it approaches the international border.

Business Interstate 35

Business Interstate 35 (BI 35) is locally known as San Bernardo Avenue between IH 35 and Houston Street. Then, it operates along a series of one-way parallel facilities in the urban core of downtown Laredo. The southbound portion of BI 35 operates westerly along Houston Street and thence southerly along Salinas Avenue to the US Customs Port of Entry. The northbound portion of BI 35 operates northerly along Covent Avenue and thence easterly along Matamoros Street at San Bernardo Avenue. Traffic volumes along this roadway range from 12,700 to 14,500 vpd.

US Highways

US 59 begins at IH 35 in downtown Laredo and extends easterly as a four to six-lane roadway (also known as Saunders Street). East of Loop 20 it becomes a two-lane roadway. It transports 2,900 vpd in the far eastern section of the MPO planning area and 30,000 vpd just east of IH 35.

Approaching downtown Laredo from the southern part of the planning area, US 83, also called Zapata Highway, transforms into the one-way pair streets of Chihuahua and Guadalupe. From there, it is co-aligned with IH 35 northward for approximately 14 miles, then veers in a northerly direction towards Abilene. US 83 ranges from a four-lane expressway varying between 55 and 70 mph in some areas, to a four-lane arterial or one-way pair streets in downtown Laredo with speed limits as low as 30 mph. US 83 transports an average daily traffic volume of about 9,900 vpd a few miles north of Rio Bravo to 41,000 vpd just north of Spur 260.

State Highways

Loop 20, which is also known as the Bob Bullock Loop, provides a bypass on the eastern side of the City of Laredo. It begins at Mangana-Hein Road in the south, intersects with IH 35 to the north, then travels westward past Mines Road (FM 1472) and ends at the World Trade Bridge. In 2011, the new section called Cuatro Vientos Boulevard between SH 359 and Mangana-Hein Road replaces the previous section between SH 359 and US 83 as the Loop 20 route south of SH 359. This previous section was re-designated as the State Highway Spur 260. The Bob Bullock Loop ranges from a four-lane to six-lane roadway with speed limits ranging from 40 to 55 mph. As of 2012, the loop experienced an average daily traffic volume of about 22,000 to 37,000 vpd.

SH 255, also known as the Camino Colombia Toll Road, is located in the northwestern region of the Laredo MTP study area and connects the Camino Colombia International Bridge with IH 35 to the north. Within the study area, it contains two to four-lanes of roadway and intersects with FM 255, FM 1472, and FM 3368. SH 255 also has speed limits which range from 50 to 70 mph and an average daily traffic volume of about 5,000 vpd near the border and 1,250 east of Las Tiendas Road. The route was officially opened in 2000 as a privately owned toll road intended primarily for commercial vehicles circumventing the congested streets of the City of Laredo. However, due to an unsuccessful beginning, the toll road was foreclosed in 2003, after which it was auctioned off to a private financial institution. The following year TxDOT bought the toll road and currently operates and maintains it as a tolled state highway.

SH 359 begins at US 83 in the southeastern part of central Laredo,

crosses Loop 20, and then proceeds eastward towards Hebbronville and Alice. It is primarily a four-lane roadway with speed limits that vary from 30 to 70 mph with an average daily traffic volume between 9,600 and 23,000 vpd.

State Spur 400 is a four-lane roadway consisting of the eastern portion of Clark Boulevard between Arkansas Avenue and Loop 20. Speed limits range from 35 to 45 mph with average daily traffic volumes around 16,300 vpd.

State Spur 260, also known as the Jaime Zapata Memorial Highway, is a four-way roadway between US 83 and SH 359. It was formerly a segment of Loop 20. The speed limit is 45 mph, and average daily traffic volumes range from 14,300 to 17,000.

Farm to Market Roads

Within the Laredo MPO region, TxDOT operates three Farm-to-Market (FM) roads: FM 255, FM 1472, and FM 3338. FM 255 begins at the Camino Colombia International Bridge and continues for about one mile to the intersection of SH 255 and FM 1472. FM 1472, also known as Mines Road, travels in a northwesterly direction from IH 35 just north of downtown Laredo, follows the Rio Grande River, intersects with SH 255 near the Camino Columbia International Bridge, and proceeds further northwest. Near central Laredo, FM 1472 begins as a six-lane roadway and transforms into four lanes as it travels towards SH 255 and then into two lanes further north. Speed limits range from 45 mph in the urban area with 41,000 vpd to 70 mph in the rural area with 1,050 to 4,300 vpd. From FM 1472, FM 3338 (also known as Las Tiendas Road) branches off as a two-lane roadway and travels in a northwesterly direction past SH 255. The speed limit on FM 3338 is 55 mph with average daily traffic volumes ranging from 740 to 1,350 vpd.

City Streets

The Laredo road network consists primarily of a grid pattern street system within the incorporated boundaries of Laredo. In recent years, developments have expanded throughout the region with more curvilinear street patterns. These streets are mainly two-lane collector and local access roads with speed limits of 30mph. Major east/west roadways include Calton Rd, Clark Blvd, Del Mar Blvd, Jefferson St, Lyon St, Park St, and Washington St. Major north/south city streets include Arkansas Ave, Malinche Ave, McPherson Rd, Meadow Ave, Santa Isabel Ave, Santa Maria Ave, and Springfield Ave.

National Highway System

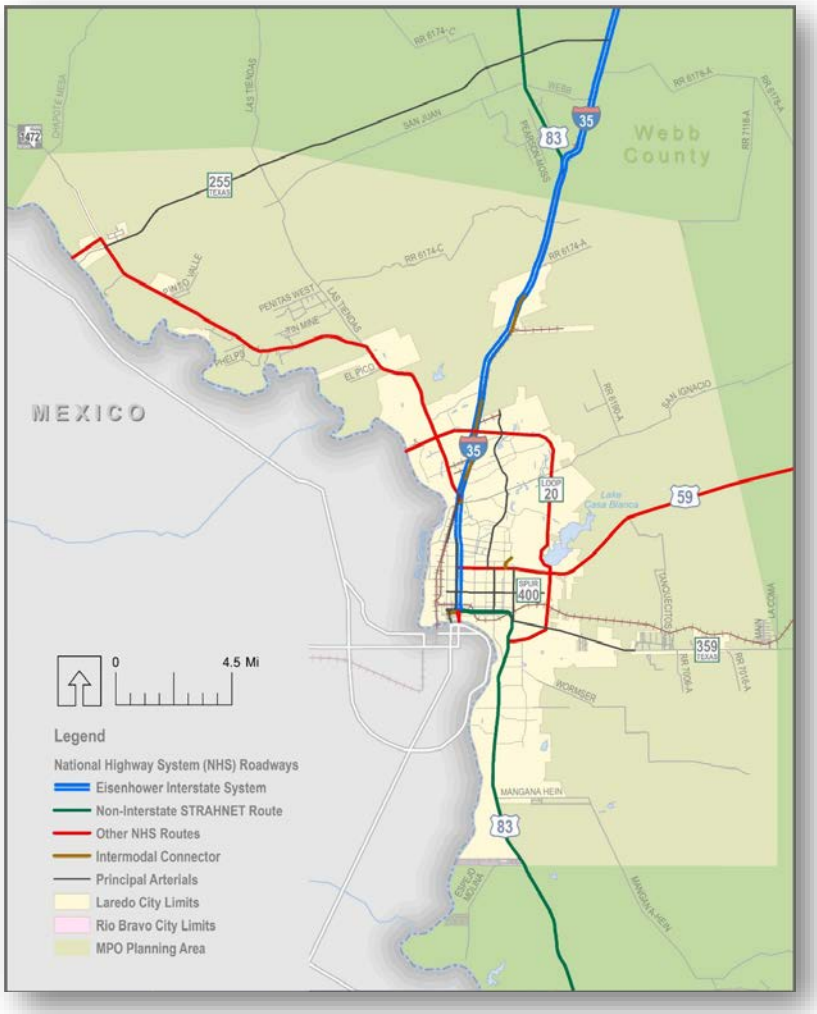
The National Highway System (NHS) is comprised of the Interstate Highway System and other roads that are important to the nation's economy, defense, and mobility. The NHS

Commented [GRJ1]: Updated to reference policy guidance provided by FHWA on principal arterials designated by the NHS.

was developed by the US Department of Transportation in cooperation with the states, local officials, and Metropolitan Planning Organizations. Within NHS, Strategic Highway Network (STRAHNET) is a network of highways which provide defense access, continuity, and emergency capabilities for defense purposes.

Roadways on the NHS in the Laredo MPO region, shown in **Figure 5-1**, are eligible to receive NHS funding. Connections from the NHS to major intermodal facilities in Laredo include Bartlett and Maher Avenues connecting US 59 (Saunders Street) to the west side of the airport, Farragut Street, Juarez Avenue, and Hidalgo Street connecting Interstate 35 to El Metro's downtown transit center, and Houston Street, San Bernardo Avenue, and Matamoros Street to the Auto Buses and Americanos Bus station. The non-interstate ~~principle~~ principal arterials of part of SH 359, North Arkansas Avenue, part of North Meadow Avenue, Clark Boulevard, McPherson Road, San Bernardo Avenue, part of Santa Maria Avenue, and SH 255 are also included in compliance with Section 1104 of MAP-21.~~are also included~~ and carried over under the FAST Act~~.~~ Section 1122 of the FAST Act directed the FHWA to issue guidance to the states on adoption of these principal arterials into the NHS. The Laredo MPO continues to coordinate with TxDOT on adoption of any principal arterials onto the NHS.

Figure 5-1: National Highway System Roadways



~~airport, Farragut Street, Juarez Avenue, and Hidalgo Street connecting Interstate 35 to El Metro's downtown transit center, and Houston Street, San Bernardo Avenue, and Matamoros Street to the Auto Buses and Americanos Bus station. The non-interstate principle arterials of part of SH 359, North Arkansas Avenue, part of North Meadow Avenue, Clark Boulevard, McPherson Road, San Bernardo Avenue, part of Santa Maria Avenue, and SH 255 are also included in compliance with Section 1104 of the Moving Ahead for Progress in the 21st Century Act (MAP-21).~~

National Highway Freight Network

Commented [GRJ2]: New section added to describe the NHFN as introduced by the FAST Act

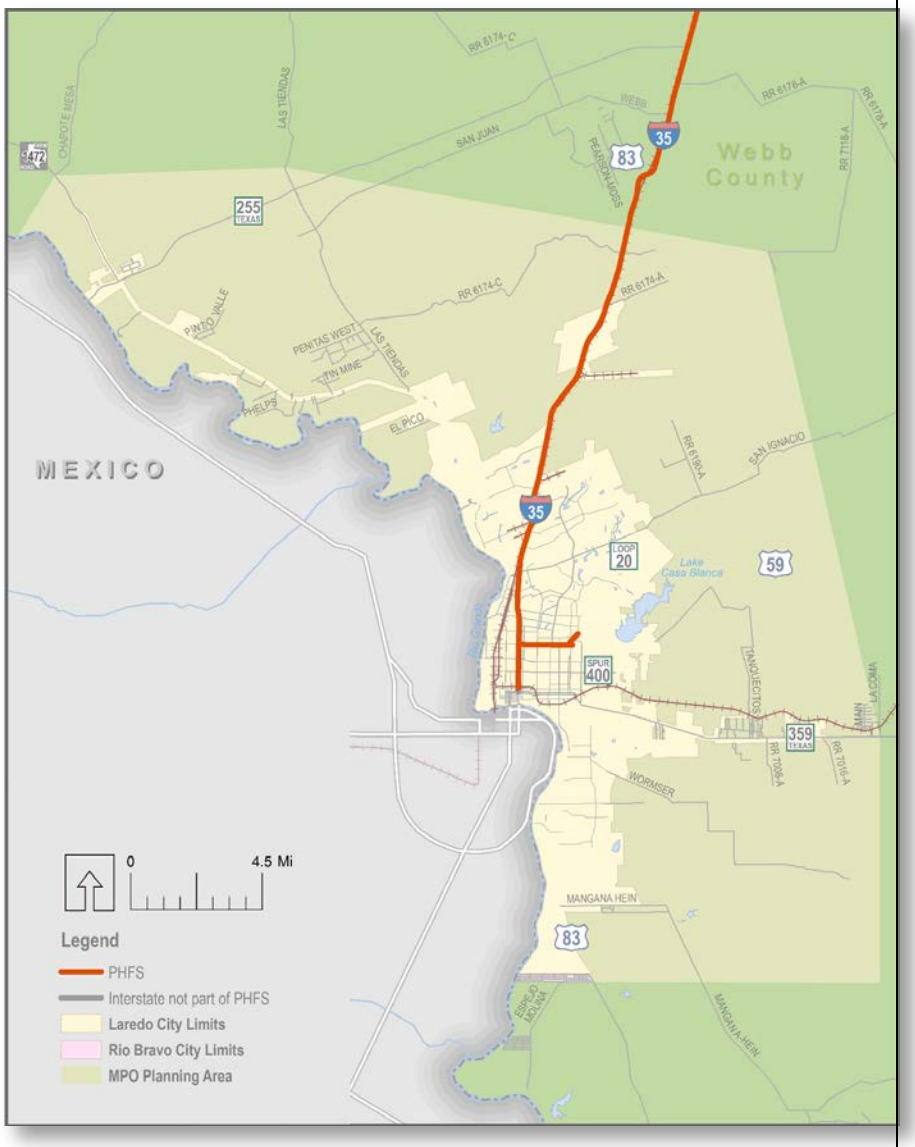
The FAST Act provided for a new National Highway Freight Network (NHFN) replacing the National Freight Network and Primary Freight Network established under MAP-21. The designation of the NHFN serves to strategically direct federal resources and policies toward improved performance of highway portions of the freight transportation system. The NHFN includes four subsystems of roadways.

- Primary Highway Freight System (PHFS): The most critical highway portions of the US freight transportation system.
- Other Interstate portions not on the PHFS: The remaining Interstate highways not included on the PHFS. These routes provide important continuity and access to freight transportation facilities.
- Critical Rural Freight Corridors (CRFCs): Public roads not in an urbanized area that provide access and connection to important freight facilities
- Critical Urban Freight Corridors (CUFCs): Public roads in urbanized areas that provide access and connection to important freight and intermodal facilities

Within the Laredo MPO area, there are 19 miles of the PHFS as part of the NHFN. The other NHFN subsystems are not represented within the Laredo MPO region.

Roadways on the NHFN in the Laredo MPO region, shown in **Figure 5-2**, include IH-35 as far as the end of its Interstate Highway designation at Victoria Street, US 59 from IH-35 east to Bartlett Avenue, and the Bartlett Ave / Maher Avenue connection to the industrial area on the west side of the Laredo International Airport at Pappas Street.

Figure 5-2: National Highway Freight Network Roadways



National Multimodal Freight Network

In addition to a National Highway Freight Network, the FAST Act also provided for a new National Multimodal Freight Network (NMFN). The purpose of the NMFN is to:

Commented [GRJ3]: New section added to describe the NMFN as introduced by the FAST Act.

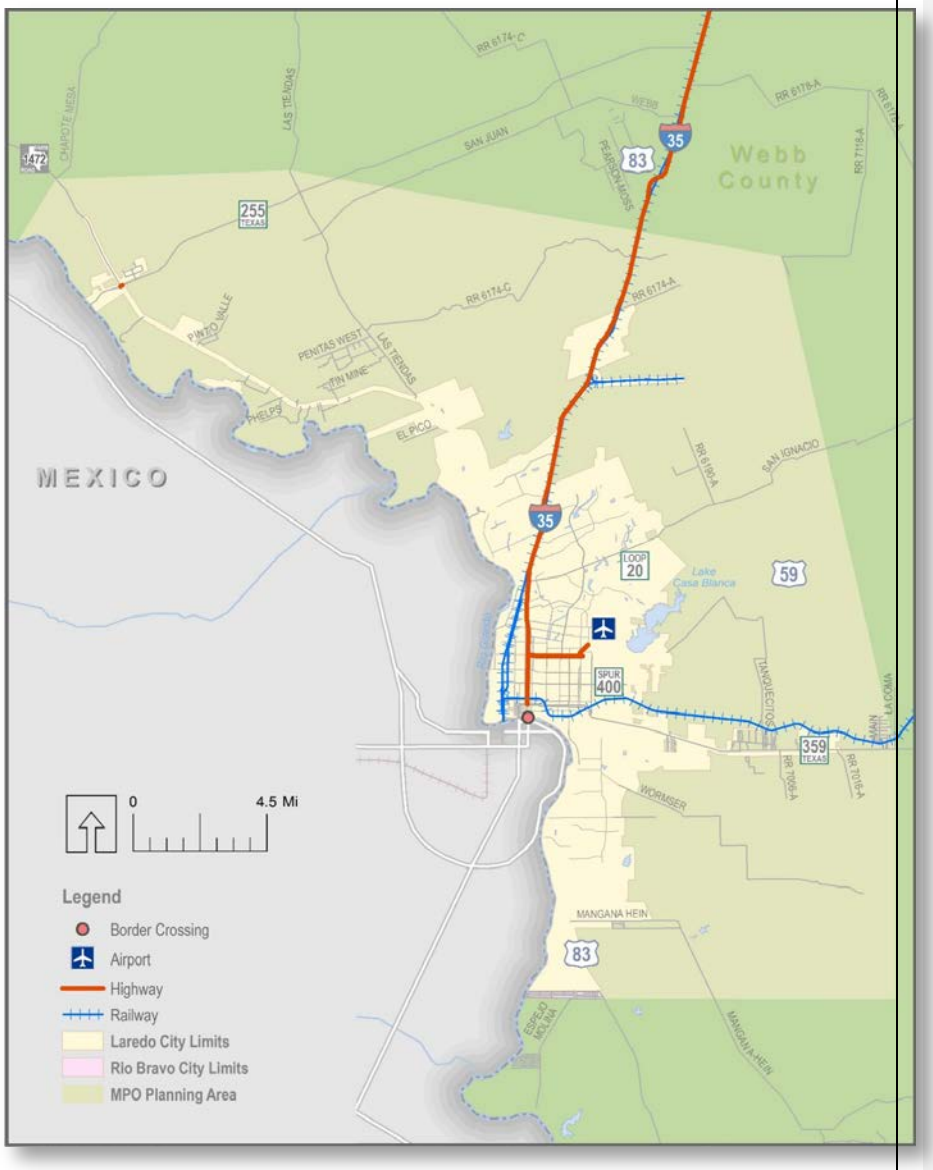
- Strategically direct resources toward improved system performance for the efficient movement of freight
- Inform freight transportation planning
- Assist in the prioritization of Federal investments
- Evaluate and support investments to achieve national goals

An Interim National Multimodal Freight Network (Interim NMFN) was established in 2016 and open to public comment which ended in February 2018. The Interim NMFN consists of the NHFN, the freight rail systems of Class I railroads, public ports of the United States that have total annual foreign and domestic trade of at least 2,000,000 short tons, the inland and intracoastal waterways of the United States, Great Lakes, the St. Lawrence Seaway, and coastal and ocean routes along which domestic freight is transported, the 50 airports located in the United States with the highest annual landed weight, and other strategic freight assets such as railroad connectors and border crossings.

Components of the NMFN within the Laredo MPO area are mapped in Figure 5-3. These components include:

- *Airport*: Laredo International Airport (LRD)
- *Border Crossing*: Lincoln-Juarez/Bridge #2
- *Highways*: 19 miles total consisting of the NHFN designations of I-35, US 59, Bartlett ~~Street~~Avenue, and Maher Avenue
- *Railways*: 40 miles total consisting of KCS and UP railroads

Figure 5-3: National Multimodal Freight Network



Functional Classification

Functional classification is the process by which roadways are grouped into categories according to the character of service they are intended to provide. Individual roads do not serve travel independently; most travel involves movement through a network of roads.

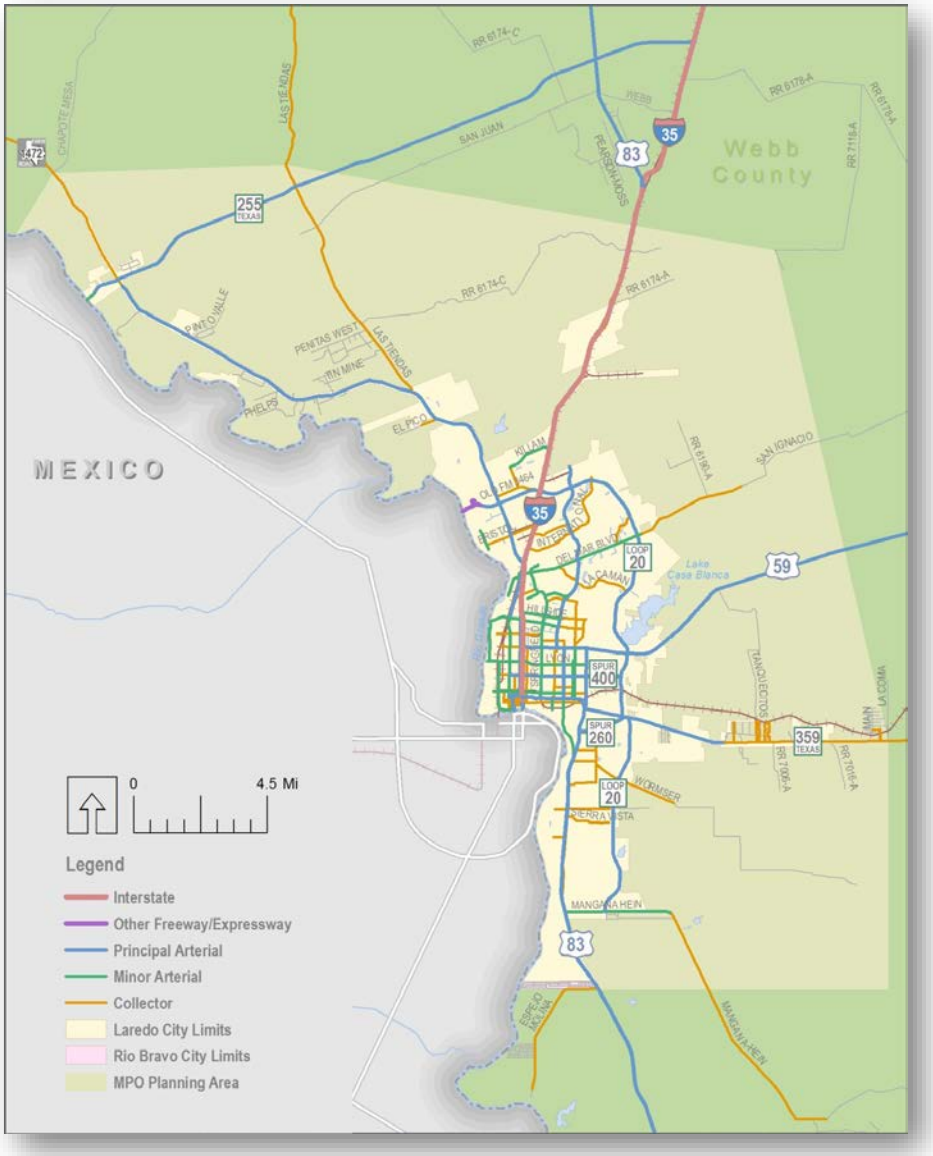
Functional classification examines the channelization of traffic throughout a roadway network and defines the role that each roadway plays in serving traffic flow. Two important variables define roadway function: mobility and access. At one end of the spectrum, freeways provide the highest level of mobility and the lowest level of access, serving long-distance trips with minimal access to abutting land uses. Local streets, on the other hand, have numerous driveways and connections to provide local access to businesses and residences and are not intended for use over long distances. **Table 5-1** provides additional details regarding the functional classification categories and examples within the Laredo MPO regional roadway network. Various functional classification schemes exist, such as those defined within Laredo's thoroughfare plan and within the regional travel demand model. However, for the purposes of this MTP, FHWA's functional classification scheme is used.

The functional classification system should be routinely reviewed to ensure that road use and function is consistent with current travel patterns. **Figure 5-2** shows functional classification of the roadway network in the Laredo MPO region. All roads classified as an urban collector and above are eligible to receive federal funding assistance.

Table 5-1: Functional Classification Definitions

Functional Classification	*Characteristics*	*Example*
Interstate	High speed, divided highway with full control of access and grade separated interchanges Moving inter- and intra-regional traffic, particularly long trips in high traffic volume corridors. Providing access between cities and across metropolitan areas Normally in excess of 20,000 vehicles per day Formally designated by US DOT	Interstate 35
Other Freeway	High speed, divided highway with full control of access and grade separated interchanges Across metropolitan areas and between major activity centers (2 or more miles) Normally in excess of 20,000 vehicles per day	Loop 20 at World Trade Bridge
Principal Arterial	Typically divided street with major access points at intersections with the surface street system. Some direct access permitted to abutting land uses Serve major centers of activity, with service to abutting land uses secondary to the provision of travel service 10,000 to 30,000 vehicles per day	McPherson Blvd US 83 (Zapata Hwy)
Minor Arterial	Number of lanes and type of median directly relate to traffic volumes and abutting land use Augments and feeds primary arterial system and distributes traffic to geographic areas smaller than those served by the higher system, with more emphasis on service to abutting land uses 5,000 to 15,000 vehicles per day	Springfield Ave Meadow Ave south of Chihuahua St
Collector	High access to local streets and driveways Connect local streets to the arterial system. Typically used for trips that are near their origin or destination point, primarily connecting neighborhoods within and among sub-regions 1,500 to 10,000 vehicles per day	Fenwick Dr La Pita Mangana Rd
Local	High access to driveways Provides direct access to abutting property 1,500 or fewer vehicles per day	Basswood Dr Madera Ave

Figure 5-~~2~~4 Functional Classification of Roadways



Daily Traffic Volumes

Table 5-2 presents the absolute growth and percent growth for locations that experienced high increase in daily traffic volumes between 2002 and 2012. The most significant growth occurred along State Loop 20, which highlights the growing importance of the roadway and also the increasing population and development pressure in this part of the region.

Table 5-2: High Traffic Volume Growth Locations

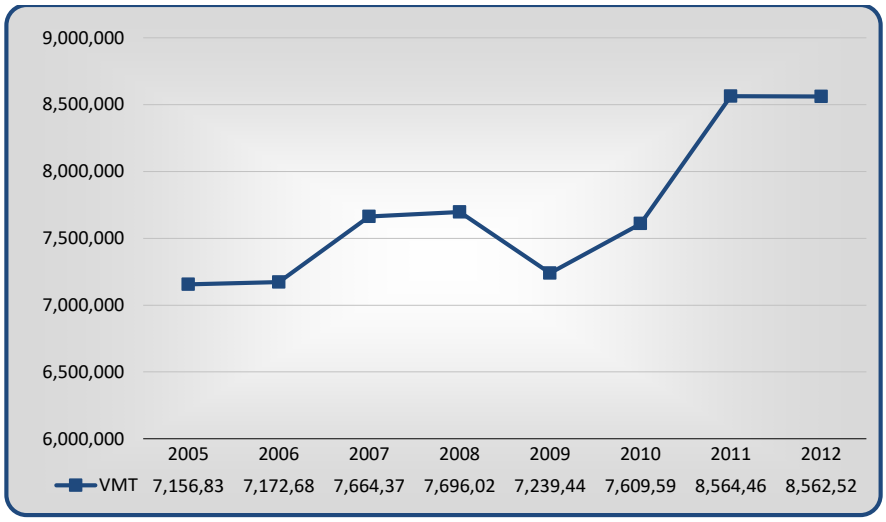
Roadway	*Location*	*2002*	*2012*	*Absolute Growth*	*Percent Growth*
Loop 20 (Bob Bullock Loop)	Between I-35 and McPherson Ave	15,500	37,000	21,500	139%
Loop 20 (Bob Bullock Loop)	Between Del Mar Blvd and US 59	19,900	37,000	17,100	86%
I-35	Between FM 1472 and Loop 20	48,000	65,000	17,000	35%
I-35	Between Calton Rd and Mann Rd	104,000	116,000	12,000	12%
Loop 20 (Bob Bullock Loop)	Between McPherson Ave and Del Mar Blvd	8,700	20,000	11,300	130%
US 83	Between Loop 20 and SH 359 (Willow St)	32,000	41,000	9,000	28%
US 83	Between Masterson St and Malinche Ave	29,000	37,000	8,000	28%
SH 359	0.54 miles east of Loop 20	15,600	23,000	7,400	47%
SH 400 (Clark Blvd)	Between N Arkansas Ave and Loop 20	9,600	16,300	6,700	70%
Loop 20 (Bob Bullock Loop)	Between Spur 400 and SH 359	27,000	33,000	6,000	22%

Source: TxDOT, Transportation Planning and Programming Division

Vehicle Miles Traveled

Vehicle-Miles Traveled (VMT) is the total number of miles driven by all vehicles within a given time period and geographic area. It is influenced by factors such as population, the number of vehicles per household, the number of car trips per day, and distance traveled. The daily VMT for Laredo District for years 2005 to 2012 was obtained from TxDOT and summarized in **Figure 5-3**.

Figure 5-2: Daily Vehicle Miles Traveled, Laredo District



Source: TxDOT, Transportation Planning and Programming Division

VMT is important in evaluating how well transportation investments and land use policies work together. In the Laredo District, VMT during the time period shows a trend of increasing despite a drop in 2009 and 2012. VMT in 2012 is approximately 1.4 million more than that in 2005. VMT directly affects gas consumption, emissions, and traffic patterns. Reduction in VMT can be attained through shifts to other modes of travel, such as transit, bicycling, or walking. Land use policies that encourage a mix of uses often result in shorter driving distances, and hence lower VMT.

Truck Volumes

The trucking industry plays a vital role in the movement of freight through the region. Texas Roadway Inventory obtained from the TXDOT website was used in calculating truck traffic. The Texas roadway Inventory contains various truck percentages and total ADT for the 2012. Truck percentages were thus applied to total ADT counts to obtain truck traffic .The location with the highest observed truck volumes in 2012 was along I-35 between Del Mar Boulevard and International Boulevard. **Table 5-3** shows the locations with the highest truck ADT for the 2012 and the associated truck volumes.

Table 5-3: High Truck Traffic Volume Locations

Roadway	Location	2012
I-35	Between Del Mar and International Blvd	14,205
I-35	Between Hidalgo St and US 59	10,324
I-35	Between Mines Rd and Loop 20	9,570
I-35	6.5 miles north of Loop 20	5,579
US 83	Between Loma del Sur Blvd and Zacatecas St	5,166
I-35	9.7 miles north of Loop 20	4,991
I-35	Between W Hillside Rd and W del Mar Blvd	4,798
US 59	Between I-35 and N Meadow Ave	4,740
US 83	Between Magana Hein Rd and Loma del Sur Blvd	4,680
I-35	Between US 59 and Mann Rd	4,649

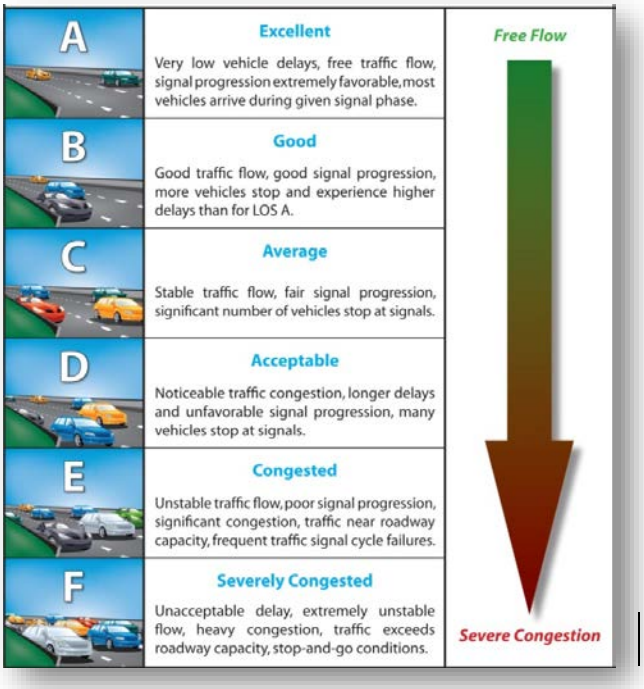
Source: TxDOT, Transportation Planning and Programming Division

Level of Service Analysis

Congestion on a roadway can be indicated by its level-of-service. Level-of-service (LOS) is a qualitative measure of traffic operations, ranging in values from LOS A to LOS F, and is based upon the ratio of a roadway's traffic volume to the roadway's capacity (VC ratio). The graphic to the right describes the conditions a driver would experience on a roadway given a particular level of service rating. The thresholds of VC ratios used to determine LOS values are as follows:

- 0.0-0.2: LOS A
- 0.2-0.4: LOS B
- 0.4-0.6: LOS C
- 0.6-0.8: LOS D
- 0.8-1.0: LOS E
- >1.0: LOS F

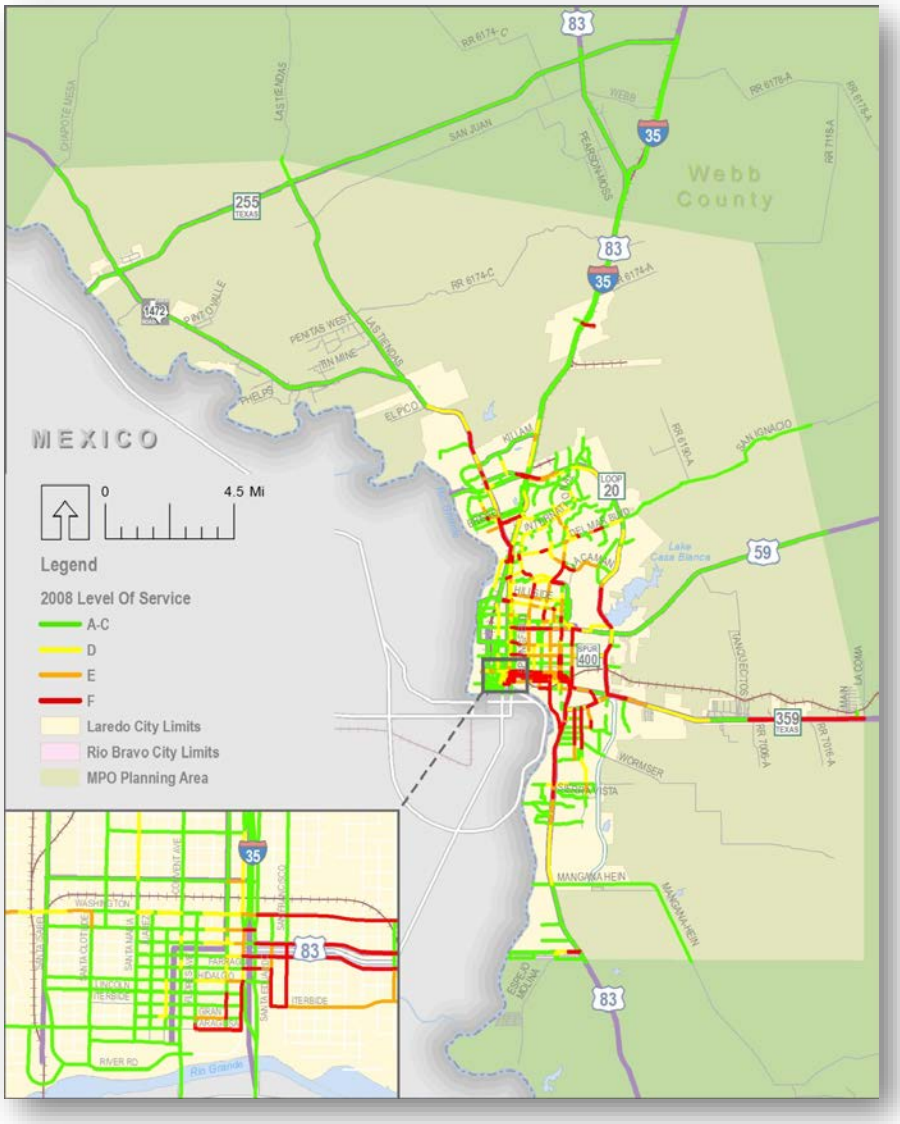
The primary factors in determining a roadway's capacity include the number of travel lanes, the type of traffic control at intersections, the number of access points, and speed limit.



A planning level capacity assessment of existing roadway system traffic conditions was developed using the regional travel demand model. This model was updated to a base year of 2008 and attempts to predict travel conditions in the region by looking at both the supply of and demand for transportation. The supply dimension of the model is reflected in the roadway network, while the socioeconomic data of the region reflects the demand side of the equation.

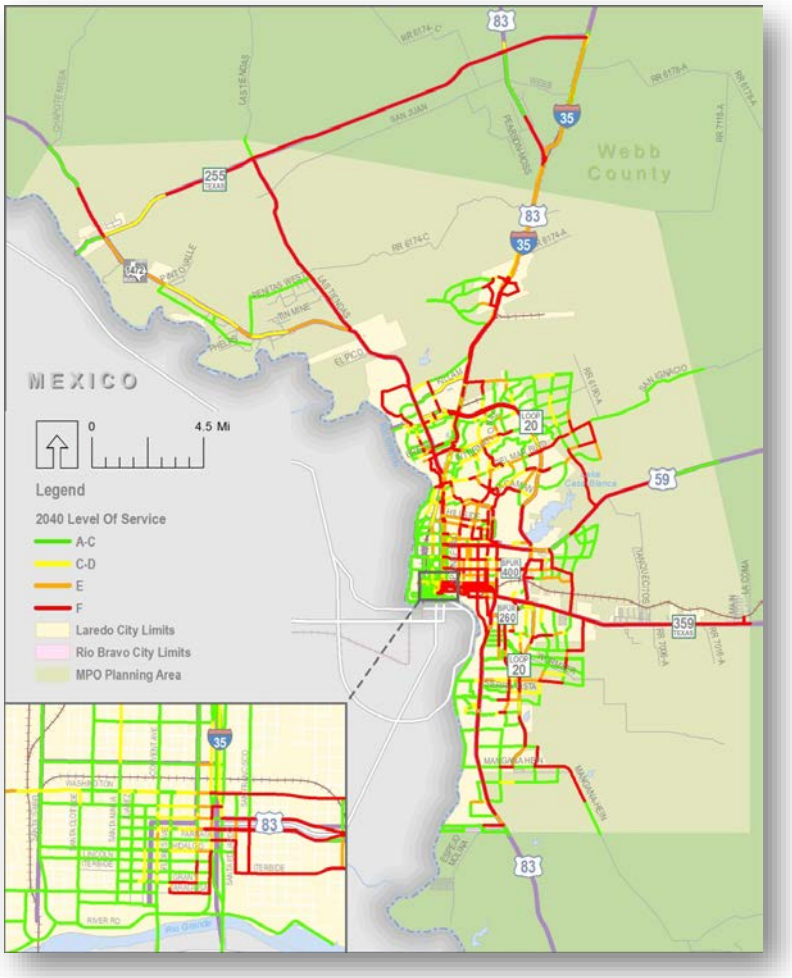
According to the updated 2008 base year travel demand model, current roadway congestion is most severe along the US 83 in south Laredo, combined segment of SH 359/US 83 (Guadalupe St and Chihuahua St), Las Cruces Drive, and segments of US 59, SH 359, FM Loop 20, 1472/Mines Road, Bartlett Avenue, Meadow Avenue, McPherson Road, Jacaman Road, and Washington Street/Corpus Christi Street. The level of service for all model roadways is shown in **Figure 5-4**.

Figure 5-54: Existing Level of Service, 2008

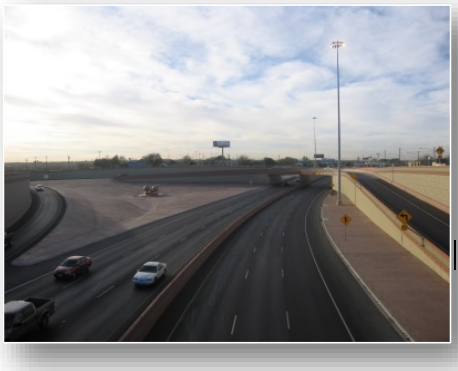


The process of projecting population and job growth for the year 2040 was presented in Chapter 3. According to official estimates the number of jobs and people in the Laredo MPO region is expected to grow by more than 50 percent, and most of this growth is expected to occur in currently undeveloped areas. As development continues along the fringes of the city, the existing road network can absorb only so much of the increased demand. As shown in **Figure 5-5**, the area's congestion levels will rise substantially if no additional transportation investments, beyond those that are currently committed in the current Transportation Improvement Program, are made. Segments on most of the major corridors, including IH 35, US 59, SH 359, SH 255, and Loop 20, will operate at LOS E.

Figure 5-~~5~~6: Future Level of Service, 2040



Crash Data



According to TxDOT's Crash Records Inventory System, approximately 19,132 crashes occurred within the Laredo area between 2010 and 2012. Among these, 60 were fatal, 229 involved pedestrians, and 96 involved bicyclists.

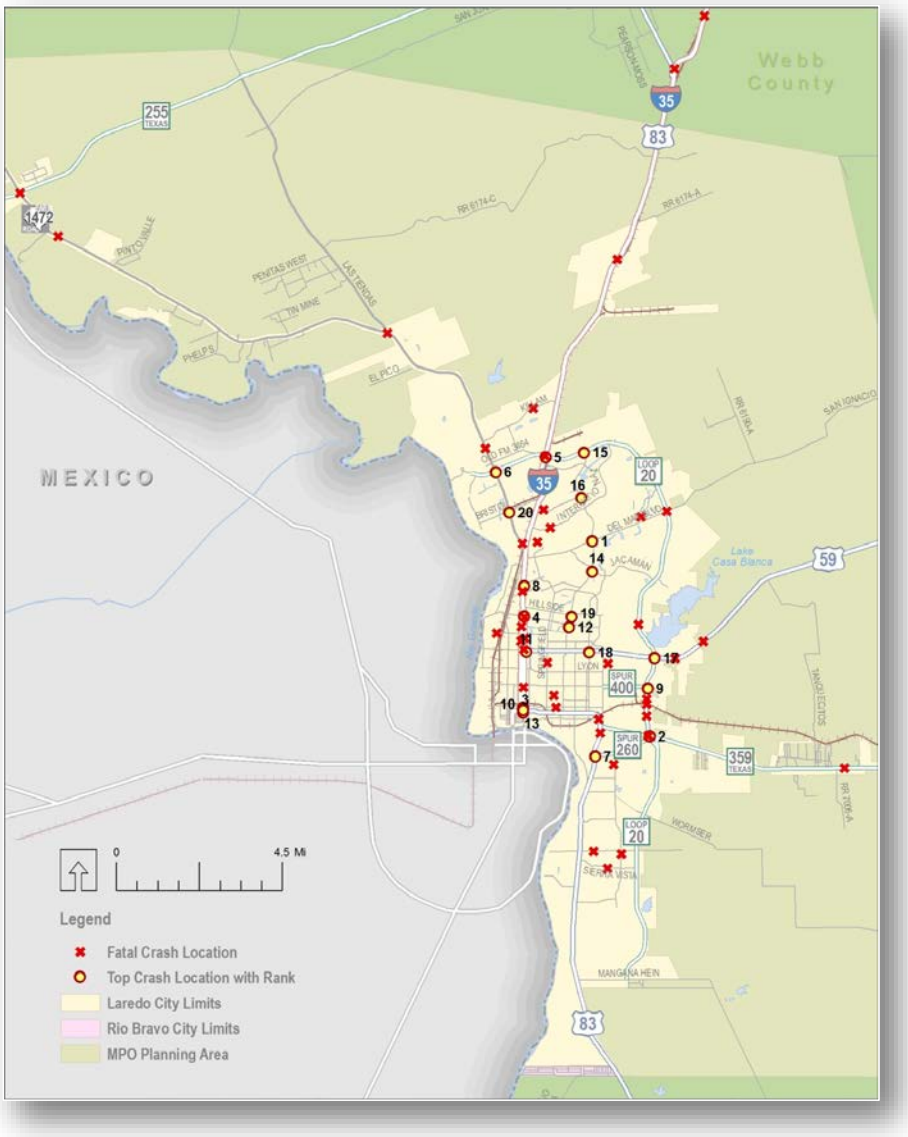
Table 5-4 and **Figure 5-6** identify the top 20 intersections with crash occurrences. The most ~~accidents~~ crashes occurred at the junction of two of the busiest arterial roadways in Laredo, McPherson Road and Del Mar Boulevard. Another two locations with the total number of crashes over 200 are the intersection of Loop 20 (Bob Bullock Loop) and SH 359 and the intersection of IH 35 and US 83 (Matamoros Street). Another point worth mentioning is that the intersection of US 83 and SH 359 was the fourth highest crash location during 2005 to 2007; yet after the reconfiguration, it is now off the top 20 locations.

Table 5-4: Top 20 Crash Locations, 2010 to 2012

Intersection	*Number of Crashes*
1. McPherson Rd and Del Mar Blvd	268
2. Loop 20 (Bob Bullock Loop) and SH 359	222
3. IH 35 and US 83 (Matamoros St)	212
4. IH 35 and Calton Rd	165
5. IH 35 and Loop 20 (Bob Bullock Loop)	159
6. FM 1472 and Loop 20 (Bob Bullock)	129
7. US 83 (Zapata) and Loop 20 (Bob Bullock)	126
8. IH 35 and Mann Rd	114
9. Loop 20 (Bob Bullock Loop) and Spur 400 (Clark Blvd)	109
10. IH 35 and Victoria St	108
11. IH 35 and US 59 (Lafayette St)	105
12. McPherson Rd and Calton Rd	103
13. IH 35 and US 83 (Houston St)	102
14. McPherson Rd and Jacaman Rd	97
15. McPherson Rd and Loop 20 (Bob Bullock Loop)	95
16. McPherson Rd and Shiloh Dr	93
17. Loop 20 (Bob Bullock Loop) and US 59 (Saunders St)	90
18. US 59 and N Bartlett Ave	75
19. McPherson Rd and Hillside Rd	70
20. Mines Rd and Bristol Rd	68

Source: TxDOT, Traffic Operations Division

Figure 5-~~67~~: Top 20 Crash and All Fatal Crash Locations, 2010 to 2012



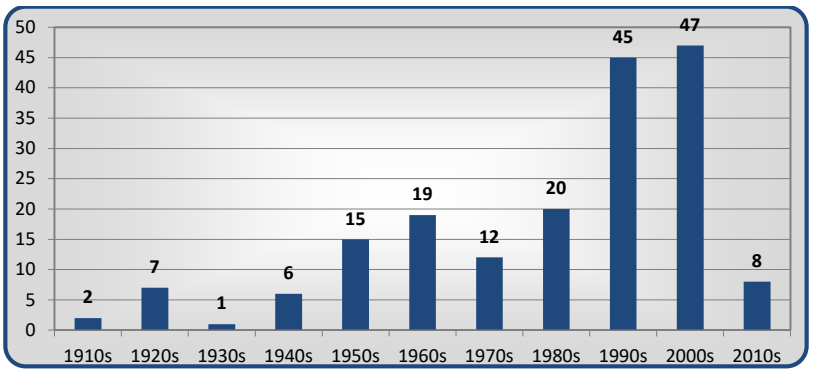
This data shows the locations of crashes in order to highlight intersections where the most crashes have occurred. Additional information on safety performance measures has been added to Chapter 13 to update this 2040 MTP to the new requirements of the FAST Act.

Bridges

In the Laredo MPO region, there are a total of 182 bridge structures. Of these structures, three are owned by railroads, nine are owned by Webb County, 49 are owned by the City of Laredo, and 121 are owned by TxDOT. In the Bridge Inventory, Inspection and Appraisal Files, the bridges were evaluated and coded the overall condition based on all major structural deficiencies. In Laredo, 177 out of the total 182 bridges were rated and they are all considered to be in good condition.

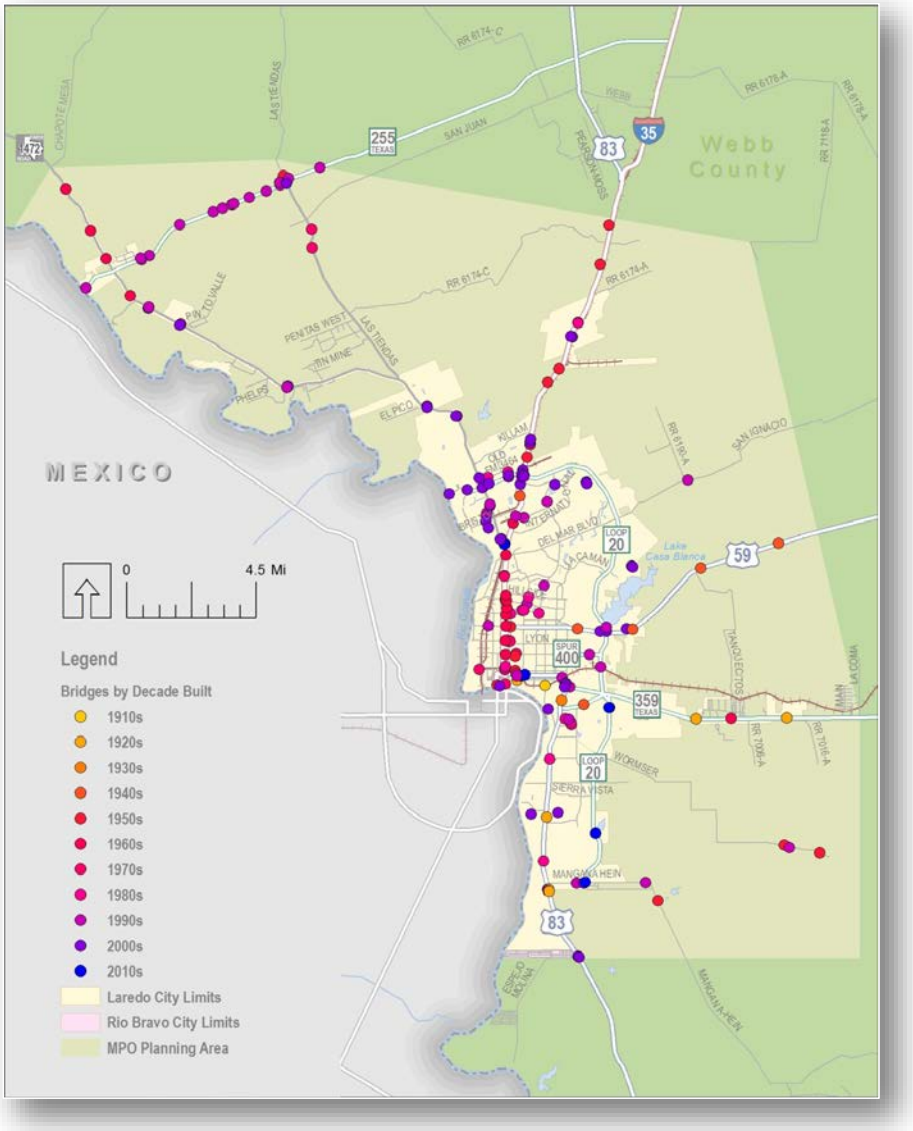
Figure 5-7 shows the number of bridges built during each decade, while **Figure 5-8** displays the spatial location of these bridges according to the decade in which they were built. As shown, most bridges were built during the 1990s and 2000s with a total of 45 built in the 1990s and 47 built in the 2000s. The increase in bridges in the last two decades is mostly due to new road construction during this same time period such as the Camino Colombia Toll Road and Bob Bullock Loop.

Figure 5-~~7~~8: Number of Bridges by Decade Built



Source: TxDOT, Bridge Division

Figure 5-~~89~~: Bridges by Decade Built



Border Crossing

Border Crossing System

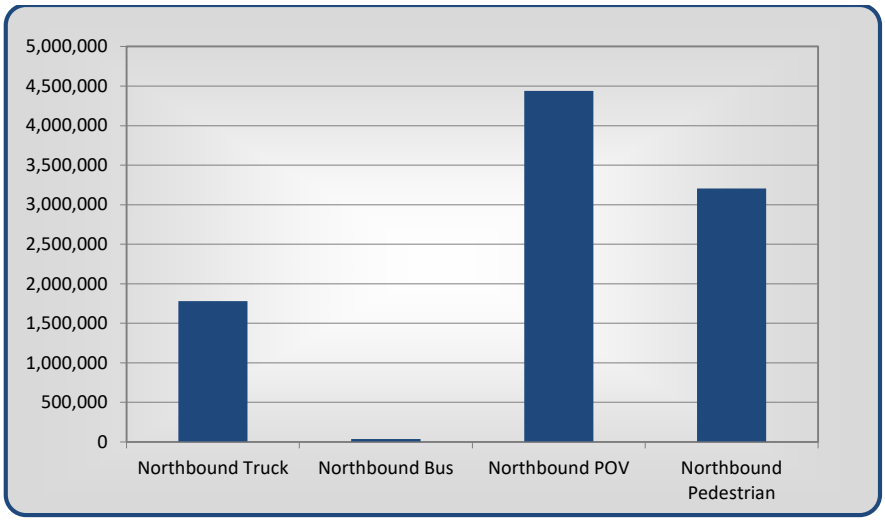
Currently, the two south border crossings near central Laredo serve a significantly higher proportion of overall traffic volumes than do the bridges further north. This is particularly true for non-commercial and pedestrian traffic. However, non-commercial traffic has decreased for both south bridges, but has increased for the Laredo-Colombia Solidarity Bridge.

There has been a general trend of decreasing POV traffic for both south bridges. POV traffic at the Laredo-Colombia Solidarity Bridge increased in consecutive years between 2004 and 2008 but then decreased also year by year between 2008 to 2011. The Gateway to the Americas Bridge and Laredo-Colombia Solidarity Bridge both witnessed their lowest northbound POV traffic of the past ten years in 2011, while Juarez-Lincoln Bridge's lowest point occurred in 2012.

As the primary commercial bridge for the Laredo MPO region, the World Trade Bridge has seen more increases in commercial traffic volumes. Since its opening in 2000, the bridge has served the Laredo MPO region well by taking commercial traffic away from the central city area. Far from the other more southern bridges, the Laredo-Colombia Solidarity Bridge, with its tolled state highway corridor, handles the least amount of overall traffic. At this bridge, except in 2008 and 2009, commercial traffic volumes have been higher than POV traffic in the past ten years.

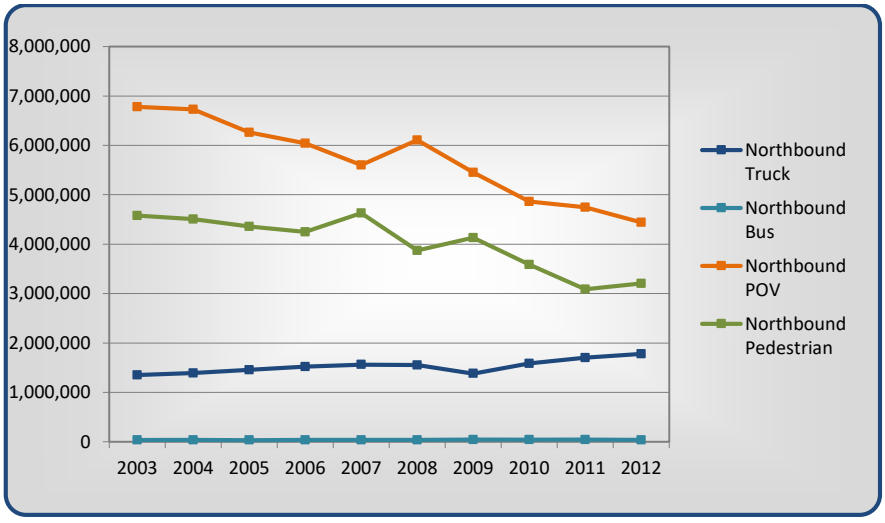
Figure 5-9 shows the distribution of truck, bus, POV, and pedestrian traffic for all bridge northbound crossings in 2012. Out of a total of 9.5 million northbound crossings, about 1.8 million were trucks, 38 thousand were buses, 4.4 million were privately owned vehicles and 3.2 million were pedestrians. **Figure 5-10** shows border traffic coming into the US from Mexico for all border crossings in the Laredo MPO region for years 2003 to 2012. In general, truck traffic has increased slightly over recent years, yet both POV and pedestrian traffic has decreased gradually.

Figure 5-~~9~~10: Total Bridge Crossings, 2012



Source: TxDOT International Relations Office and Laredo Bridge System

Figure 5-11~~10~~: Total Border Crossings, 2003 to 2012



Source: TxDOT International Relations Office and Laredo Bridge System

International Bridges

Border traffic at the international bridge crossings is a significant concern in the Laredo MPO region. In fact, according to the Laredo Development Foundation, the city of Laredo is the number one inland port on the US/Mexico border.

Within the State of Texas, there are 29 international border roadway crossings that join the United States and Mexico. Of these 29 roadway crossings, four of them are situated within the Laredo area:

- Gateway to the Americas (Bridge #1)
- Juarez-Lincoln Bridge (Bridge #2)
- Laredo-Colombia Solidarity Bridge (Bridge #3)
- World Trade Bridge (Bridge #4)

In addition, an international railroad bridge exists just west of the Juarez-Lincoln roadway bridge (Bridge #2).

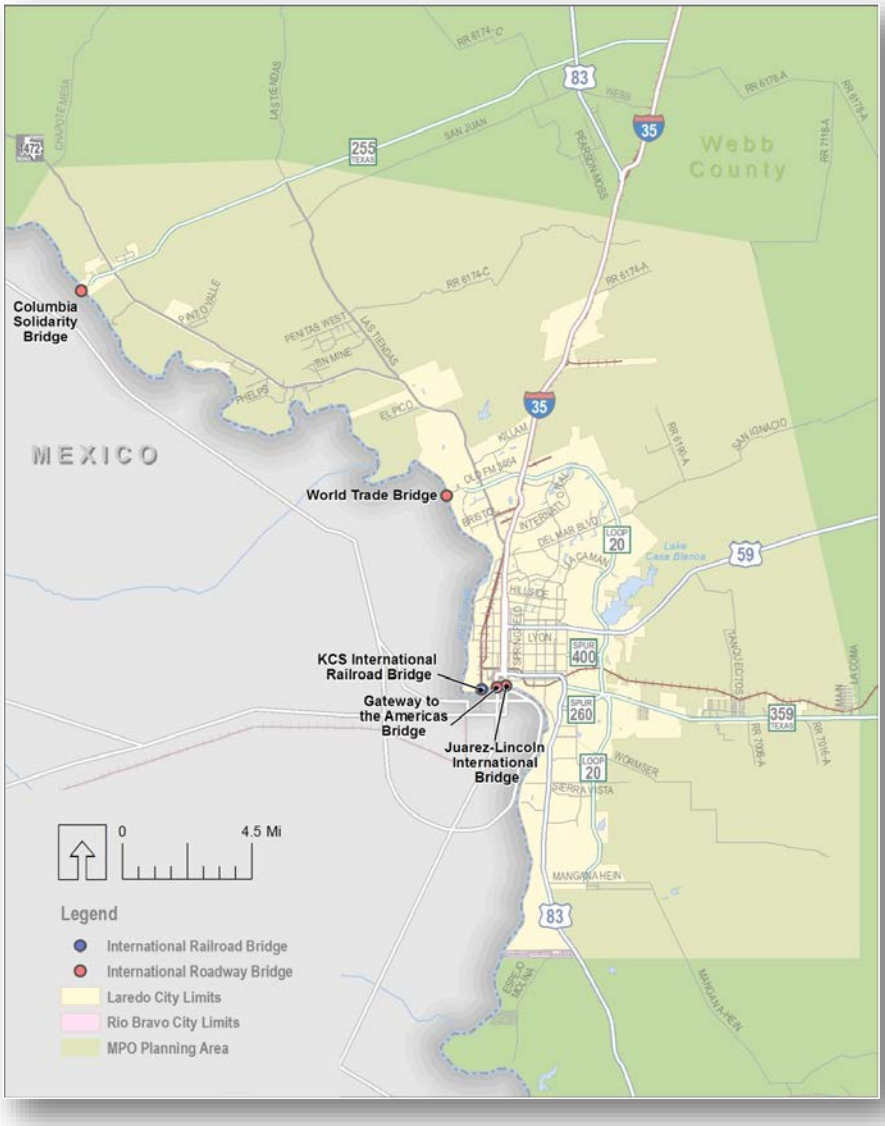
These crossings, shown in **Figure 5-11**, are not only important in terms of international trade and commerce, but also in terms of the overall movement and mobility patterns of the two countries and immediate communities on both sides of the international border. Clearly, these crossings play an important role on both a local and international scale.

Increased population and trade will continue to be a concern in the Laredo MPO region, and so the international border crossings must be able to keep up with user demands. Because of this, it is important to understand the existing conditions of the crossings in order to identify potential improvements of the infrastructure. The following subsections describe existing border crossing characteristics as well as historical traffic conditions.

All four bridges in the Laredo Bridge System, except for the Gateway to the Americas Bridge, offers a "Laredo Trade Tag" (LTT), which is based on an Automatic Vehicle Identification (AVI) system and enables both commercial and non-commercial customers an alternative form of toll payment. Also, the Laredo Bridge System operates a series of cameras located on each of the international crossings, which every few minutes takes pictures of traffic conditions. These pictures can be accessed online at http://www.cityoflaredo.com/bridgesys/Cameras/bridge4cam.html and provide bridge users with up-to-date information on traffic conditions and operations.

The Port of Laredo will receive nearly $62 million from the General Services Administration as part of the 2014 Appropriations bill passed by the U.S. House. The funding will be used for updating two of the Laredo's international ports of entry - Gateway to the Americas Bridge and Juarez-Lincoln Bridge. These updates will facilitate the process of permit processing and improve the vehicle traffic flow. At the Juarez-Lincoln Bridge, a bus terminal will be constructed to provide a better environment for bus passengers.

Figure 5-~~1211~~: International Border Crossings

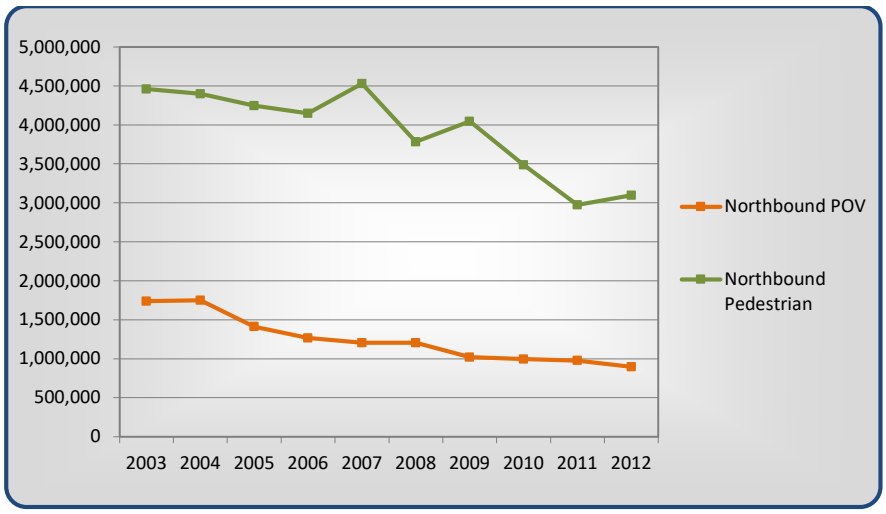


Gateway to the Americas (Bridge #1)

The Gateway to the Americas crossing, which is known locally as Bridge #1, is located in downtown Laredo on Convent Avenue near its intersection with US 83. The crossing is a tolled facility and handles privately owned vehicles (POV) and pedestrians. It is accessed southbound from Santa Maria Avenue and northbound via Convent Avenue. The City of Laredo owns the bridge facility while the General Services Administration owns the border station. The crossing is open 24 hours a day, seven days a week. The bridge itself is a four-lane facility with two lanes in each direction. Pedestrian accommodations occur on both sides of the bridge. The total length of the bridge is approximately 1,050 feet, and it operates 24 hours a day for pedestrians and POV. It was reconstructed in 1956 after being destroyed in 1954 by floods resulting from a hurricane in the Gulf of Mexico.

Figure 5-12 shows border traffic coming into the US and Mexico via the Gateway to the Americas Bridge in the past ten years (2003 to 2012). The bridge primarily serves as the main pedestrian crossing for the Laredo MPO region. For traffic of privately owned vehicles (POV) entering the U.S., there has been a general decline in traffic volumes between 2003 and 2012. Pedestrian northbound traffic is more than twice as much as non-commercial traffic, which also declined in the last ten years.

Figure 5-~~13~~12: Gateway to the Americas Bridge Crossings, 2003 to 2012



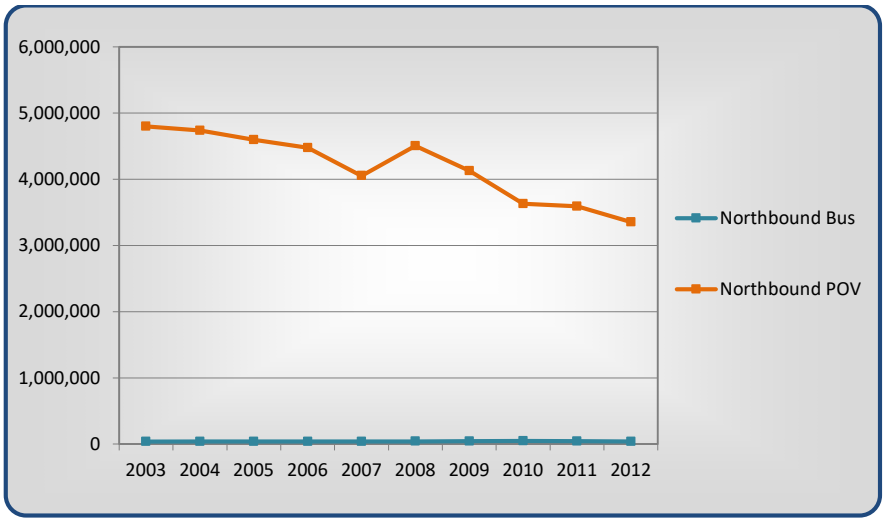
Source: TxDOT International Relations Office and Laredo Bridge System

Juarez-Lincoln Bridge (Bridge #2)

The Juarez-Lincoln Crossing, known locally as Bridge #2, is a POV and buses only bridge. The crossing is tolled and is located in downtown Laredo on San Dario Avenue near its intersection with US 83, at the beginning of Interstate 35. Santa Ursula Avenue carries southbound traffic toward the crossing, while northbound traffic uses San Dario Avenue. The bridge is open continuously, 24 hours a day, seven days a week. The bridge itself is an eight-lane facility, four lanes in each direction, and has a non-commercial Automatic Vehicle Identification dedicated lane. The length of the bridge is approximately 1,010 feet and operates 24 hours a day for POVs. Intelligent traffic systems (ITS) are deployed on the northbound and southbound approaches to the bridge on the US side of the border. The bridge became operational in 1976 and is owned by the City of Laredo. The border station was completed in 1982 and is owned by the US General Services Administration.

Figure 5-13 shows border traffic coming into the US and Mexico via the Gateway to the Americas Bridge for the years 2003 to 2012. Compared with the other border crossings, the Juarez-Lincoln Bridge handles the most POV traffic. However, this traffic has been significantly decreasing over the past ten years.

Figure 5-~~14~~13: Juarez-Lincoln Bridge Crossings, 2003 to 2012



Source: TxDOT International Relations Office and Laredo Bridge System

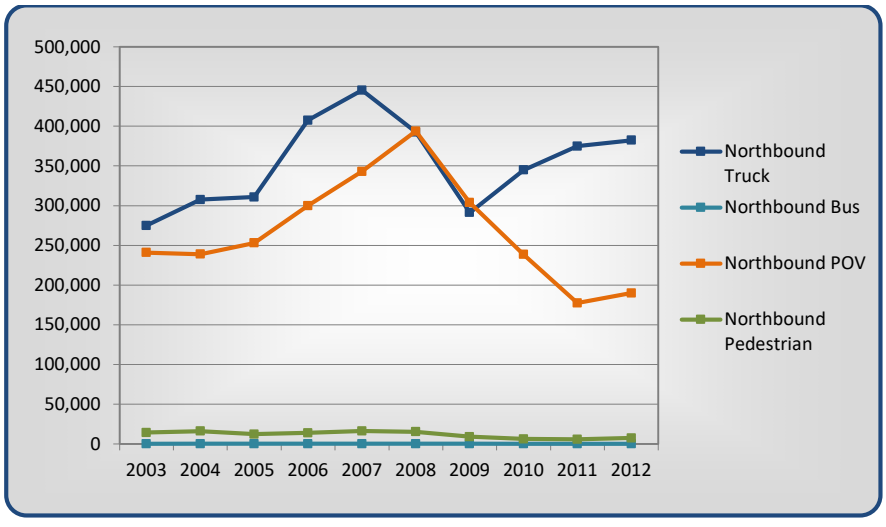
Laredo-Colombia Solidarity Bridge (Bridge #3)

The Laredo-Colombia Solidarity Bridge is located on FM 255 near its intersection with FM 1472, locally known as Mines Rd. It was completed in the summer of 1991 and is approximately 1,215 feet long. The crossing is a tolled facility that handles both commercial and non-commercial vehicles, as well as pedestrian traffic. For commercial traffic the bridge is open from 9:00am to 10:30pm Monday through Friday, from 10:00am to 4:00pm on Saturday, and from 12:00pm to 4:00pm on Sunday. For non-commercial traffic, bridge open hours are from 8:00am to 12:00am, 7 days a week.

The eight-lane bridge is the designated crossing within the Laredo MPO region for transporting hazardous materials between Mexico and the US. The City of Laredo owns the bridge facility while the General Services Administration owns the border station.

Figure 5-14 shows border traffic coming into the US and Mexico via the Laredo-Colombia Solidarity Bridge for the years 2003 to 2012. Both inbound and outbound commercial traffic declined immediately following the events of September 11th. However, it has been gradually increasing since then. Pedestrian traffic, data for which is only available for incoming foot traffic, has stayed relatively constant over the past several years.

Figure 5-~~15~~14: Laredo-Colombia Solidarity Bridge Crossings, 2003 to 2012



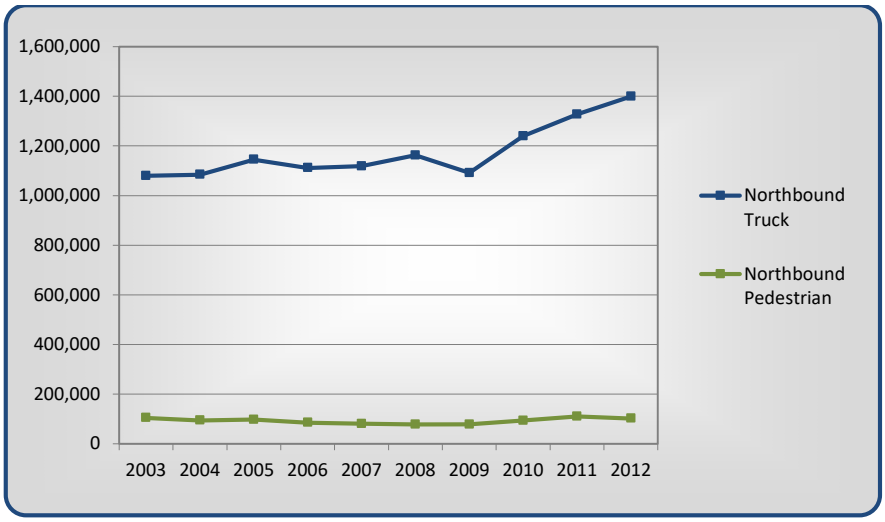
Source: TxDOT International Relations Office and Laredo Bridge System

World Trade Bridge (Bridge #4)

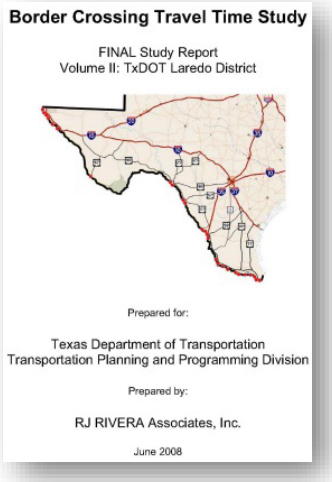
The World Trade Crossing is located on Loop 20 near its intersection with FM 1472, locally known as Mines Rd. This eight-lane bridge is open to commercial vehicles only. The bridge is not intended for pedestrian traffic; the number of pedestrians crossing northbound from Mexico to the U.S. are actually the accompanying passengers other than the driver from freight trucks. The bridge and border station opened on April 15, 2000. The City of Laredo owns the bridge facility while the General Services Administration owns the border station. The tolled bridge has eight-lanes and is approximately 975 feet in length. It is the busiest international bridge in Texas, carrying over one-third of inbound trucks.

Figure 5-15 shows border traffic coming into the US from Mexico via the World Trade Bridge for the years 2003 to 2012. In particular, the World Trade Bridge serves as the primary commercial vehicle bridge in the region. From 2003 to 2012, commercial traffic in both directions has risen slightly. The hours for commercial traffic are from 8:00am to midnight Monday through Friday, from 8:00am to 4:00pm on Saturday, and from 10:00am to 2:00pm on Sunday.

Figure 5-~~16~~15: World Trade Bridge Crossings, 2003 to 2012



Source: TxDOT International Relations Office and Laredo Bridge System



Border Crossing Issues

A ~~June,~~June 2008 TxDOT Border Crossing Travel Time Study report was produced to document the existing needs and conditions at each border crossing in the Laredo District and to assess short-term improvement alternatives for the roadways in the vicinity of the border crossings.

For the four international border crossings in the Laredo MPO planning area, the study found that the main factor affecting the flow of traffic for these crossings was Port of Entry (POE) operations. While these operations are necessary, they are out of the hands of state jurisdiction. The study found that TxDOT would be most effective by regularly monitoring traffic conditions and implementing short-term improvement projects. Bridge-specific highlights of this study are shown in **Table 5-5**.

Table 5-5: Short-term Border Crossing Improvement Recommendations

Gateway to the Americas Bridge	*Juarez-Lincoln Bridge*
Issues: Safety concerns in relation to lane assignment confusion over the Automatic Vehicle Identification (AVI) lane **Recommendations**: synchronizing traffic signals, installing ITS devices, and improving or adding signs to indicate lane assignments	**Issues**: Conflicts of turning movement and lane assignments; absence of pavement markings and signage **Recommendations**: synchronizing traffic signals, installing ITS devices, improving or adding signs to indicate lane assignments, installing dual left-turn lanes at problem intersections, and restriping of lanes
Laredo-Colombia Solidarity Bridge	***World Trade Bridge***
Issues: Port of Entry (POE) configuration, internal circulation, and outdated facility layouts. FM 255 and FM 1472 turning movement safety issues and traffic queues at the inspection facility **Recommendations**: adding a traffic signal at FM 1472/FM 255 intersection, lane striping, improving/adding signage, adding a right-turn lane for traffic entering the facility, and increasing the acceleration lane for commercial trucks exiting the facility	**Issues**: mixing of commercial traffic types, capacity inadequacies, the lack of an adequate amount of inspection booth **Recommendations**: improving traffic signal phasing and timing at certain key intersections and improving/adding signs to the immediate area surrounding the border crossing

Source: TxDOT Border Crossing Travel Time Study, June 2008

The signal synchronization of the intersections in the downtown area was improved with ITS signal upgrade in 2012 and the dual left turn lane configuration has been added to approaches of Victoria Street eastbound to San Dario Avenue near Juarez-Lincoln Bridge to accommodate high volumes of left turn traffic. The proposed recommendations, such as installing ITS devices, are currently considered as future improvements.

Roadway Plan

A hierarchical roadway system provides the primary foundation for a comprehensive, multimodal transportation environment. Roadways are utilized by nearly everyone and enable movement for nearly all modes of travel, including walking, biking, driving, and transit, as well as the movement of freight by commercial vehicles.

The Laredo MPO region is not unlike most parts of the United States in that driving a personal automobile is the dominant form of transportation. While the city remains compact and densely developed, which typically results in shorter trips, the region has experienced longer commute times, growth in vehicles miles traveled, and a rise in levels of congestion.

In light of these issues, the Laredo MPO is driven to accommodate future growth and vehicular mobility. During the outreach efforts conducted during the development of this plan, the transportation issues cited as most important were improving travel times, reducing congestion, increasing the overall safety of the transportation system, and increasing economic development. Other suggestions for the specific issues that were mentioned included:

- Providing more overpasses at major intersections on Loop 20 to avoid congestion;
- providing for grade separations at intersections with railroads to avoid trains blocking traffic;
- increasing the number of north-south corridors to distribute traffic over more roadways;
- improve traffic light timings because currently many traffic lights cause travel delay;
- transit-oriented development and walkable communities should be a priority

Although it is unrealistic to expect that personal vehicles will not continue to be the dominant form of transportation, some people can be optimistic about opportunities to nurture the growth of alternative transportation modes. Many comments from the public meetings address the needs for more alternative modes, such as transit, walking, and bicycle. More well-connected bike lanes, a better walking environment, and a more convenient transit system are anticipated. As such, local governments should address public opinion that not only increasing mobility for personal vehicular transportation is important, but also providing attractive community design and broader travel options to elicit an improved quality of life.

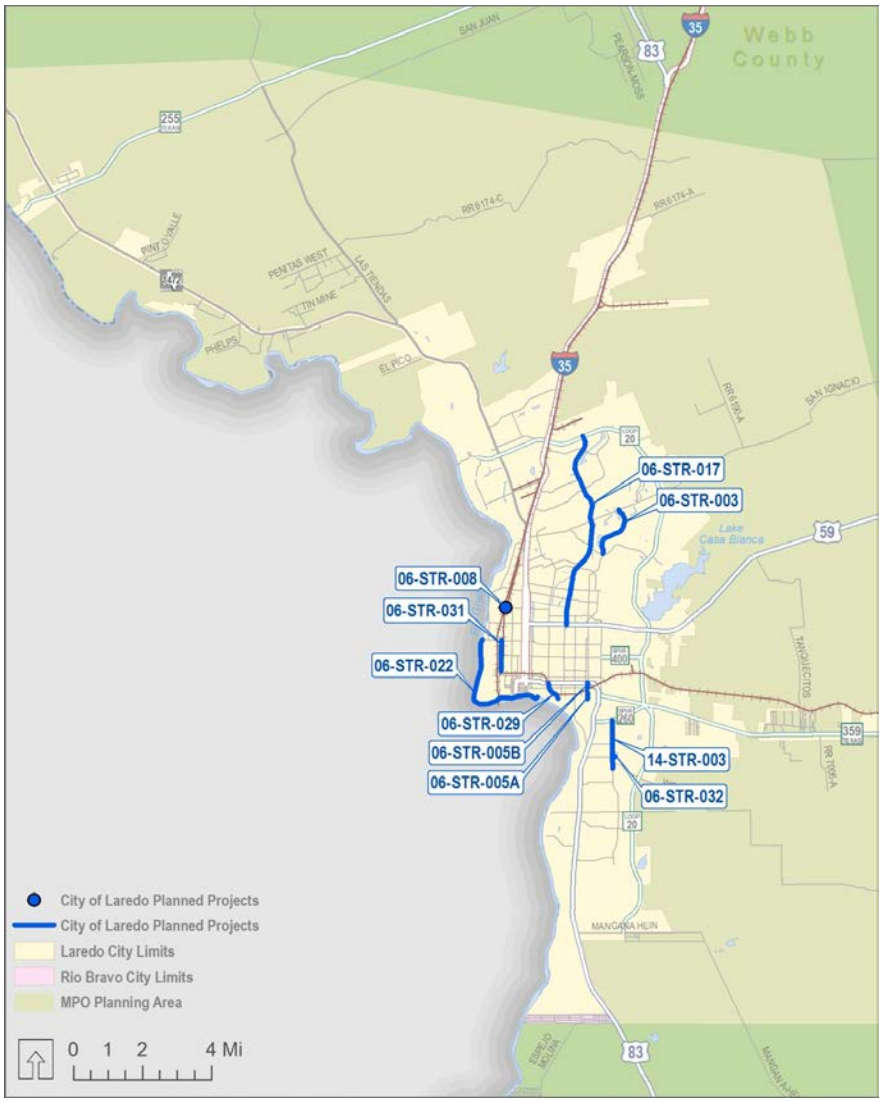
City of Laredo Planned Projects

In order to identify what improvements to the roadway system will be in the near future, this section discusses the locally planned projects identified form the City of Laredo's 2014-2018 Capital Improvement Program (CIP). The CIP has a five-year planning horizon and is updated annually. It documents capital projects of new construction and improvements to streets, bridges, parks, drainage, water/wastewater. Federally funded projects are discussed in Chapter 12. **Table 5-6**: City of Laredo Planned Roadway Projects lists the information of the roadway capacity related CIP projects and **Figure 5-16** illustrates the locations of these projects.

Table 5-6: City of Laredo Planned Roadway Projects

Year	*ID*	*Roadway*	*Limits*	*Description*	*Total Cost*
2016	06-STR-003	Bartlett Ave	Jacaman Rd to Del Mar Blvd	Extend existing 4-lane roadway	$5,530,000
2015	06-STR-005A	Bartlett Ave	Guatemozin St to Chacon St	Construct various street improvements, including drainage and bridge	$8,500,000
2016	06-STR-005B	Bartlett Ave	Market St to US 83	Construct various street improvements, including drainage and bridge	$17,000,000
2016	06-STR-008	Railroad	At Chicago St	Construct railroad crossing for pedestrians	$1,970,000
2016-2017	06-STR-017	McPherson Rd	Saunders St to Loop 20	Construct median	$601,000
2016-2017	06-STR-022	Along Rio Grande River	Jefferson St to Santa Isabel Ave and Santa Ursula Ave to Zacate Creek	Construct 2-lane scenic road	$2,266,000
2016	06-STR-029	Springfield Ave	Chihuahua St to Tilden Ave across Tex-Mex railroad yard	Extend existing 2-lane roadway	$345,000
2017	06-STR-031	Vidaurri Ave	Scott St to Jefferson St	Construct various street improvements, including drainage, striping, sidewalks, and street lighting.	$1,508,000
2016	06-STR-032	Zacatecas St	Ejido to Las Americas Subdivision	Extend existing 2-lane roadway	$329,000
2014	14-STR-003	Ejido Ave	Jaime Zapata Hwy to Potomac Loop	Widen from 2 lanes to 4 lanes	$16,833,122

Figure 5-~~1716~~: City of Laredo Planned Roadway Projects



Roadway Construction

As the Laredo MPO region plans for and evaluates the needs for transportation infrastructure over the next 25 years, it is clear that continued growth and development pressures and increasing travel demands will be placed on the existing roadway network. Roadway construction and other improvements are therefore needed in order to increase capacity and mobility. Even if enhancements are made for alternative transportation modes, an increased usage of bicycling, walking, and transit would not substantially reduce the need for additional roadway capacity improvements, given that the region is expected to double in size over the next 25 years.

However, there are limitations to new roadway construction and additions to existing roadways. Natural and man-made barriers exist, for instance, that hinder the construction of roadway improvements. Additionally, traditional methods of building new roadways or adding new lanes to existing thoroughfares often cannot be done fast enough to meet the future mobility needs of a region. Further, adequate funding resources are simply not available to implement such expensive solutions to resolve all existing and future deficiencies in the roadway system.

Therefore, apart from enhancing infrastructure for alternative modes of transportation and promoting a variety of traveling options, other strategies must be implemented in order to provide for future transportation needs and acceptable levels of service. These strategies and best practices include system preservation, travel demand management, transportation system management, and considerations for land use and urban design.

Best Practices and Strategies for Roadway Improvements

Commented [GRJ4]: Updated to include references to new planning factors: resilience and reliability and reduce/mitigate stormwater impacts as required by the FAST Act.

The Laredo MPO region has an extensive transportation infrastructure that is an indispensable asset to the regional economy. This infrastructure represents a large investment over many years and is relied upon by residents, visitors, and the business community to provide reliable transportation service. This long-term plan must succeed at preserving, maintaining, and improving the operational efficiency and resiliency of the transportation system. The most effective use of limited transportation resources is to direct them towards the following:

- Preserving resiliency and reliability of existing facilities ~~by~~ and maintaining a state of good repair
- Promoting alternative programs and modes of transportation through travel demand management
- Utilizing transportation system management strategies to improve mobility, accessibility, and operational efficiency
- Adopting land use and urban design elements that are more appropriate for a multimodal transportation environment

Safety and security, along with resiliency of the transportation system are also important factors that were integrated into the planning process. More details on these plans, policies, and initiatives are discussed in Chapter 11.

System Preservation and Resiliency Programs

In recognition of the considerable investment in the transportation system, preserving existing facilities and proactively addressing resiliency and reliability of the transportation system is an important priority and guiding principle of the Laredo MPO. Bridge and roadway deterioration is closely related to use, especially by heavy trucks, which make up a significant component of regional traffic volumes. Adequate resources must be directed toward preservation efforts to continue to meet the challenge of keeping the transportation system in good condition.

Roadway Maintenance

With increasing traffic volumes, aging highways and bridges, and budgets that cannot keep up with demands, transportation agencies face a growing number of challenges. The implementation of an effective roadway maintenance program requires expertise in management, engineering, and economics, and encompasses routine/corrective

maintenance, preventive maintenance, and rehabilitation activities.

Roadway pavements require continual reinvestment to sustain their structural viability and to maximize the original financial investment made to build them. Roadways that lack proper maintenance experience increased failure rates, cause increases in costs overall, and contribute to safety hazards and property loss.

Roadway maintenance activities can be generally categorized into three areas:

- **Routine** - These activities are undertaken on a regular, ongoing basis and can be grouped into cyclic and reactive works efforts. Cyclic works are those undertaken on a regular pre-defined schedule, such as mowing, while reactive works are those undertaken in response to any deficiencies that may arise, such as pothole repairs.
- **Preventive** - These are projects undertaken at regular, somewhat longer intervals to preserve the structural integrity and resiliency of a road, such as crack sealing.
- **Special** – The activities include emergency work to repair unexpectedly damaged roads.

In the Laredo MPO region, TxDOT's Maintenance Division oversees the preservation, upkeep and restoration of all state-owned roadways. One of the five TxDOT budget categories, "Maintain It," focuses on preventive maintenance and rehabilitation. The goal of the "Maintain It" funds category is to minimize the costs over time of managing and maintaining the transportation system. These funds are used to preserve the structural integrity of transportation facilities and for some safety improvements. Work under this category includes reconstruction, resurfacing, signing, striping, and other routine or periodic maintenance.

The City of Laredo and Webb County undertake street maintenance and rehabilitation responsibilities of all non-state-owned roadways, which represent about 78 percent of the area's roadways. Through scheduled routine maintenance, department staff and contractors fill potholes, mow the grass, clean out ditches, and perform other routine preventive maintenance activities. Both the city and county maintain Capital Improvement Programs, which include roadway paving, resurfacing, and reconstruction projects.

Pavement Management

TxDOT monitors the surface condition of all of its roadways in a Pavement Management and Information System (PMIS). Road conditions are rated on a five-class scale from "very poor" to "very good" that takes into account factors

that include the smoothness of the ride and the structural integrity of the roadway. TxDOT in 2002 set its goal of having 90 percent of its roads rated as "good" or better by year 2012. In order to meet this goal, much of the state's transportation funds were directed towards system preservation and maintenance. According to the PMIS Annual Report FY 2008-2011, 86.66 percent of roadways in Texas were rated as "good" or better in 2011. It is an improvement over 84.22 percent in 2002 when TxDOT set its 10-year goal. Continuous funds for preservation and maintenance will be spent to improve the roadway conditions.

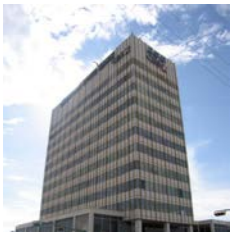
Stormwater Management

As the Laredo MPO area continues to grow and transportation infrastructure keeps pace with development, more and more impervious surface will cover the area. Reducing or mitigating the impacts of stormwater from the impervious surfaces of transportation infrastructure becomes increasingly important to protect and enhance both the built and natural landscapes. TxDOT has taken steps to reduce the impact of stormwater pollutants on bodies of water through the *Stormwater Management Plan (SWMP)*. The SWMP provides minimum control measures and best management practices to implement programs, controls, and activities intended to reduce the discharge of pollutants in stormwater from reaching bodies of water. More locally, the City of Laredo Environmental Services Department provides the *Storm Water Management Guidance Manual* detailing best management practices for day to day activities and infrastructure intended to reduce and mitigate the impacts of stormwater runoff.

Bridge Maintenance and Rehabilitation

Bridges also require scheduled maintenance and inspection to ensure they can continue to safely carry increasing traffic volumes and higher numbers of loaded trucks. The SAFETEA-LU Technical Corrections Act, enacted June 6, 2008, changed the Federal Highway Bridge Replacement and Rehabilitation Program to the Highway Bridge Program and placed greater emphasis on the importance of proper and timely bridge preservation. Highway Bridge Program funds were used for replacement, rehabilitation, painting, performing systematic preventive maintenance, and seismic retrofitting to eligible bridges. The MAP-21 Act reconstructed core highway formula programs. Highway Bridge Program, along with other major programs, was incorporated into new core formula programs, such as National Highway Performance Program (NHPP), Surface Transportation Program (STP), and Highway Safety Improvement Program (HSIP). These remain under the FAST Act.

Based upon structural assessments, TxDOT determines condition ratings for bridges in the Laredo MPO region. The overall structural rating is based on the condition rating of superstructure, substructure, and inventory rating. The ratings contain integer 0 and 2 through 9, with 9 representing the best condition and 0 meaning the bridge is closed. A rating of 3 means the bridge requires corrective action, and 2 shows that the bridge



requires replacement. The rating of 4 through 8 represents different levels of conditions of the bridge while the bridge meets minimum criteria. These bridge condition ratings provide methods that enable TxDOT to make informed decisions about where and how to spend funds for bridge replacement and rehabilitation. In Laredo, none of the rated 177 bridges requires rehabilitation or replacement, but the Laredo MPO will continue to support funding the preventive maintenance of the region's bridges based on the bridge condition information.

Travel Demand Management

With any good or service, a balance is typically achieved between supply and demand. For roadway transportation, the "supply" consists of all public roads that enable travel between origins and destinations, while the "demand", of course, is people's mobility requirements which are evidenced by their travel patterns. As previously discussed, simply increasing the "supply" alone is not a sustainable strategy. Travel demand management (TDM) seeks to improve system performance by decreasing or shifting the demand for travel, primarily for those trips made by single-occupant automobiles. TDM strategies are effective in influencing travel patterns and behavior, increasing vehicle occupancy, promoting and encouraging alternative transportation modes, and redistributing the timing of trips to reduce traveling peaks, thereby reducing the overall demand on the transportation system.

The following list of TDM strategies could be of benefit to the Laredo MPO region:

- **Telecommuting and Flexible Work Schedules** – With today's communications technology, it is quite feasible and practical to work at or closer to home. This is an excellent tactic in reducing the number of vehicles on the road. Additionally, other flexible work options which enable employees to shift their work schedules to earlier or later parts of the days spreads out demand for travel, thereby reducing congestion.
- **Ridesharing** – Carpool, vanpool, and other ride-share programs result in fewer single-occupancy vehicle trips and less congestion on roadways. Carpools are typically informal, while vanpool programs are more likely to be a more formal agreement through a local transit agency. Park-and-ride lots can help to encourage not only public transit, but also both informal and formal ridesharing services.
- **Parking Management** – The cost and availability of parking can affect the choice of whether or not to drive a personal vehicle. Downtown areas and other employment centers are more likely to promote diversified transportation choices when parking is unavailable or too costly. Presently, the City of Laredo has an effective system of monitoring parking meters in their downtown areas.

- **Support for Transit** – Providing necessary support for transit ridership can be instrumental in encouraging people to use

alternative modes of transportation. People value their time and the convenience of a vehicle; therefore, transit should provide frequent service and be accessible to multiple origins and destinations. Specific programs to encourage transit use include employer-provided, tax-free transit passes, and guaranteed ride-home programs.

- **Support for Intercity Bus and Commuter Vanpools** – The availability of facilities that support intercity buses and commuter vanpools provides commuters across the MPO region the option of alternative modes to single-occupant automobiles. Intercity buses and commuter vanpools increase vehicle occupancy and help in reducing the overall travel demand of the transportation system.
- **Support for Bicycling and Walking** – Bicycle and pedestrian facilities that offer safe, accessible, contiguous, and direct pathways are most ideal for bicyclists and pedestrians and can take some of the burden off of the roadway network.
- **School Considerations** – Schools generate a substantial amount of vehicular traffic when parents drive their children to and from school. Children even living within close proximity to schools may not walk or bike to school because parents do not feel that the environment is safe to do so. Programs such as Safe Routes to School (SRTS) and the Walking School Bus (which provides chaperoned walks to schools), are effective in providing safe and accessible walking environments. Previously funded by the SAFETEA-LU, the SRTS Program makes funding available for a wide variety of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school. The current authorization bill ~~MAP-21~~the FAST Act does not provide specific funding for SRTS, but the SRTS programs and projects are eligible for Transportation Alternatives Program (TAP) and Surface Transportation Program (STP) funds. Better coordination between local governments and school districts can also help in selecting sites for new schools that are conducive to walking and bicycling.

Transportation System Management and Operational Efficiency

Transportation System Management (TSM) programs help to accommodate the safe and efficient movement of people and vehicles within the existing transportation system. They typically involve roadway improvements that increase capacity, optimize traffic operation, or apply traffic calming in residential areas. Furthermore, they generally may come at a relatively low cost, require minimal right-of-way, and often can be accomplished quickly. An example of a broad TSM program is the implementation of intelligent transportation systems (ITS) technologies. In particular, ITS can improve transportation safety and mobility and enhance efficiency through the integration of advanced communications technologies. The Laredo MPO recognizes the importance of best practices involving operational and management strategies for solving transport problems.

Intersection and Signal Improvements

Intersections are a significant component of traffic delay. The City of Laredo conducts traffic impact studies, signal warrant analyses, and traffic flow studies to improve the traffic operations at intersections throughout the city. Types of

intersection improvements include intersection channelization projects, signal upgrades, realignments, and interchange construction. The City of Laredo has kept coordinating with TxDOT to improve signal synchronization. In 2012, TxDOT completed the ITS signal upgrade for improved signal synchronization of the 56 intersections in the downtown area to improve traffic operations. The Laredo MPO will continue to work to enhance traffic operations in the region by funding intersection improvements on regionally significant roadways.

Intelligent Transportation Systems

Intelligent transportation systems (ITS) include a broad range of wireless and wire line communications-based information and electronics technologies. These technologies improve transportation mobility, safety, and security of the transportation system infrastructure. ITS technology is employed by various agencies in the Laredo MPO region. In 2003, a four county region including Webb, Duval, LaSalle, and Dimmit Counties, developed the Laredo Regional ITS Architecture and Deployment Plan with representatives from the City of Laredo, El Metro, Webb County, TxDOT, FHWA, US Border Patrol, and US Customs. This effort was a part of a TxDOT initiative to develop regional ITS architectures and deployment plans throughout the state for regions without ITS plans. In January of 2005, the City of Laredo developed an ITS Master Plan in order to identify current ITS components, ITS stakeholders and users of ITS technologies, as well as potential ITS projects and priorities.

South Texas Regional Advanced Transportation Information System (STRATIS)

STRATIS is the transportation management center administered by TxDOT's Laredo District and has been operational since February 2004. The mission of the program is "to provide best transportation and emergency management services through the use of our collective resources to maximize safety and mobility to the public". From STRATIS center, TxDOT has access to ITS implementations such as CCTV Cameras, Dynamic Message Signs (DMS), Highway Advisory Radio (HAR), and Video Image Vehicle Detection System (VIVIDS). TxDOT has also deployed nearly 30 miles of optic fiber cables around the City to provide communications to their roadside infrastructure. The deployed TxDOT optic fiber cables are on most of Loop 20 and Interstate 35 and several segments of US 59, SH 359, and FM 1472 within the Laredo MPO region. HAR is used by TxDOT to broadcast traveler information messages to drivers. DMSs provide up-to-date information about traffic flow conditions that helps drivers to make decisions about their trip. For instance, DMS boards on the I-35 southbound frontage road near Washington Street and Scott Street show the warning information of train obstruction

to drivers to help them make better travel ~~decisions..~~decisions. TxDOT also provides "Twitter" feeds about local traffic information. **Figure 5-17** illustrates the ITS deployments by TxDOT in the Laredo MPO region.

The STRATIS system is connected to the City of Laredo Transportation Management Center (TMC) to share CCTV camera feeds and control. This connection also allows the City of Laredo TMC to view messages that have been placed on the DMSs. TxDOT has also provided monitors to the City of Laredo 911 Dispatch Center to provide CCTV camera images to the center. The STRATIS center assists the local law enforcement agencies in detecting and responding to traffic incidents or any emergency incidents. These centers enable better communication and response times resulting in faster clearing of incidents, improved mobility and air quality, and reduced risk of further incidents.

Laredo Transportation Management Center

The City of Laredo Traffic department hosts the Transportation Management Center, which monitors the traffic operations on city-owned roads. The TMC controls 210 of the 248 city-maintained signals throughout the city and 10 CCTV cameras. Some of these cameras serve on an as-needed basis. Additional CCTV cameras can be installed on other locations if necessary. The city's Traffic Department has been working to deploy and operate ITS technology to address the growing demand on its transportation system. The department has currently deployed CCTV cameras on arterial streets, synchronized traffic signal systems, and improved vehicle detection capabilities. The locations of the city's ITS cameras are shown in **Figure 5-18**.

Figure 5-~~18~~17: TxDOT ITS Deployment

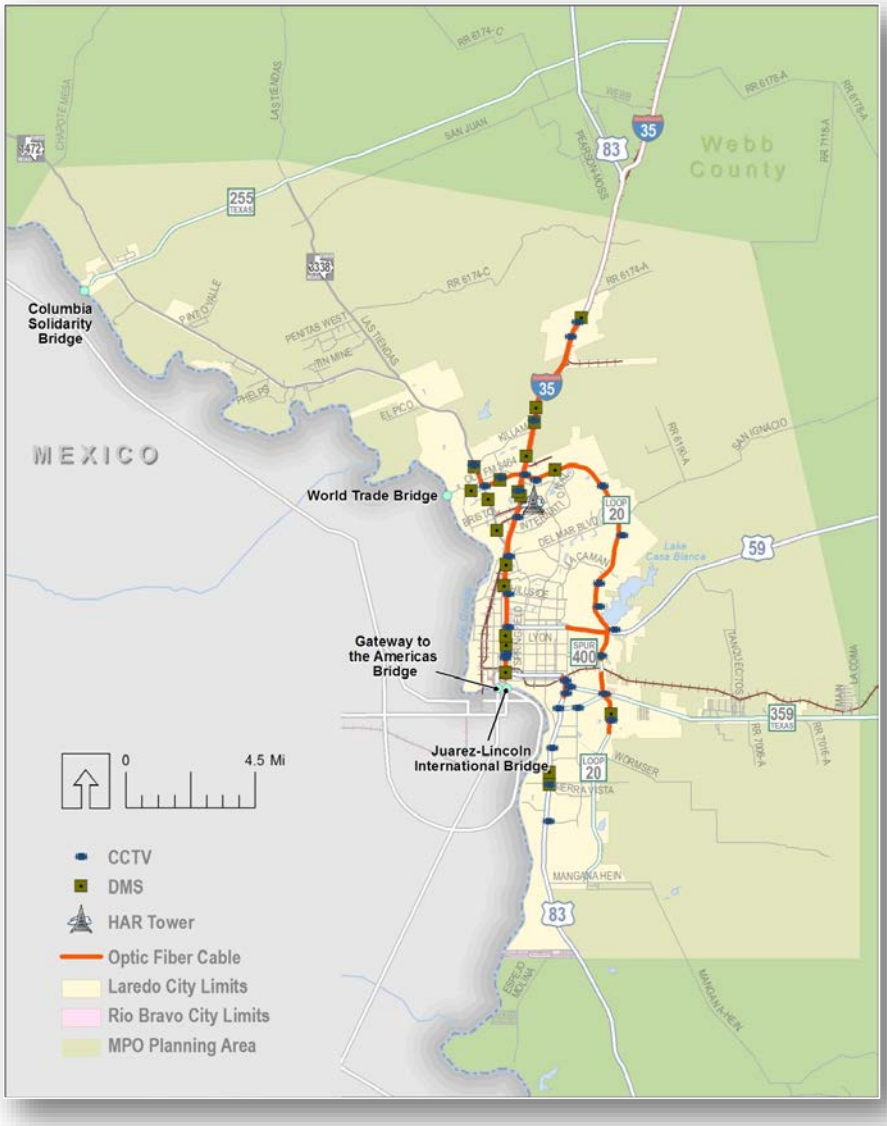
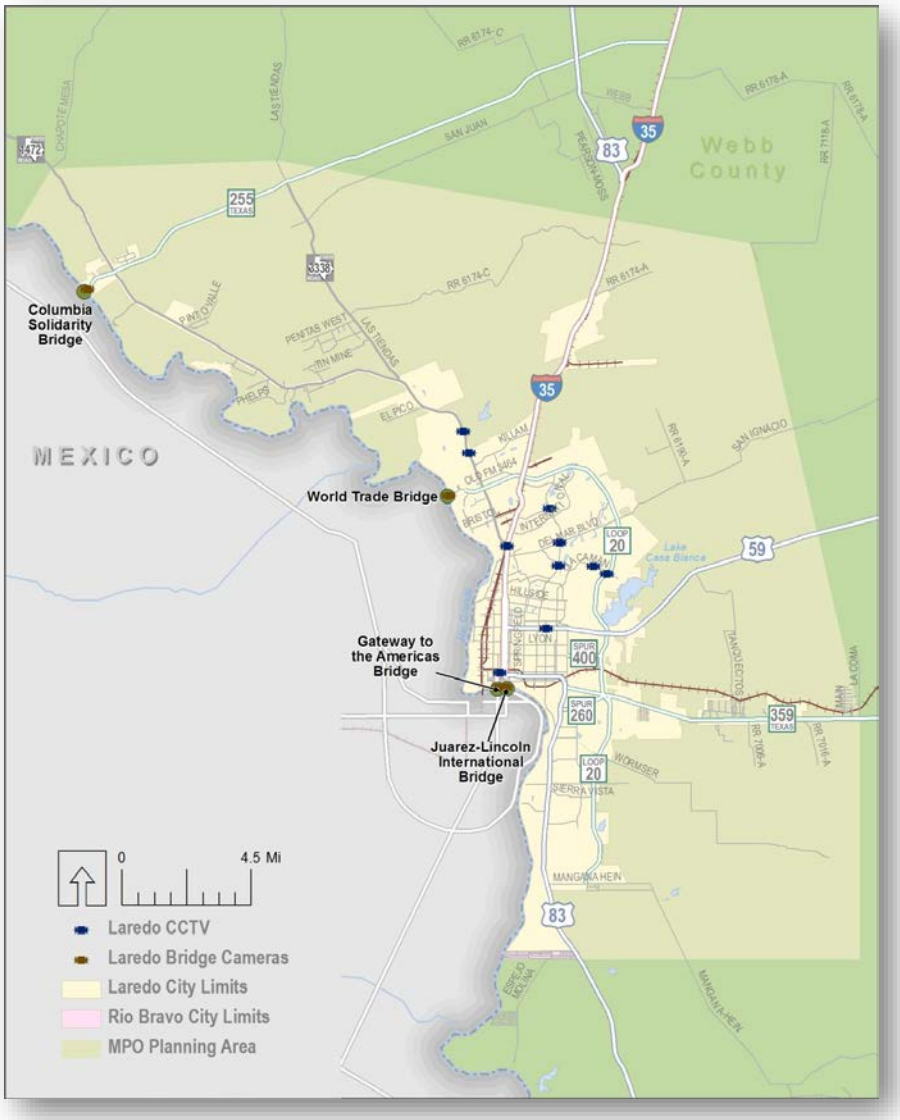


Figure 5-~~19~~18: City of Laredo ITS Deployment



The city of Laredo has implemented ITS solutions for traffic signals in the downtown area. ITS elements include new traffic signal control equipment and communication devices, video monitoring devices at major intersections, and dynamic message signs at major arterials, all of which will be operated from the TMC.

The city is currently experimenting a vehicle detection sensing system which utilizes a 3''x3''x3'' wireless devices to collect traffic information as a potential replacement over the traditional inducting loop and video detection. It could be a more accurate and cost effective way to collect traffic information on arterials in the city.

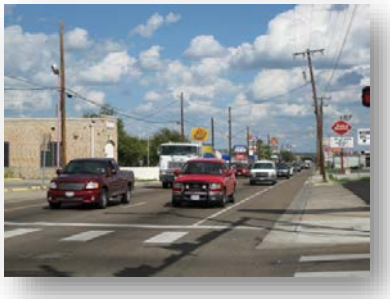
International Bridges

The City of Laredo Bridge Department along with the General Services Administration (GSA) operates and manages four international bridges within the City of Laredo. Tolls for bridge crossing are collected in the form of cash, swipe cards, or automated vehicle identification (AVI) transponders. The city has installed Automatic Vehicle Identification (AVI) system at all bridges which identifies the vehicle automatically and deduct the proper toll amount from a pre-set account for toll collection. The AVI operates using an electronic sticker tag placed on the windshield inside the vehicle. As vehicle pass through the bridge, an overhead antenna reads the tag and automatically debits the correct toll amount from the prepaid AVI account of the user. All bridges are also equipped with CCTV cameras that transmit images to the Bridge Department and are also displayed on the Bridge Department's website for public access. Weigh-in-motion devices were also recently installed on Bridges III and IV, improving inspection operations at those crossings.

Several recently completed projects help improve the efficiency and security of border crossing through the international bridges. For instance, Multi-Protocol Reader System (MPRS) at all bridges is capable of reading different systems of tags; Digital Video Audit System (DVAS) at all bridges improves monitoring the border crossing activities; and Access Control System at all bridges is a system that controls access to and within the buildings, such as doors and gates. Future projects include the continuous upgrade to the toll collection system and weight-in-motion devices.

Traffic Calming

Traffic calming efforts can include an array of programs, such as traffic law enforcement, public awareness and educational programs, as well as physical measures, which calm traffic flows and encourage safer roadways. In terms of transportation management, this usually includes a variety of infrastructure improvements that reduce the negative effect of vehicle use and improves conditions for non-motorized transportation. Further, these strategies can be effective in eliminating cut-through traffic on local or neighborhood streets. Some examples of traffic calming techniques utilized in transportation management include speed humps, roundabouts, traffic circles, and raised medians or islands that limit vehicular access and turning capabilities. The city of Laredo has employed various traffic calming techniques and will continue to do so as the need for such measures arises.



Access Management

Another technique to improve mobility and alleviate congestion is access management. In essence, access management includes a broad set of techniques designed to improve roadway capacity, mobility, and safety by limiting the accessibility of vehicular traffic. This is accomplished by inhibiting the amount of conflict points, separating them, and removing turning vehicles and traffic buildup from through-vehicle movements. The techniques usually control and regulate the location, spacing, and design of driveways, medians, median openings, traffic signals, and freeway interchanges. Furthermore, when combined with streetscape improvements, access management techniques can also contribute to attractive multimodal environments. Medians, for instance, can offer space for street trees while also limiting vehicular access and providing a safe refuge for pedestrians crossing roadways.

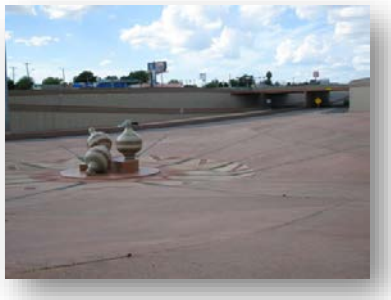
Land Use and Urban Design Considerations

How a city is planned in terms of the types of land uses has a direct effect on how the transportation system is developed. This is also true for how the transportation system is planned and how it can affect future land use. For instance, new or improved transportation infrastructure, combined with other services, enables a community to extend into new

areas of development. Therefore, promoting smart and integrated land use and transportation development planning policies is vital for the overall health of a region.

A few best practices in integrating land use and urban design considerations with transportation systems include the following:

- **Grid street pattern** – A road system best serves the transportation needs of a region in a hierarchical, grid-like street pattern. A hierarchical structure of major thoroughfares, arterials, collectors, and local roads in a grid-like pattern more evenly distributes traffic volumes over multiple roads. Further, it offers more direct travel options and connectivity for vehicles as well as transit, bicyclists, and pedestrians. An ideal street network would consist of complete blocks and road segments with design elements catering towards multiple modes of travel. Many of the older sections of the city have this foundational structure.
- **Complete Streets** – This concept seeks to convert roadways from auto-centric thoroughfares into people or community-oriented streets that accommodate the safe and efficient movement of all transportation users. The complete street principle includes design enhancements such as medians, street trees, and bike lanes set in an attractive, urban scale environment. The San Bernardo project is one example of the Laredo MPO pursuing a complete street concept in that it is planned to be a "linear transit hub."



- **Context Sensitive Solutions** – Context sensitive solutions are concerned with involving all stakeholders and design professionals in a collaborative way to develop a transportation facility that not only provides for safety and efficient mobility for transportation users, but also blends into its physical and cultural context and preserves historic, natural, and other existing environmental resources. This type of approach focuses on considering the total context and community setting of transportation improvement projects.
- **Corridor Preservation** – Presently, the city of Laredo has identified major existing and future transportation corridors in the region within its thoroughfare plan. This is necessary in order to preserve future right-of-way and ensure a continuing and connected roadway system for future use.

The *Highway Safety Manual* by the American Association of State Highway and Transportation Officials (AASHTO) and the *Urban Street Design Guide* by the National Association of City Transportation Officials (NACTO) are referenced when the MPO seeks guidance on design criteria and standards. The Urban Street Design Guide provides a toolbox of the tactics and design criteria that cities can use to encourage safer, more livable, and economically thriving streets. The Highway Safety Manual provides information, techniques, and methodologies to quantify the safety-related effects of transportation decisions. Both manuals have been endorsed by TxDOT.

Travel and Tourism

The Laredo MPO area attracts tourists to see and experience the unique cultural, historical, recreational, and environmental assets within the area. Incorporating these assets into the planning process ensures the develop of smart transportation solutions that will enhance a visitor's experience, reinforce the local economy, improve resident travel, and protect the environment.

In order to incorporate travel and tourism into the planning process, the Laredo MPO has sought input and consultation with agencies and officials responsible for tourism as part of the updated 2017 Public Participation Plan. Officials representing travel and tourism interests have been identified and documented as part the Interested Parties contact list that the MPO maintains. The South Texas Economic Development Corporation was also included as an MPO technical committee member in the development of this MTP.

Special Issues

A variety of unique transportation issues exist within the Laredo MPO planning area. In terms of roadways, some of the more compelling issues are the future of the Interstate 35 and Interstate 69 corridors, the large number of at-grade railroad crossings present in the inner parts of the city, and the potential for a fifth international bridge.

Interstate 35 and Proposed Interstate 69

There is little doubt that statewide mobility improvements are needed to keep pace with current and future demand. While the Trans-Texas Corridor concept has been formally abandoned, issues related to statewide mobility are still of primary concern.

Source: I-69 Advisory Committee, 2012

In Texas, Interstate 35 carries a high volume of traffic, especially commercial trucks. Interstate 69 is a planned 1,600-mile national highway serving the United States between Texas at the border of Mexico and Michigan at the border of Canada. Eight states are involved in the project. In Texas, the proposed I-69 study area extends from Texarkana/Shreveport to Mexico. It is expected to be a critical artery for moving agricultural, energy, and industrial exports through the nation and across the border. In Laredo, the current US 59 corridor and the segment of Loop 20 which is co-designated with US 59 will become I-69 in the future once the facilities are improved to interstate standards.

Back in March 27, 2008, the Texas Transportation Commission approved Minute

Order #111294. This minute order created the I-35 and I-69 Corridor Advisory Committees to assist the Texas Department of Transportation in the transportation planning process for these two corridors. The purpose of these committees is to facilitate and achieve consensus from affected communities, governmental entities, and other interested parties in the planning of transportation improvements within these corridors.

In providing advice and recommendations, the advisory committees are required to evaluate economic, political, societal, and demographic population trends. Based upon those evaluations, they will consider solutions that range from upgrading the existing facility to constructing new facilities. The committees also consider multimodal solutions and help determine available financing options.

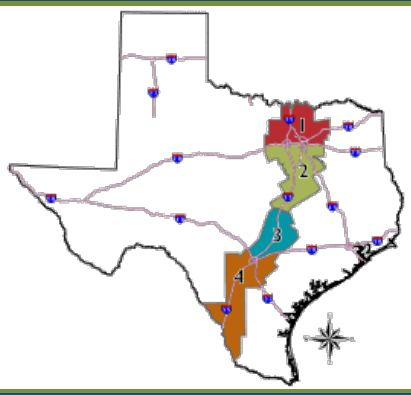
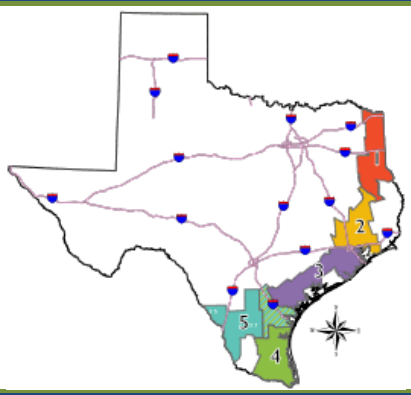
Corridor Advisory Committees

Both I-35 and I-69 have Corridor Advisory Committees that consist of 18 members from various jurisdictions along their route. In late 2008, both committees submitted "Citizens' Reports on the Current and Future Needs" of each corridor. These reports spell out the guiding principles and recommendations to consider for improvements to both corridors. In 2012, both I-35 and I-69 Corridor Advisory Committees submitted their updated reports. Recommendations for studies and projects and public outreach efforts have been made to push the projects forward and incorporate public opinion.

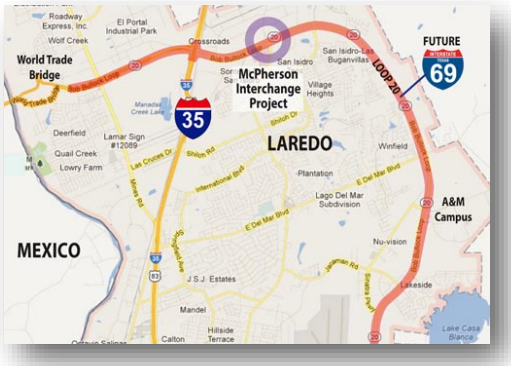
I-35 and I-69 Corridor Segment Committees

To better plan for these improvements and bring in more local input, TxDOT has set up a group of segment committees representing the I-35 and I-69 Corridors. Laredo has representation on two of these committees: the I-35 Corridor Segment Committee Number Four, which covers the corridor from San Antonio to Laredo, and the I-69 Corridor Segment Committee Number Five, which covers an eight-county area in south Texas. (**Figure 5-19**)

Figure 5-~~2019~~: I-35 and I-69 Segment Committees

I-35 Corridor Segment Committee Boundaries	*I-69 Corridor Segment Committee Boundaries*
	

I-35 Segment 4 Committee Membership		*I-69 Segment 5 Committee Membership*	
Counties		**Counties**	
Atascosa	Medina	Duval	Nueces
Bexar	Webb	Jim Wells	San Patricio
Frio	Wilson	Live Oak	Webb
Guadalupe	Zapata	McMullen	Zapata



La Salle			
MPOs		**MPOs**	
Laredo	San Antonio/Bexar County	Corpus Christi	Laredo
Cities		**Cities**	
Cotulla	San Antonio	Alice	George West
Laredo	Seguin	Corpus Christi	Laredo
Pearsall	St. Hedwig	Freer	Robstown
Other Organizations		**Other Organizations**	
Greater San Antonio Chamber of Commerce		Corpus Christi Chamber of Commerce	
Seguin Chamber of Commerce		San Patricio Economic Development Corp.	
South San Antonio Chamber of Commerce		Port of Corpus Christi	
Port of Laredo		Port of Laredo	
Texas Farm Bureau		Texas Farm Bureau	

These segment committees provide input regarding priority projects in their area, as well as advise TxDOT on the planning and development of those projects. These committees also have input on environmental studies for projects proposed for construction.

Recent Progress

Loop 20 was recently been designated as the future route of Interstate 69 in Laredo. As a major arterial in Laredo and a designated major truck route that provides connectivity between the busy World Trade Bridge and the major points including I-35 and rail and freight handling facilities on the north and east sides of the city, traffic volumes along Loop 20 have risen dramatically since its construction in 1995. The Laredo Energy Arena, Texas A&M International University, Laredo International Airport, and the Doctor's Hospital have all had a large impact on the loop's traffic volumes. With safety and congestion a growing concern, overpass and interchanges are needed at major intersections, much like the diamond interchange at US 59.

The majority of Loop 20 currently is a four-lane highway with at-grade intersections with crossing streets, but the Loop 20 freeway has been completed to connect the World Trade Bridge to I-35. Several intersection overpasses were built recently or are planned as the funding priorities to mitigate busy truck and passenger traffic and to pave a path for the

Source: The Alliance for I-69 Texas

future I-69 limited-access interstate freeway. The overpass at the intersection of Loop 20 and McPherson Road was recently opened in early 2014. TxDOT is currently constructing the interchange of Loop 20 and SH 359, which is part of the Cuatro Vientos project which will carry Loop 20 down into south Laredo to offer relief to the US 83 corridor. The existing section of Loop 20 between SH 359 and US 83 has been re-designated as Spur 260. An additional interchange at Clark Boulevard (Spur 400) is planned.

The I-69 Future Interstate Corridor signs have been placed in some segments of the current Loop 20. The TxDOT has developed a plan for upgrading Loop 20/US 59 to interstate standard from I-35 to US 59. In Phase 1, an interchange of Loop 20 and I-35 will be constructed and expressway main lanes east international Boulevard. In Phase 2, main lanes and interchanges will be built at Shiloh Road, Del Mar boulevard, University Boulevard, Jacaman Boulevard, and Airport Drive. Future funding sources are necessary for these projects to be completed.

Regional Mobility Authority

The Texas Transportation Commission approved the formation of a Regional Mobility Authority for the city of Laredo and Webb County on February 27, 2014. The new RMA will give the Laredo region the authority to finance, acquire, design, construct, operate, maintain, expand or extend transportation projects.

The initial board of directors shall be composed of nine members. Four directors will be appointed by the Webb County Commissioners Court; another four directors will be appointed by the city council of the city of Laredo; and the presiding officer will be appointed by the governor. Once the RMA is formed, the MPO will work together with the RMA in addressing the local transportation needs.

At-Grade Railroad Crossings

41 of the 47 roadway crossings of the Union Pacific railroad are at-grade, while ~~36~~ 31 of the ~~31~~ 36 roadway crossings of the KCS/Tex-Mex rail line are at-grade. While there is widespread concern over the safety and congestion related to at-grade railroad crossings in the region, it has been difficult to justify the full investment needed to address this issue given the frequent discussion of the possibility of both railroads relocating most of their railroad operations outside of the city. Nevertheless, the MPO identified its top dozen grade separation projects, and out of these ten the project of railroad grade separation on US 83 Guadalupe-Chihuahua between Monterrey Avenue on the west and Cedar Avenue on the east over the Kansas City Southern Railway (KCS)/ Texas Mexican Railway (Tex-Mex) was recently completed in 2013.

Fifth International Bridge

Growth in trade and related services coupled with dramatic economic and population growth on both sides of the border has increased border traffic on Laredo's four

international bridges and the existing railroad bridge. In response to this growth, the construction of a fifth international bridge crossing to accommodate continuing growth has been proposed. Moving forward, the city and county have pledged to work in partnership on the construction of this bridge, which remains a high-priority, long-term goal for the MPO.

CHAPTER 6

PUBLIC TRANSPORTATION

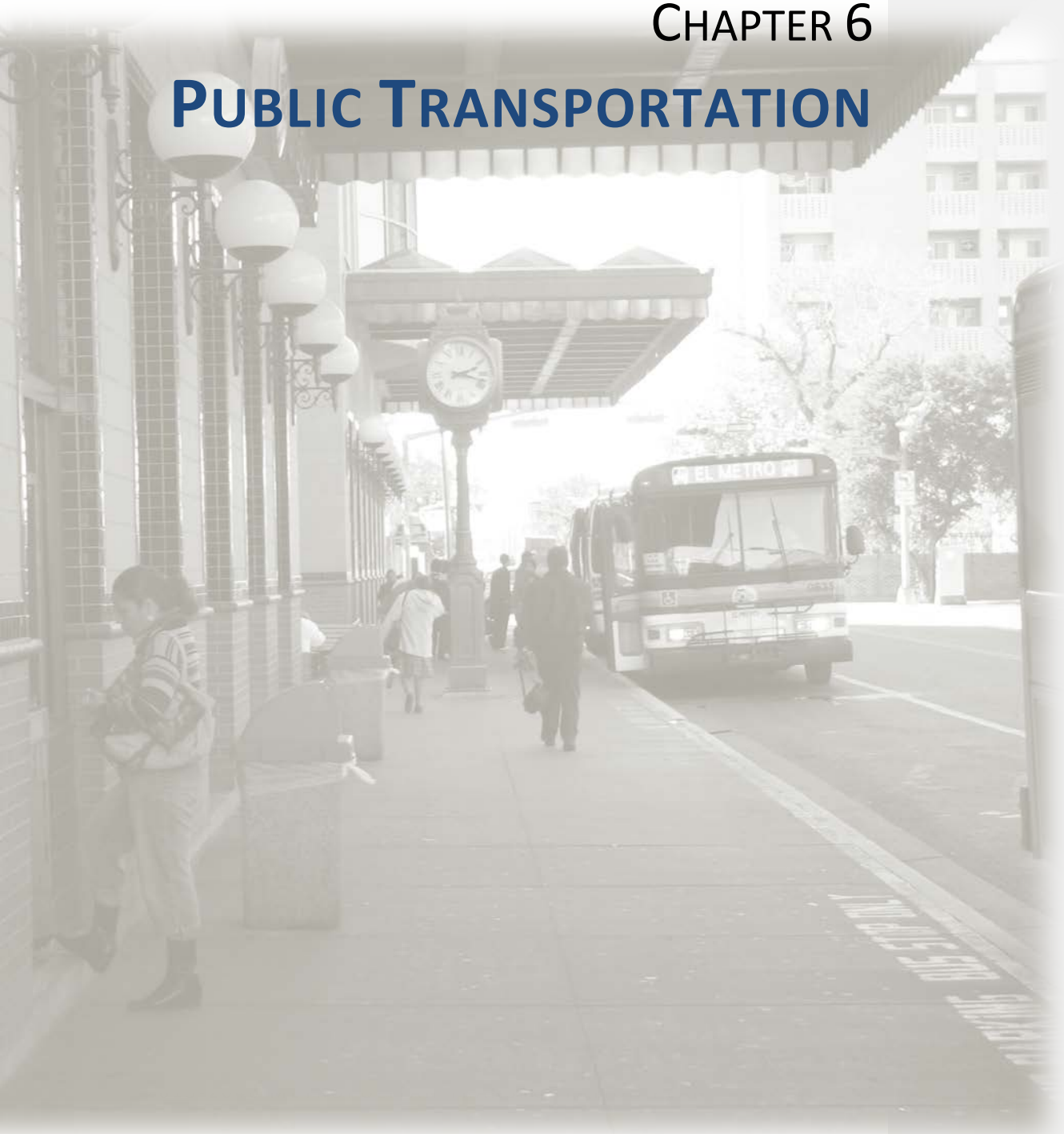


TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 6: PUBLIC TRANSPORTATION

This chapter reviews the existing transit systems, facilities, and services, the demographic characteristics of the transit riders, operating costs, funding, and performance measures; analyzes the transit service gaps; identifies issues; and suggests strategies and policies to address the overall demand for public transit services.

In order to provide a comprehensive, multimodal transportation system, careful consideration should be given to investment decisions. Infusing monetary resources into roadways and infrastructure that primarily benefit personal vehicular transportation will not provide enough support for alternative transportation such as public transit, intercity buses, vanpools, bicycling, and walking. Given today's growing concern about the environment and sustainability and changing societal preferences, there is renewed interest for actions that promote secondary transportation choices.

Public transit offers many societal, personal, and environmental advantages. It is the primary transportation option for individuals without access to their own automobile or those who are unable to drive. Personal benefits include cost savings, reduced stress from driving, and increased "down time." Environmental benefits include less vehicle miles traveled, which results in decreased fuel consumption and better air quality.

As explained in more depth in the Socioeconomic Data chapter, a smaller percentage of workers in Webb County tended to drive alone to work or use public transit and a larger percentage of workers carpooled to travel to work as compared with the rest of Texas in 2012. Furthermore, a larger percentage of the population in Webb County also tended to have no access to any vehicle as compared with the rest of Texas. These characteristics are important when understanding the demand and need for alternative modes of transportation such as public transit, intercity buses, vanpools, walking, and bicycling. As such, it is essential to also focus on these alternative modes of transportation in order to provide for a comprehensive, multimodal transportation plan for the Laredo region.

Transit Services

Fixed Route Service

El Metro is the primary transit provider in the Laredo region, which operates over 47 buses for its 22 fixed bus routes. It also operates two Chance Trolleys and 18 diesel-powered vans for its El Lift ADA paratransit service. As of 2012, the average bus fleet age was 6.9 years and the average van fleet age was 3 years. El Metro's bus fleet is presently powered mainly by compressed natural gas (CNG), which is more environmentally friendly and less expensive than regular gasoline and diesel fuel. In addition, all new model buses have bike racks, which are capable of carrying two bicycles.

Since 2003, First Transit has administered the operational duties of El Metro and the El Metro Transit Center; the contract was renewed in 2010. Currently, El Metro employs about 187 people, has an operating budget of approximately $13.4 million, and an annual ridership of about 3.2 million passengers.

El Metro's major transportation facility is the five-story Laredo Transit Center located in downtown Laredo at 1301 Farragut Street across from Jarvis Plaza. The transit center serves as a multimodal transportation terminal for the Laredo region and is the main point of transfer for El Metro routes, El Aguila rural routes, and inter-city services like Valley Transit and Greyhound. It also houses El Metro's administrative offices and a public parking garage for downtown visitors. Additionally, there is a park and ride lot located at the airport on Hillside Road; it was previously owned by El Metro but is now under the jurisdiction of the Laredo International Airport.

Paratransit Service

The El Lift Paratransit Service provides persons within the City of Laredo, who are unable to utilize the El Metro fixed route system due to a disability, with shared, curb-to-curb public transportation. Wheel chair lifts are provided on all vans as well as on all fixed route buses. In order to use El Lift, a personal doctor or social service agency must determine a person's eligibility. Eligible passengers must schedule trips in advance by calling El Lift customer service.

Hours of Operation

The fixed route system operates Monday through Saturday from 6:00am until 10:00pm. The first trip is later and last trip

earlier on Sundays and major holidays. The peak hours are from 6:00 to 9:00 am and 3:00 to 6:00 pm on weekdays.

The demand response or El Lift system operates Monday through Saturday from 6:00 am to 10:00 pm and on Sunday and major holidays from 7:00 am to 8:30 pm.

Fares

El Metro fixed route bus fares are listed in **Table 6-1**. Electronic value cards can be purchased on the buses or at the ticket vending machines at the El Metro Transit Center and can store up to $20 worth of bus fares. Additionally, eligible El Lift passengers can purchase a 10-ride book for $7.50 to ride the El Lift van.

Table 6-1: Current El Metro Fare Structure

Fare Type	Fare
Adults	$1.50
Students with I.D.	$1.25
Children 5 - 11 years of age	$0.50
Children under 5 years of age	Free
Senior Citizens (62+) / Disabled w/ Metro I.D. (Peak Hours)	$0.35
Senior Citizens (62+) / Disabled w/ Metro I.D. (Off-Peak Hours)	$0.25
Disabled (Peak Hours with El Metro ID)	$0.35
Disabled (Off Peak Hours with El Metro ID)	$0.25
Medicare Card Holder w/picture I.D.	$0.70
Transfers	$0.25
El Lift Paratransit (eligible riders and guests)	$1.00

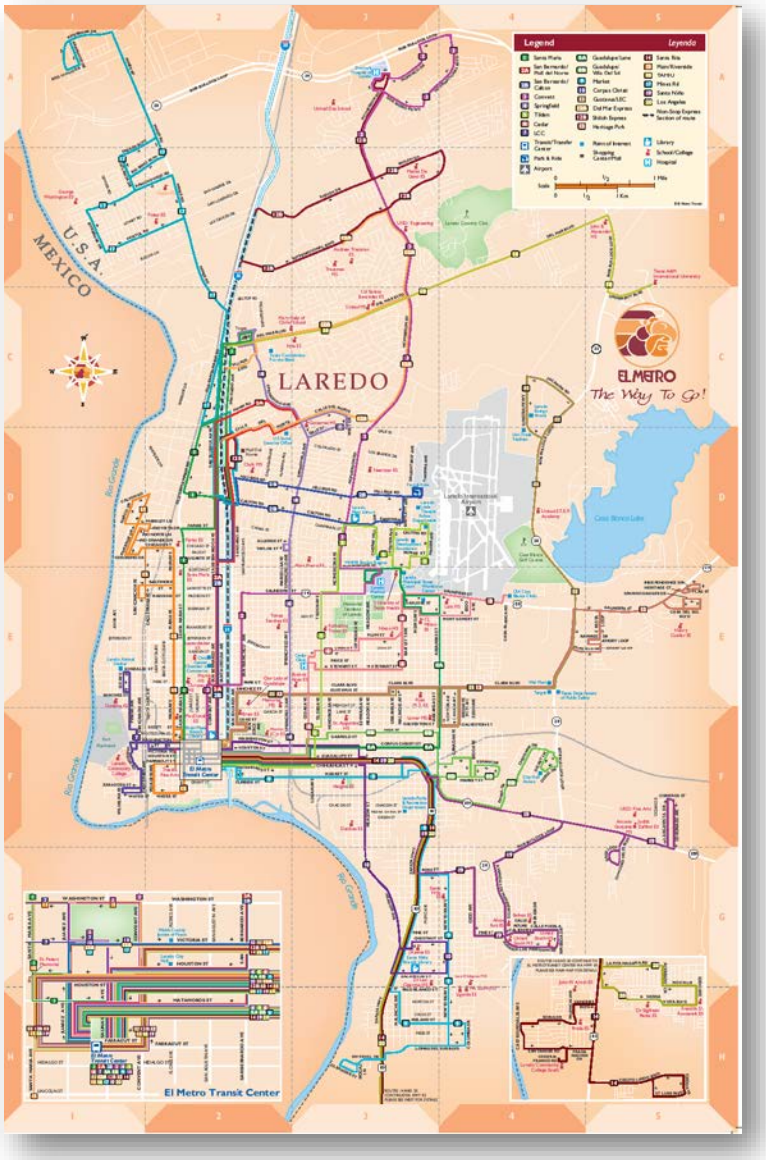
Source: El Metro

Bus Routes and Stops

El Metro operates 22 fixed bus routes, all of which pass through the El Metro Transit Center. **Figure 6-1** presents the El Metro fixed route bus system.

Table 6-2 shows the frequency and approximate daily ridership levels for each route.

Figure 6-1: El Metro System Map



Source: El Metro

Table 6-2: Current Service Frequency and Ridership by Route

1	Santa Maria	25	25	25-50	25	25-50	37-75	38	1,492	1,710	1,239
2A	San Bernardo	35	35	35-70	35	35-70	70	70	1,517	1,796	755
2B	San Bernardo	35	35	35-70	35	35-70	70	70	1,099	916	n/a
3	Convent	60	60	60	60	60	120	120	1,096	811	219
4	Springfield	37-38	37-38	37-38	37-38	37-38	75	75	933	667	325
5	Tilden	70	70	70	70	70	140	140	323	279	171
6	Cedar	35	35	70	70	70	140	140	963	475	310
7	LCC	30	30	30	30	30	30	30	282	175	98
8A	Guadalupe/Lane	70	70	70	70	70	70	70	547	374	331
8B	Guadalupe/Villa Del Sol	70	70	70	70	70	–	–	283	214	–
9	Market	45	45	45-90	45	45-90	90	90	1,053	920	506
10	Corpus Christi	30	30	30	30	30	60	60	899	640	279
11	Gustavus/LEC	85	85	85-90	85	85-90	85	85	333	304	179
12A	Del Mar Express	20-40	20-75	20-75	75	75	75	75	767	592	195
12B	Shiloh Express	30-45	30-75	-	75	-	–	–	791	277	–
13	Heritage Park	85	85	–	85	–	-	-	452	119	275
14	Santa Rita	90	90	90	90	90	90	90	251	258	460
15	Main/Riverside	60	60	60	60	60	120	-	326	282	129
16	TAMIU	15-20	15-75	75	75	75	-	–	311	449	71
17	Mines Road	75	75	75	75-225	75-225	75	–	513	430	129
19	Santo Niño	70	70	70	70	70	70	–	681	439	206
20	Los Angeles	85	85	85	85	85	90	90	585	531	n/a

Source: El Metro and 2008 El Metro Boarding and Alighting Survey (n/a=not available)

Demographic Characteristics of El Metro Riders

As part of the September 2009 Laredo Transit Development Plan, a survey of El Metro passengers was conducted. The purpose of the survey, which was conducted at the Laredo Transit Center, was to analyze the socio-demographic and travel behavior characteristics of El Metro riders. The following characteristics were revealed:

- Spanish was the primary language of El Metro riders (91%)
- 81% of the riders did not own any vehicle
- Half of the riders were employed, with 29% of them employed full-time and 22% of them employed part-time
- Personal trips (e.g., shopping) were the primary purpose, while only 29% of riders were traveling to or from work
- Nearly half (45%) of those interviewed at the Transit Center were making trips to or from Mexico
- 75% percent of riders did not make any transfers
- 84% used the El Metro system at least twice a week, and only 15% of riders used it daily

These characteristics were based completely on the 412 usable surveys gathered at the Laredo Transit Center. As such, this data may not necessarily represent the full spectrum of transit riders, because based on the unexpanded sample data derived from the boarding and alighting survey, approximately 35 percent of riders do not pass through the Transit Center.

Transit Use – Ridership

Transit utilization is determined by the level of ridership or passenger trips on a system. Passenger miles traveled is the sum of the distances ridden by each passenger in a transit system. Unlinked passenger trips refer to the total number of passengers who board public transit vehicles, regardless of how many vehicles it takes to reach a destination.

Table 6-3 presents annual passenger miles and unlinked trips for the years 2007 through 2012. There was slight decrease in ridership after 2009.

Table 6-3: Annual Passenger Miles and Unlinked Trips

	2007	2008	2009	2010	2011	2012
Fixed Route						
Passenger Miles	13,311,072	14,451,730	13,222,181	11,166,761	10,012,260	10,121,410
Unlinked Trips	4,324,395	4,358,456	3,987,845	3,365,703	3,149,631	3,183,633
Demand Response						
Passenger Miles	256,981	273,540	230,597	214,969	288,939	265,053
Unlinked Trips	51,548	50,199	48,403	52,368	55,983	52,440

Source: National Transit Database

The ridership data is based on an expanded sample of the boarding and alighting survey done in the summer of 2008 for the Laredo Transit Development Plan. Based on the above ridership levels, it is evident that the most popular routes during the weekdays are Route 1 Santa Maria, Routes 2A and 2B San Bernardo, Route 3 Convent, and Route 9 Market. Each of these routes carry over a thousand passengers during the weekdays and account for approximately 34 percent of the weekday total. Similarly, the most popular routes on Saturdays and Sundays are by far Route 1 Santa Maria and Route 2A San Bernardo.

In particular, Route 1 serves downtown Laredo along Santa Maria Avenue between the Transit Center and the retail destinations of Mall del Norte and Target, while Route 2A operates in a similar fashion along the busy commercial corridor of San Bernardo and connects the Transit Center with Mall del Norte. Route 2B follows the same alignment as Route 2A along San Bernardo until it heads east on Hillside towards the park and ride lot near the airport and circles back to downtown via Calton Road. Similarly, Route 3 begins at the Transit Center downtown but heads in a mainly northwest direction, serving such destinations as the Laredo Medical Center, Laredo Main Library, and the Doctor's Hospital of Laredo. Route 4 also begins at the Transit Center downtown and travels in a mainly north/southern direction, serving the Springfield Avenue corridor.

Operating Costs and Funding Sources

In 2012, El Metro incurred approximately $12.3 million in operating expenses for its fixed route and demand response services. **Table 6-4** exhibits annual operating expenses and for El Metro's transit services from 2007 through 2012.

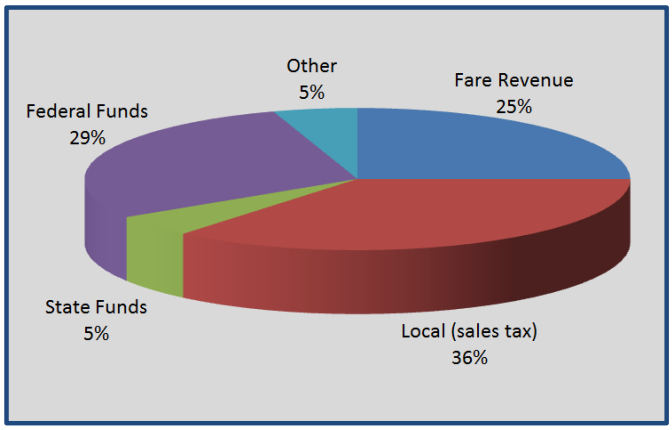
Table 6-4: Annual Operating Expenses

	2007	2008	2009	2010	2011	2012
Fixed Route						
Operating Expenses	$10.827m	$10.985m	$10.534m	$10.753m	$10.440m	$11.173m
Demand Response						
Operating Expenses	$2.015m	$2.167m	$2.106m	$1.956m	$1.936m	$2.003m

Source: National Transit Database

El Metro's services are funded mostly through user fees (fares), sales tax, state funds, and federal funds, while a small percentage are covered by other funds such as advertising sales. **Figure 6-2** shows the specific breakdown by funding source.

Figure 6-2: El Metro Operating Cost Funding Sources, 2012



Presently, about 3% of the local sales tax (or 0.25% of all sales made locally) are contributed to covering operating expenses. This amount accounted for about $4.7 million of operating expenses in 2012, while federal funds accounted for $3.8 million and state funds covered only about $632,000. Fare revenues contributed a total of about $3.3 million for operating expenses in 2012. **Table 6-5** shows the amount of fare revenues collected each year from 2007 through 2012.

Table 6-5: Annual Fare Revenues

	2007	2008	2009	2010	2011	2012
Fixed Route	$2.775m	$3.487m	$3.201m	$3.140m	$3.244m	$3.298m
Demand Response	$33,109	$34,272	$34,007	$44,983	$48,469	$42,980

Source: National Transit Database

Service Performance Measures

Commented [GRJ1]: Updated to clarify the difference between the federally required performance measures from the FAST Act and service performance measures that are used to evaluate transit. Also includes information on the TAM Final Rule and reference to an MOU that will need to be developed.

Transit service p~~P~~erformance measures provide insight on the operational status of a transit system. It is important to note that transit service performance measures are different from the performance measures required by the FAST Act. Service performance measures are~~It is~~ useful as a basis for future strategic decision making regarding route planning, fleet planning, budgeting, and scheduling. Three service performance measures are used to monitor the service performance of the transit agency: service effectiveness, service efficiency, and cost effectiveness.

Service effectiveness is measured by dividing annual passenger trips (APT) by vehicle revenue miles (VRM) and vehicle revenue hours (VRH). APT represents the number of passengers who board the operational revenue vehicles. Passengers would be counted each time they board the vehicles, regardless of how many vehicles they have boarded in the current trip. VRM and VRH are the total amount of miles and hours for all vehicles in a transit system when the vehicles are available to the general public. Higher numbers of the measures means better service effectiveness.

It is a measure of transit utilization describing the level of ridership on a system given the level of service of a transit system. The service effectiveness from 2007 through 2012 is described in **Table 6-6**. The trend of declining APT per VRM and APT per VRH is mainly due to a decline in ridership while the levels of VRM and VRH remain similar.

Table 6-6: Service effectiveness in 2007 through 2012

Year		2007	2008	2009	2010	2011	2012
Fixed Route	APT per VRM	2.52	2.65	2.39	1.94	1.83	1.87
	APT per VRH	26.77	29.53	26.72	22.39	20.87	21.27
Demand Response	APT per VRM	0.18	0.20	0.21	0.26	0.21	0.19
	APT per VRH	1.68	1.37	1.78	1.81	1.90	2.00

Service efficiency is calculated by dividing the operating expenses by vehicle revenue miles (VRM) and vehicle revenue hours (VRH). Lower numbers of the measures translate to better service efficiency. The service efficiency from 2007 through 2012 is described in **Table 6-7**. In recent years, these numbers fluctuated but stayed at a similar level.

Table 6-7: Service Efficiency in 2007 through 2012

Year		2007	2008	2009	2010	2011	2012
Fixed Route	Operating Expense per VRM	$6.31	$6.68	$6.32	$6.18	$6.06	$6.57
	Operating Expense per VRH	$67.02	$74.41	$70.58	$71.53	$69.18	$74.66
Demand Response	Operating Expense per VRM	$7.20	$8.68	$9.25	$9.80	$7.32	$7.30
	Operating Expense per VRH	$65.83	$59.17	$77.36	$67.57	$65.81	$76.22

The measures for cost effectiveness are operating expenses per APT and passenger mile traveled (PMT). PMT is the cumulative sum of a passenger who boards an operational revenue vehicle. Lower numbers of the measures mean better cost effectiveness. The service efficiency from 2007 through 2012 is described in **Table 6-8**. For the fixed-route service, the numbers went up steadily over the recent years, while for the demand response service, the numbers in 2010 through 2012 decreased from a peak in 2009.

Table 6-8: Cost Effectiveness in 2007 through 2012

	Year	2007	2008	2009	2010	2011	2012
Fixed Route	Operating Expense Per Passenger Mile	$0.81	$0.76	$0.80	$0.96	$1.04	$1.10
	Operating Expense per Unlinked Passenger Trip	$2.50	$2.52	$2.64	$3.19	$3.31	$3.51
Demand Response	Operating Expense Per Passenger Mile	$7.84	$7.92	$9.13	$9.10	$6.70	$7.56
	Operating Expense per Unlinked Passenger Trip	$39.08	$43.17	$43.51	$37.36	$34.58	$38.20

MAP-21 directed the USDOT to establish a set of performance measures to increase accountability and transparency of the federal highway and transit programs and to improve decision making through performance-based planning and programming. The FAST Act carries over these requirements for performance measures. The performance measures are being established in a series of rulemakings by the FHWA and FTA. The FTA published the Final Rule for Transit Asset Management (TAM) in July 2016 requiring public transportation providers to develop transit asset management plans for public transportation assets, including vehicles, facilities, equipment, and other infrastructure. The TAM final rule requires transit providers to set state of good repair performance targets. El Metro has accordingly set state of good repair performance targets that align with state targets described in Chapter 1.

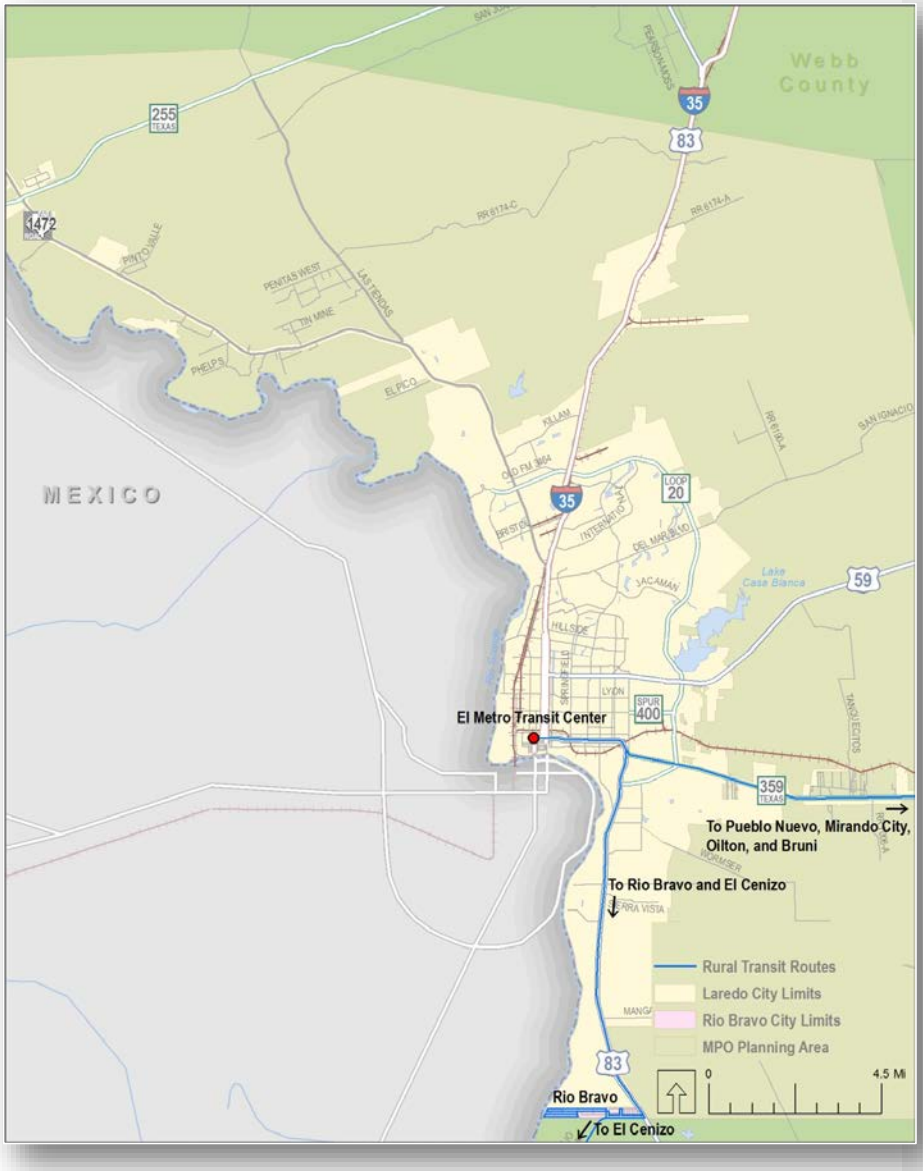
El Metro collects and submits all public transit data to the TxDOT Public Transportation Division in the standard format described in *PTN-128 Reporting Manual: Data Collection and Performance Reporting*. In 2016, the *Transit Development Plan (TDP)* for El Metro was updated and includes service recommendations and updated performance measures. Ensuring regular updates of the TDP. The 2016 Transit Development Plan provides updated performance measures and regular updates of the TDP provides for short term planning and performance monitoring of the transit system. A memorandum of understanding (MOU) has been developed to communicate performance data between the MPO, TxDOT, and the FTA.

Other Transit Service Providers

El Aguila

El Aguila is the designated rural public transit provider in Webb County and connects patrons living in the rural parts of Webb County to the City of Laredo's fixed route system at certain route stops and the transit center in downtown Laredo. El Aguila's fleet of 20 vehicles operates 247,305 miles and 13,127 hours annually and transports 98,646 passengers a year (2012). El Aguila provides both fixed route and demand response services to the general public, including the elderly, persons with disabilities, students, and welfare-to-work participants. The six fixed routes serve these cities or areas: Rio Bravo,El Cenizo, Pueblo Nuevo, Aguilares, Mirando City, Oilton, and Bruni. Figure 6-3 shows the El Aguila fixed route bus system.

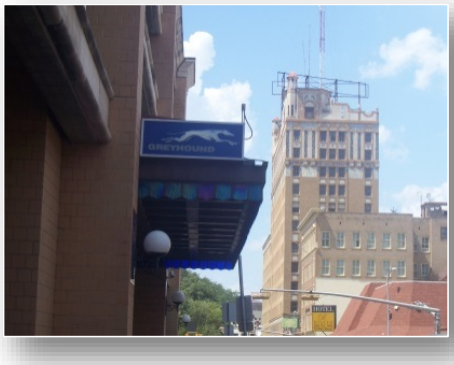
Figure 6-3: El Aguila System Map



~~Greyhound~~Intercity Transportation

Commented [GRJ2]: Updated to expand the scope to intercity bus providers, including international bus providers. This is mostly for consistency with wording/terminology within the FAST Act.

Greyhound Lines, Inc. is the largest provider of intercity bus transit services in the United States, with 3,800 destinations and 13,000 departures daily throughout North America. Within the Laredo region, Greyhound's Laredo station is co-located at the El Metro Transit Center. According to scheduling information, provided online through Greyhound's website, the highest frequency of passenger services occurs between Laredo and San Antonio, with approximately 10 one-way, non-stop trips per day. Other non-stop destinations from Laredo to major cities include Austin, Dallas, Houston, and McAllen. These services are provided through the Valley Transit Company and Americanos USA, which are operating subsidiaries in the Greyhound family of services. Besides providing passenger services, Greyhound also provides same-day and next-day package delivery, as well as charter services for businesses, conventions, schools, and other groups.



Within the Laredo region, several bus operators provide international passenger bus service from Laredo to destinations across Mexico. These intercity bus operators which providing international service include Turimex Internaccional (Grupo Senda), Tornado Bus Company, El Expresso Bus Company, El Conejo, and Omnibus Express.

Transit Issues

To meet its goals, a transit system must contend with a variety of complexities. A delicate balance between funding, ridership, and service delivery must be achieved in order to operate a successful system. Specifically, transit systems must receive adequate funding to provide quality service and attract ridership to increase revenue sources. In contrast, if funding is insufficient, service suffers and ridership decreases, which in turn causes revenue to drop. Therefore balancing these elements are at the heart of most transit issues and challenges.

The City of Laredo has a robust transit system and consistently ranks at or near the top of similarly sized transit agencies in measures of system utilization. According to a peer analysis completed for the *Laredo Transit Development Plan*, El Metro's fixed route services were above average for cost effectiveness, productivity, and ridership levels per capita, with passenger boardings twice as high as the national average and three times as high as other systems in Texas.

El Metro's productive and efficient transit service success is in part due to the large number of Nuevo Laredo residents that utilize the system daily. Further reasons for the system's success include the relatively dense land uses and a large captive population without access to other means of transportation.

Among the more important issues that El Metro will be facing during the upcoming years include the following:

- **More customers**: Population projections show a growing transit-dependent population, especially in growth areas in South Laredo.
- **More service needs**: Recent ridership surveys conducted during the *Laredo Transit Development Plan* process revealed concerns about frequency of service, slowness of buses, and the length of wait; suggested improvements included more frequent services and longer service hours
- **Higher costs**: While the dramatic spike in fuel cost during 2008 has subsided, fuel and other costs are expected to rise. In response to higher costs, the city of Laredo
- **Less funding**: Decrease in federal and state operation funding assistance resulted from the fact that in 2010 census the population of the Laredo region increased to over 200,000. It is necessary to rely on more local funding sources.

These challenges are further underscored by the already weakened overall economic conditions which make finding other funding sources more difficult. New sources of revenue and other funding strategies will be needed to meet the transit demands in the future as well as maintain the existing transit service.

Captive and Choice Riders

Users of public transportation services can be divided into two general types of riders: captive riders and choice riders. Captive riders usually have no other choice but to use public transit and consist of people without access to other means of transportation, persons with disabilities, and individuals who are otherwise unable to transport themselves. In these situations, transit is an integral component of the transportation system. It enables many people to access jobs, education, medical care, and other needed services. In contrast, choice riders have other means of transportation at their disposal. They may use transit for a variety of reasons, including cost savings, convenience, or environmental cognizance. Attracting additional choice riders is a challenge for many public transit systems in small to medium sized urban areas where roadway congestion or parking prices are not a significant problem or where a stigma or negative perception of transit is attached to using the system. In addressing future mobility issues, transit must offer a competitive alternative to the personal automobile.

Ridership Factors

The following characteristics are important considerations for attracting "choice" riders:

- Cost of service
- Travel time
- Directness of travel
- Number of transfers required
- Frequency of service
- Service hours
- Suitability of routes for desired trips
- Transit stop amenities, such as bus shelters, seating, route and service information, and lighting
- Proximity to origin and destination
- General walking environment

Growing Elderly Population

As the population ages, it will become more imperative to consider additional transportation options for those individuals not able to operate their own vehicle. Public transit and special mobility services, such as demand-response paratransit services, will enable a growing elderly population to continue to engage in the community and receive needed medical and support services. However, the cost borne by the public for increasing specialized transportation services can be extensive. Therefore, it will become vital to coordinate services and funding through a collaboration of many providers, such as medical, social, human services, and faith-based groups. Recognizing the importance of the transportation of our nation's elderly and disabled population, the Federal Transit Administration provided formula-based funding to states to assist private non-profit organizations in meeting the transportation needs of our senior and physically disabled citizens.

Proposed Strategies

Laredo Transit Development Plan

In order to enhance Laredo's transit system, the MPO ~~commissioned~~ completed ~~a transit development plan~~the Laredo Transit Development Plan in 2016 to recommend improvements over a five year period. Highlights of the plan's recommendations include the following:

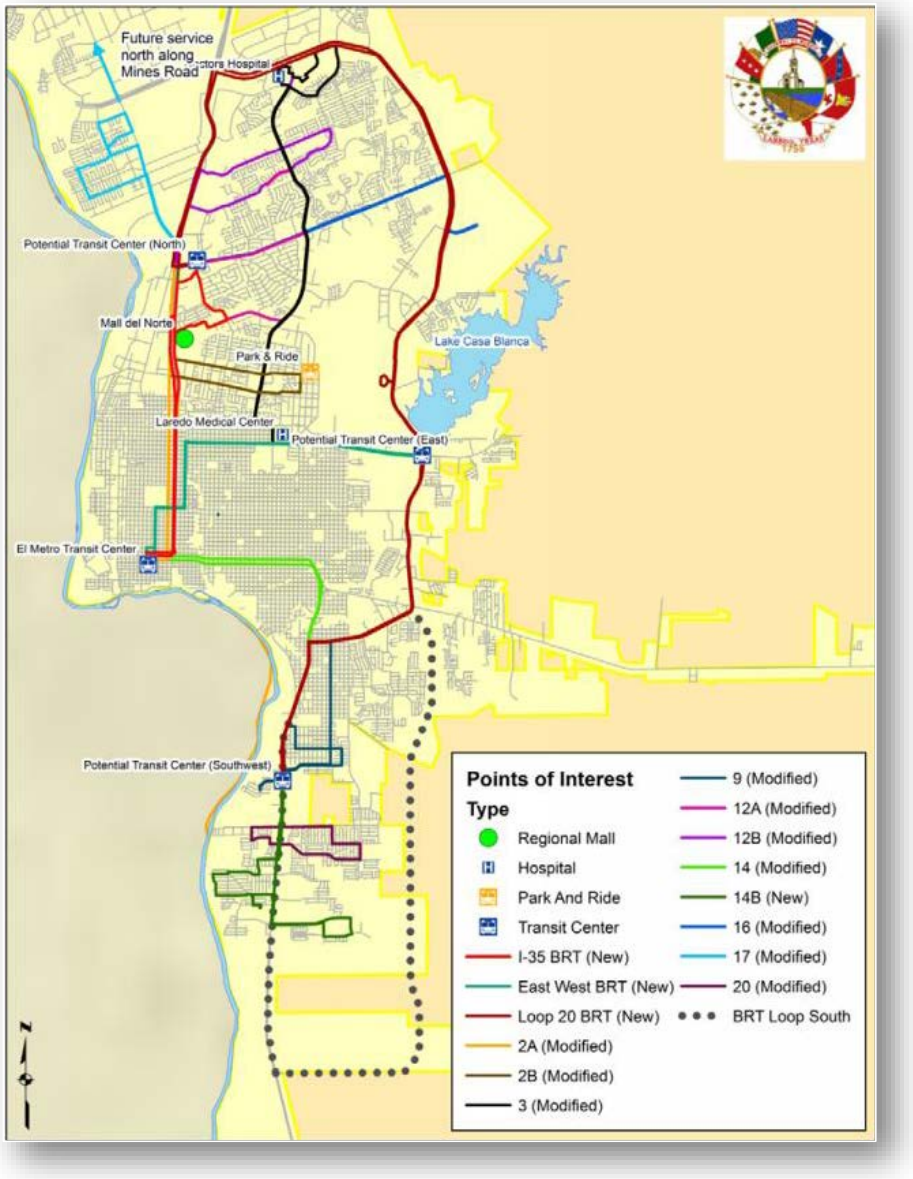
- Consider fare increases and limited service reductions to address the recent ridership and fare revenue losses.
- Refine and optimize current bus schedules to provide reliable service for patrons.

- Stagger arrival times of routes with the most frequent services at the Transit Center in order to decrease bus congestion.
- Continue to recognize service expansion needs and consider the city's future planning efforts such as their thoroughfare and land use plans.
- Consider restructuring and consolidating routes that provide similar services. This is especially targeted at the San Bernardo corridor and includes a "Linear Hub" that reorganizes six current routes into two: one to serve local needs along San Bernardo and the other to provide express service on IH-35.
- Replace the current Downtown Trolley route with a new downtown circulation system.
- Initiate a major route restructuring study to determine the feasibility of the San Bernardo Linear Hub concept and other route improvements that would improve operational efficiency and level of service.
- Reduce expenditures for paratransit by establishing stricter eligibility requirements through an interview method and evaluate the feasibility of contracting paratransit services through taxicab operators.
- Consider recommended marketing strategies and prepare and implement such transit marketing programs.
- Provide real-time passenger trip planning service.
- Make certain capital improvements, including new bus stops and shelters and a new operations and maintenance facility.

Bus Rapid Transit Feasibility Study

The Bus Rapid Transit Feasibility Study was completed in 2011 to access the feasibility of implementing Bus Rapid Transit (BRT) service in Laredo and develop implementing strategies. The BRT goals, objectives, and performance measures were also identified. The existing conditions including transit network, roadway network, land use, socioeconomic conditions, and future travel and transit demand were reviewed. In addition to the review of existing conditions, inputs from stakeholders and LUTS staff were also used to envision the different potential BRT scenarios. In the scenarios, existing bus routes are considered to be modified to work in tandem with new BRT routes. Different performance measures were evaluated and the Preferred Transit Scenario was selected and the phases of implementation and cost estimates were also developed. Figure 6-3 shows the map of the preferred BRT scenario.

Figure 6-4: Preferred BRT Scenario



Source: 2011 Bus Rapid Transit Feasibility Study

El Lift Assessment Technical Report

The information in this report will be the basis for findings and recommendations in the 2013 ADA Plan Update for El Metro's ADA complementary paratransit service. The development process of this report includes the cooperation of the project team and El Metro staff, and interviews with El Lift transit riders, the people who work with transit riders, and other transit professionals. The report was later reviewed by the LUTS and El Metro reported that it had updated certain policies and procedures.

Recommendations of different types, such as ADA complementary paratransit service criteria, eligibility for El Lift, telephone access, trip reservation process, and service performance, are given to better operations and service of the El Lift paratransit system.

Best Practices for Public Transit

A wide variety of best practices exists to ensure successful operation of a public transit system. In order to address the transit-related challenges of the Laredo region, the MPO will pursue the following "toolbox" of policies, strategies, and actions, along with recommendations presented in the *Laredo Transit Development Plan*.

Continually Reevaluate Transit Operations

To promote a balanced transit system, it is necessary to continually assess overall system and route-level performance. Understanding the tradeoffs involved in changing the number of routes, the frequency of service, and the extent of service hours is important in making strategic decisions about allocating resources. A transit system should also continually evaluate its transit coverage as it relates to the region's growth from new development. As development occurs, a transit system should determine the feasibility of extending coverage to newly populated areas. Expanding system coverage to new areas may attract new riders, but at the same time may lower the level of service to areas or destinations in higher demand. As such, it is important to continually monitor the location of popular destinations and new development.

Extended service hours, higher service frequencies, additional routes, and expanded coverage areas are all more likely to be achieved through improved overall operational efficiency, more direct routes, better accessibility, and increased schedule reliability. In short, providing the broadest, most efficient, and most reliable service can greatly improve system operations and, in turn, increase ridership. Furthermore, simple concepts, such as longer spacing between bus stops and transit priority at signalized intersections, can help improve transit speed.

El Metro will continue to employ best practices to increase operational efficiency in order to maximize services to the benefit of its users. Currently, El Metro operates 49 buses for its 22 fixed bus routes. It also operates two Chance Trolleys and 18 diesel-powered vans for its El Lift ADA paratransit service. The buses have stop announcements, both audible and visual,

at major stops, intersections, and transfer points along the route to assist passengers. El Metro has also installed electronic fare payment on all buses and is working towards adding Automated Vehicle Location (AVL) and security cameras to their fleet. Currently, 17 buses have cameras with on-board recording, and plans are to have all new buses equipped with cameras in the future

System ~~Preservation~~ Resiliency and Maintenance

Commented [GRJ3]: Updated to make a note on efforts to incorporate resiliency and reliability into the planning process by referencing the TAM plan and the TDP.

Maintenance is an important activity for the operation of a transit system for the purpose of extending the useful life of vehicles, equipment, and facilities. Such maintenance is also critical to passenger comfort and transit service reliability. Vehicles in poor condition (e.g., torn seats, broken wheelchair lifts, or poor temperature control) affect the comfort of transit patrons. On-street boarding locations that fall into disrepair affect safety and accessibility. Vehicle breakdowns may cause severe hardships to transit patrons, affecting future ridership.

Examples of vehicle maintenance programs are the following:

- **Daily Service** - Pre-trip inspections prior to operating a vehicle in public service and post-trip inspections upon return to the operating facility are conducted by bus operators. Inspections can detect problems in areas such as lighting, tires, and safety equipment before failures occur while the vehicle is in service. The bus operators also monitor the operating condition of the vehicle throughout the operating day. All defects are documented on vehicle condition reports, and corrective action will be taken before the vehicle is returned to service.
- **Periodic Inspection** - These inspections are generally performed on a mileage basis, and cover all major components of the vehicle. They are designed to provide maintenance personnel an opportunity to detect and repair damage or wear conditions before major repairs are necessary. They will include, at a minimum, inspection of suspension elements, leaks, belts, electrical connections, tire wear, and any noticeable problems.
- **Interval Related Maintenance** - Specific components are inspected on an interval basis to identify wear, alignment, or deterioration problems of parts or fluids. The interval maintenance program includes lubricating oils and filters, alignment, tires, steering components, engine, transmission, and brakes.

Even with regular, routine maintenance, transit vehicles reach the end of their useful service life. Although El Metro preserves and maintains their bus fleet on an as-needed

basis, they still must invest in new vehicles and equipment. El Metro acquired, through a joint ARRA funded effort with one or more other transit entities, new 35 foot low-floor and 40 foot low-floor diesel fueled buses in recent years. It plans to have additional 8 low-floor CNG buses in the near future. Also, El Lift has on-board surveillance cameras on new diesel-powered paratransit buses ~~with~~.

A new maintenance facility is currently planned at the site near the intersection of Bartlett Avenue and Jacaman Road. Other maintenance and system preservation projects include vehicle replacement for fixed route and paratransit services, bus lift replacements, maintenance equipment and general preventive maintenance.

In an effort to more seek additional ways to enhance the existing El Metro asset management practice, El Metro developed an Transit Asset Management Plan between 2016-2017 as part of the Transit Development Plan update and to address new FAST Act requirements. The Transit Asset Management Plan and the Transit Development Plan provide recommendations on practices that will improve the resiliency and reliability of El Metro assets and service.

Land Use and Development Considerations

Commented [GRJ4]: The FAST Act requires that the AASHTO Highway Safety Manual and the NACTO Urban Street Design Guide be considered in developing design criteria. Updated text accordingly.

Transit service is most effective where land development patterns are compact, densely populated, and include a mix of uses. Transit service also requires direct pedestrian connections between transit stops and origins and destinations. As such, considerations for pedestrians should coincide with development considerations for transit users.

The City of Laredo should support land use design standards, policies, and principles which promote more pedestrian and transit friendly developments and more sustainable growth patterns. The MPO should consider whether a "business as usual approach" will be sustainable and should well consider the problems of other regions in Texas which have undergone a similar pattern of explosive growth. Investments in a multimodal transportation system, which include enhancements to the transit system, are needed to support an increased quality of life for all citizens. The Laredo MPO references the American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide as resources in developing design guidelines.

Transit Amenities

Offering certain facilities and other amenities to transit users may greatly enhance the transit experience in order to further promote transit usage. Park-and-ride facilities in strategic locations can act as important anchors to the regional transit system, serving as

satellite hubs for local, intercity, and regional transit services. Enhanced transit centers with amenities such as weather protection, passenger information, and vending machines provide additional incentives for regional and local riders. Furthermore, transit stops with bus shelters, signage, and passenger information enhance the attractiveness, comfort, and safety of the transit system. On the vehicles themselves, amenities such as bike racks and automated route information improve the experience of traveling customers. El Metro currently have the AVL-GPS system that show the real-time bus locations in all fixed-route buses online and bike racks on most fixed-route buses. Projects in this MTP include additional bus shelters and two new transit centers to further satisfy the needs of transit users.

Integrating Transit Considerations with Designing Roadway Improvements

A transit system must be considered in conjunction with other modes in a multimodal transportation system. For example, a bus requires a roadway upon which to operate, which require adequate surfaces, conditions, and other design features which can accommodate large transit vehicles. Congested roadways with poorly engineered street systems and traffic signals degrade transit service. Lastly, transit users are also most likely pedestrians at some point during their trip, and therefore must also have adequate sidewalks, transit stops, safe street crossings, and proper lighting to safely and efficiently conduct their travel. Certain roadway improvements included in this plan, such as the grade separation of railroad tracks and roadways, will significantly increase transit performance in areas where the railroads pose a barrier in mobility.

Intelligent Transportation Systems (ITS) for Transit

ITS enhancements should be considered when developing improvements for achieving increased efficiency of the transit system. For example, technology that enables signal preemption for buses increases the speed of transit service. Instant traveler information technology informs patrons more reliably when the next bus will arrive. Such investments may be more cost effective in order to increase the efficiency and attractiveness of the system. El Metro plans to install the AVL-GPS system and paperless mobile data for manifest driver sheet on more El Lift buses. Also, the Interactive Voice Response (IVR) that notifies drivers automatically for appointment is also planned to make the riding experience more seamless. Projects in this MTP which include ITS enhancements are the AVL-GPS technology for El Lift vehicles and additional security equipment for buses.

Coordination among Transit Entities

Transit service providers in a region should coordinate and collaborate as much as possible to reduce the occurrence of repeated services. In particular, each region is mandated by the federal government to produce a coordinated regional service plan. Coordination of existing services and

general improvements to public transportation services in the South Texas Planning Region, of which Webb County is a part, are provided in the *South Texas Planning Region Public Transportation Coordination Plan*. Some of the recommendations and issues discussed relevant to the Laredo metropolitan planning area include:

- Increasing transfer points between El Aguila and El Metro
- Extending services to highly needed areas such as the colonias in the more rural areas
- Extending El Aguila routes to service destinations along the Bob Bullock Loop
- Providing new transit service to access major employment centers along Mines Road near Loop 20
- Providing vanpools along some major corridors may be a viable option as census data indicates a higher propensity to rideshare
- Offering Dial-a-Ride service for more rural areas and also for after-hour, fixed route service needs
- Targeting projects that uses Section 5310 funds for low-income individuals, persons with disabilities, and the elderly
- Identifying local funding sources to match federal spending in rural areas
- Establishing a mechanism such as a Memorandum of Agreement to enable different transit providers to enter into agreements to coordinate services and reduce duplication of services
- Establishing a forum, such as an internet webpage or telephone support, that provides a "one stop shop" for transit services offered in the region
- Providing a mentoring and support program initiated by El Aguila and El Metro for small transit operators that provide paratransit service

Marketing

To attract additional ridership, transit service providers should develop a comprehensive marketing program to promote transit usage. The marketing program should advertise the extent of transit amenities and educate the region about the benefits of using mass transit. Moreover, the marketing program can target existing or potential customers such as college students and residents of new developments.

CHAPTER 7

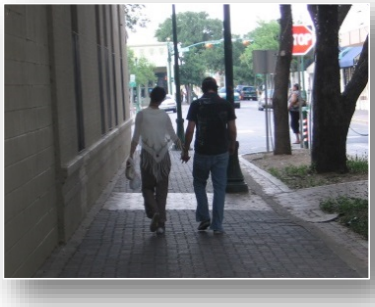
BICYCLE AND PEDESTRIAN

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction



Bicycling and walking serve as an alternative, affordable means of transportation for a variety of purposes. Pedestrian and bicycle facilities that are safe, accessible, and interconnected are important to supporting a high quality of life. They also contribute to environmental and societal enhancements through reduced vehicle miles traveled, decreased roadway congestion, overall improved public health, an increased sense of community, improved mobility for those without access to a personal automobile, reduced air and noise pollution, and improved water quality.

Moreover, bicycle/pedestrian travel is consistent with the MTP's vision to "develop a transportation system that offers safe, efficient, affordable travel choice for people and goods, while supporting economic development and long term quality of life." Bicycle/pedestrian travel is efficient, affordable, and available to segments of the population who do not or choose not to drive. It does not disrupt neighborhoods or have a negative impact on the environment. Every potential motorized trip which is taken by foot, improves environmental quality, improves individual health and fitness, reduces traffic congestion and delay and can contribute to a sustainable development pattern by delaying the need for additional roadway widening. Unfortunately, however, pedestrians and bicyclists are often overlooked when planning for transportation improvements and investments.

Bicycle/pedestrian travel is efficient, affordable, and available to segments of the population who do not or choose not to drive.

Laredo Regional Interest

In the Laredo region, bicycling and walking are important means of transportation. On any given day, the urban core of the city is teeming with shoppers on foot and the presence of cyclists using the roadways and sidewalks for transportation is very evident. Visitors from Nuevo Laredo, students at LCC, and other residents that rely on walking and bicycling to meet their daily transportation needs require a safe experience during their travels. For instance, over three million pedestrians crossed the border through the Gateway to the Americas Bridge in the downtown area from Nuevo

Laredo in 2012. Based on TxDOT's Crash Records Inventory System 2010-2012, there were also a high number of pedestrian or bicycle related crashes in the downtown area. Therefore, paying attention to elements of the system that support walking and bicycling should be an important community goal.

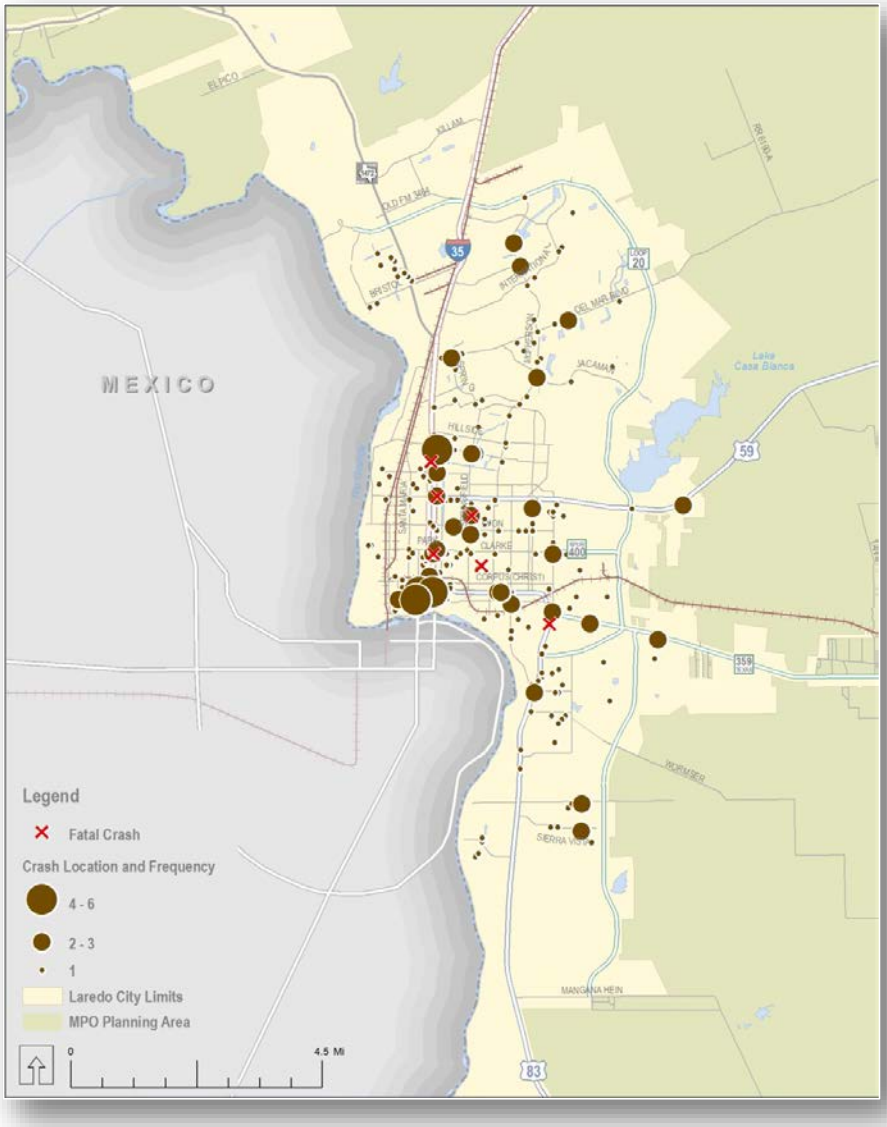
Perhaps native Laredoans do not walk or bicycle as often as their visitors from across the international border. However, although trends show an increase in vehicle ownership and commuting alone to work in the Laredo region, there is still a significant percentage of the population that relies on other modes of travel rather than the automobile. Compared with Texas, Web County has a larger percentage of its population that has no access to any vehicle. Even though the percentage of vehicle ownership has been increasing, providing transportation infrastructure for other modes besides personal automobiles is essential to creating a comprehensive, multimodal transportation system for the Laredo region.

Lastly, bicycling and walking do not have to be solely for those that do not have the financial means to own their own vehicle, but for anyone that may simply want more options to fulfill their daily travel needs. Laredo's Healthy Eating Active Living (HEAL) Initiative was launched in 2010 as a means to tackling obesity and chronic diseases. More bicycling and walking activity helps reverse obesity.

Crash Data

According to TxDOT's Crash Records Inventory System, there are a total of 229 pedestrian related crashes, and a total of 96 bicycle related crashes that occurred within the Laredo MPO area between 2010 and 2012. Among these, seven pedestrian fatalities were recorded, while no fatal bicycle related crashes were recorded. **Figure 7-1** shows the locations and frequency of bicycle and pedestrian related crashes. A high number of bicycle or pedestrian crashes occurred in the downtown area, though there were no fatalities there. Locations with multiple crashes could indicate where the safety of bicyclists and pedestrians should be stressed, and the reference source for future roadway projects to improve bicycle and pedestrian safety.

Figure 7-1: Bicycle and Pedestrian Crash Locations



Bicycle and Pedestrian Requirements

To make bicycling and walking viable transportation options, the basic needs of bicyclists and pedestrians must be taken into consideration. Environments that are more conducive to bicycling and walking are those that include mixed and dense land uses and appropriately scaled infrastructure. In addition to having safe, ADA-compliant facilities for individuals with disabilities, a high quality pedestrian environment should provide direct paths, be continuous, have safe crossings, have visual interest, provide shade, and offer various amenities.

Pathways along an interconnected network of streets generally offer more direct travel to destinations than curvilinear and cul-de-sac streets. Street crossings should be well-designed, visible, and contain crosswalks and signal activation devices where appropriate. Additionally, street crossings that incorporate raised medians and innovative design features such as bulbouts, which act as extensions of the pedestrian network into the roadway, make crossing streets safer for pedestrians. Streets that provide visible interest and features such as street furniture and trees encourage more people to walk. Also, a sense of safety and security is achieved through street lighting, pedestrian signs, and other visibility-related design features.

The needs for bicyclists are closely related to those of pedestrians. In general, bicyclists are made up of advanced, basic, and child users. As such, bicycle facilities should accommodate the needs of each level of users. Various bicycle facility options include shared lanes, paved shoulders, striped lanes, cycle tracks, shared-use paths, and signed routes. Shared lanes are usually wider outside lanes that provide additional room to accommodate bicyclists, while striped lanes are narrow lanes for the exclusive use of bicyclists and contain markings to indicate their designated use. Cycle tracks are bike lanes that are physically separated from the roadway. Shared-use paths are typically asphalt or concrete pathways that run adjacent to roadways and can be shared by both pedestrians and bicyclists. Signed routes are created in cases where no room exists to create

additional space for bicyclists and are often on less congested streets with reduced traffic speeds. Basic and child bicyclists may feel more confident utilizing multi-use paths and striped lanes; while more advanced users may travel safely on shared lane facilities.

A bicycle transportation network should meet certain requirements to ensure that bicycling is safe, convenient, and efficient for both utilitarian travel and recreational purposes. Hazards include a lack of proper lighting, overhead and horizontal obstructions, vehicular traffic, drainage grates, and conflict with other users such as pedestrians. There are different types of treatments for bicycle traffic, such as paved shoulders, shared use paths, dedicated bicycle lanes, and cycle tracks which are also known as physically separated bicycle lanes. The selection of bikeway type should consider the intended travel purpose, interaction with vehicular traffic, and the available right-of-way. The bicycle network itself should be direct and provide adequate connections between popular destinations, as well as access to public transit routes.

Clear and consistent route signage not only assists bicyclists in way-finding, but also helps motorists be aware of the presence of bicyclists. Bicycle parking that is safe, secure, and convenient is critical at popular destinations. Ancillary facilities, such as showers and lockers at places of employment, are also important for those that travel to work by foot or bike.

Five critical components augment the success of a non-motorized transportation system: engineering, education, encouragement, enforcement, and evaluation. Proper engineering and design of roadways incorporating a multimodal environment are vital in promoting a successful pathway network. Educational programs that administer information about the correct and safe way of traveling by foot or bicycle and that make motorists aware of "sharing the road" with different types of transportation uses are imperative for transportation safety. This is further complemented by the enforcement of traffic laws that relate to the interaction between motorists and pedestrians and bicyclists. Evaluation helps analyze the effectiveness, extent, and cost of various efforts and programs, and provide guidance to what resources should be made available and the direction of policies in the future.

National Trends of Bicycling and Walking

Even though bicycling and walking account for a relatively small portion of mode choice as a whole in the U.S., in recent years the number of cities with bicycling sharing programs and bike facilities have increased significantly. According to the U.S. Census, the number of workers who commuted by bicycle increased by 60.8 percent, from approximately 488,000 in 2000 to approximately 786,000 in the period 2008-2012. The increase in the number of workers commute by bicycle exceeded the percentage increase of all other modes during

the same period. As to walking, the percentage of workers commuting on foot decreased slightly from 2.9 percent to 2.8 percent during the same time period, but the number of workers who walked to work still increased, from approximately 3,759,000 in 2000 to approximately 3,938,000 in 2008–2012.

According to the U.S. Census, the number of workers who commuted by bicycle increased by 60.8 percent, from approximately 488,000 in 2000 to approximately 786,000 in the period 2008-2012.

Several large cities including New York City also have bike sharing programs, and several cities have plans for some sort of bicycle sharing program. The increasing number of bike sharing programs and bicycle-related facilities and programs to encourage bicycle use indicates the increasing interest in seeking non-motorized transportation as a viable mode choice from different levels. Bicycle-friendliness and walkability have become the selling point in some real estate advertising, and some communities have even invested in bicycling and walking for economic growth purposes.

Best Practices for Bicycle and Pedestrian Planning

Several best practices exist concerning the proper planning of bicycle and pedestrian facilities. Similar to the other modes of transportation, this "toolbox" of policies, strategies, and actions can assist in advancing bicycle and pedestrian transportation in the region.

Integrating Land Use and Transportation

Land use and transportation planning should be integrated to make communities livable and accessible for walking and bicycling. Standards, policies, and guidelines should be developed in order to support a safe, walkable, and bicycle-friendly environment. Land uses and street configurations most conducive to bicycling and walking are concentrated in mixed-use, dense, compact developments with a variety of services and facilities.

Specific policies for land use and transportation considerations may include providing clearly defined, separate lanes for bicyclists in order to create a physical division between motorists and bicyclists. This helps to elevate the importance of bicycling as a legitimate form of transportation. Other examples include requiring public rights-of-way for the construction of pathways connecting cul-de-sacs between developments, encouraging schools to include

pedestrian and bicycle accessibility issues in new school location decisions, and developing specific requirements for pedestrian and bicycle facilities in town centers, transit corridors, and employment centers.

Maintaining a Database of Bicycle and Pedestrian Facilities

In order to stay abreast of continuing bicycle and pedestrian needs, it is important for communities to maintain a database of pedestrian and bicycle facilities. This database should first involve creating an inventory of the existing system and contain information as to the conditions and features of the infrastructure. Besides facility conditions and other basic features, the database could also include the location of missing links in sidewalks and pathways, and the conditions of existing traffic operations and geometric conditions which impact a pedestrian or bicyclist's decision in using certain roadways. Criteria for determining bicycle and pedestrian levels of service could also be maintained to evaluate system performance. The database should be updated regularly to help in planning for future improvements to better accommodate bicyclists and pedestrians. The City of Laredo currently has a basic, regularly updated inventory of existing facilities.

Preserving Future Bicycle and Pedestrian Corridors

To further assist bicycle and pedestrian efforts, it is prudent to plan for and preserve future bicycle and pedestrian corridors. Strategies include requiring future development to set aside trail and pathway easements, incorporating bikeway right-of-way designations in transportation and master plans, identifying recreational trail corridors in park and community plans, and establishing pathways along utility easements and railroad corridors.

Incorporating Bicycle and Pedestrian Elements into Roadway Projects

Requiring that new roadways include bicycle and pedestrian elements would also improve non-automobile modes of transportation. The concept of the "complete street" is for the roadway to accommodate all road users, regardless of age, ability, or mode of transportation. This could be achieved through wider outer lanes, bike lanes, cycle tracks, wide paved shoulders, bicycle-friendly drainage infrastructure, sidewalks, dedicated bus lanes, comfortable and accessible transit stops, safe and frequent crossing opportunities, medians, pedestrian signals, and/or curb extensions. Additionally, coordination with TxDOT to ensure such accommodations on new or improved major roadways, bridges, underpasses, at-grade rail crossings, and highway interchanges could better support regional non-motorized

transportation. Too often, such enhancements are considered a "luxury" and often are not included in the name of cost savings.

Bikeway Treatments

Table 7-1 shows the five common treatments for installing bikeways – Paved shoulder, shared lane marking, bike lane, cycle track, and shared use path.

Table 7-1: Five Common Types of Bikeway Treatments

Type	Description	Example
Paved Shoulders	• Adequate in rural areas • Benefits to drivers: space for evasive maneuvers, space for disabled vehicles to slow down or stop safely, and increased sight distance for through vehicles and for vehicles entering the roadway • Benefits to bicyclists and pedestrians: reduce passing conflicts between motor vehicles and bicyclists and pedestrians, making storm water discharge farther from the travel lanes, reducing splash and spray to pedestrians and bicyclists, and allowing bicyclists to ride at their own pace	 *(Austin, TX)*
Shared Lane Marking	• Known as "sharrow", used to label a shared environment of automobiles and bicyclists • Encourages bicyclists to position themselves safely in lanes too narrow for vehicles to safely pass bicyclists in the same lane • Alerts drivers of the potential presence of bicyclists • Shown to increase the distance between bicyclists and parked cars to let bicyclists avoid getting "doored" • Serves to advertise bikeways to all road users without requiring additional right of way. **Considerations:** • Appropriate for low speed and low volume roadways	 *(Austin, TX)*

Type	Description	Example
Bike Lane	• A portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. • Allows bicyclists to ride at their own pace with little interference from vehicular traffic • Makes both bicyclists and drivers predict each other's movement more easily **Considerations:** • A designated buffer space between bike lane and vehicular traffic or parked cars can be provided to further improve the safety of bicyclists • Careful study must be implemented to consider the interaction of bicycle traffic and vehicular traffic when installing bike lanes • Law enforcement should help prevent vehicle encroachment and double parking	 *(Austin, TX)*
Cycle Track	• Providing physical separation between bicyclists and auto traffic or sidewalk by a physical barrier • Helps bicyclists of all skills ride in a more protective environment but requires wider right-of-way and more intricate engineering design at intersections **Considerations:** • Can be installed at the street level, the sidewalk level, or an intermediate level • Different pavement color or texture can be used to accentuate the right-of-way of cycle track	 *(Boulder, CO)*
Shared Use Path	• Best used where there are minimal driveways or cross streets • Helps bicyclists of all skills ride in a more protective environment but requires wider right-of-way **Considerations:** • Requires grade separation or exclusive signal operation at intersections with major roadways • Usually installed along waterways, railroad lines, limited access highways, or within parks and open space areas	 *(Houston, TX)*

Source: National Association of City Transportation Officials, Oregon Department of Transportation, Austin Cycling Association, Pedestrian and Bicycle Information Center, and Houston Chronicle.

Health and Fitness

Current Status

Obesity and lack of exercise have become a major concern that affects the wellbeing of our lives. As non-motorized modes of transportation, bicycling and walking are good means to exercising while traveling from one place to another. According to the CDC's Behavioral Risk Factor Surveillance System in 2010, only 29.1% of the population in Laredo had a healthy weight, 37.6% were overweight, and 33.3% were obese. In addition, 34.2% of the population reported to have no physical activity. Looking at the statewide data, according to the Texas Behavioral Risk Factor Surveillance System, in 2009 nearly 66.8% of Texas adults were either overweight or obese. According to the report *Texas Overweight and Obesity Statistics* from the Texas Department of State Health Services, if the current trends continue, 20 million or 75% of Texas adults might be overweight or obese by the year 2040, and the cost to Texas could quadruple from $10.5 billion per year in 2001 to as much as $39 billion by 2040. If Texas were to invest $10 per person per year in proven community-based programs to increase physical activity, improve nutrition, and prevent smoking and tobacco use, our state could save $1 billion annually within five years through reductions in health care spending. This is a return of $4.70 for every $1 spent.

Health Partners

As a result of a collaborative effort among various community stakeholders in public health, the Healthy Eating Active Living (HEAL) Laredo Initiative has been developed as a resource to combat the prevalence of obesity and diabetes in Laredo and the surrounding area. Through a coordinated, community-wide approach that includes outreach and health promotion efforts, along with targeted environmental and policy changes, the HEAL Laredo Initiative aims to mobilize the community toward a healthier lifestyle.

Marketing and Encouraging Bicycling and Walking

Marketing non-motorized transportation facilities as strongly-valued community assets may encourage more people to bicycle and walk. In doing so, efforts should focus on bicycling and walking as practical, popular, and mainstream activities that all types of people can enjoy. "Selling points" could include that transportation can be more than just a means of traveling to destinations, but also a healthy, fun and recreational experience that can be done safely and at little or no cost. Materials, such as route maps and websites and mobile applications, can be created to promote bicycling and walking and inform people about bicycle-compatible roads, pedestrian-friendly areas, and other bicycle and pedestrian amenities and programs.

Educational/Safety Programs

To increase bicycle and pedestrian safety, educational programs can be implemented which teach basic pedestrian and bicycling safety skills. Youth can especially benefit from bicycling and safety education, since they are very likely to walk or bike to school or other destinations. Typically college students are more likely to bike or walk, according to the report *Modes Less Traveled—Bicycling and Walking to Work in the United States: 2008–2012* by the U.S. Census Bureau and that many college towns have the highest shares of bicycle use in the U.S. They are also like to have higher trip generation rates. Students at Laredo Community College and Texas A&M International University could be the targets of such safety programs. Further, public awareness programs can educate motorists about the importance of sharing the roadway with non-vehicular traffic and other such safety considerations.

Bicyclist and Pedestrian Safety Projects

Commented [GRJ1]: This section was updated to reflect the new funding programming for bicycle and pedestrian projects as structured by the FAST Act.

Schools can be considerable sources of traffic and congestion, as many parents drive their children to school. In particular, cities should work with school districts to ensure that roadway improvements near schools are designed to minimize conflicts between pedestrians, bicyclists, and motorists by directing students to safer routes to schools. Further, school districts should be encouraged to consult with local governments about transportation circulation and to ensure safe and appropriate pedestrian and bicycle access. Safe Routes to School (SRTS) is a federal program that was implemented through SAFETEA-LU to encourage bicycle and pedestrian safety. It provides funds for pedestrian and bicycle improvements, including those related to safety and education. Under MAP-21, funding for funding for bicycle and pedestrian projects was provided under the Transportation Alternatives Program (TAP). The FAST Act; however, eliminates the TAP and replaces it with Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA). These TA funds include all projects and activities that were previously eligible under TAP including pedestrian and bicycle facilities, recreational trails, and SRTS projects. ~~Though the MAP-21 bill did not provide specific funding for SRTS, these projects are eligible for Transportation Alternatives Program (TAP) funds.~~ The Laredo MPO should continue to pursue the development of bicyclist and

pedestrian safety projects and programs for schools and surrounding neighborhoods that are in most need of bicycle and pedestrian infrastructure and programs.

Funding

Funding for proposed bicycle and pedestrian projects is often the last obstacle to their implementation. While the level of state and federal enhancement grants has varied over time, there appears to be recent renewed interest in funding such projects. Therefore, establishing priorities is critical to the success of the bicycle and pedestrian element of this transportation plan. The MPO can pursue alternative funding sources, such as private sponsorship or the Laredo Development Foundation. Another option to consider is the development of a Tax Increment Reinvestment Zone. A Tax Increment Reinvestment Zone (TIRZ) is an economic development tool available to Texas cities to help finance public improvements that are needed to promote development or redevelopment in a specific geographic area. The downtown Laredo urban core is one area to consider for a TIRZ. This area is bounded by Santa Maria Avenue, Moctezuma Street, Santa Ursula Avenue, and Water Street and sees the greatest amount of pedestrian traffic in the city.

Laredo Bicycle and Pedestrian Facilities

Presently, the Laredo region has only a few bicycle-only facilities, including existing bike lane along Clark Boulevard (Spur 400) between Bob Bullock Loop (Loop 20) and Arkansas Avenue and a cycle track along the northbound side of Bob Bullock Loop (Loop 20) from Shiloh Drive to just south of Sinatra Parkway. Additionally, the region possesses many qualities that contribute to its ability to attract bicyclists and pedestrians, including a favorable climate, a flat landscape, and good connectivity through its local street network in the central city of Laredo. However, as in most regions, automobiles are the dominant form of transportation, and bicycling and walking may not be considered viable alternatives for many people in the area. This may be further exacerbated by the presence of unsafe crossings, missing segments in bicycle facilities and sidewalks, design of arterials and major roadways, and a lack of dedicated lanes to give the sense of a visible division between automobiles and bicyclists.

Currently, the Zacate Creek Greenway provides a three mile trail along Zacate Creek from Canal Street to Rio Grande River. It provides opportunities for walking, jogging, hiking, and nature study. To further encourage and promote bicycling and walking as practical and reasonable options, more projects for bicycle and pedestrian enhancements should be considered in

the Laredo MPO area. In particular, a major focus has centered on the development of hike and bike trails providing regional connectivity along existing water features, including Chacon Creek and Manadas Creek. These environmental features provide a safe and beautiful corridor and represent exciting new non-motorized transportation opportunities for the residents of Laredo.

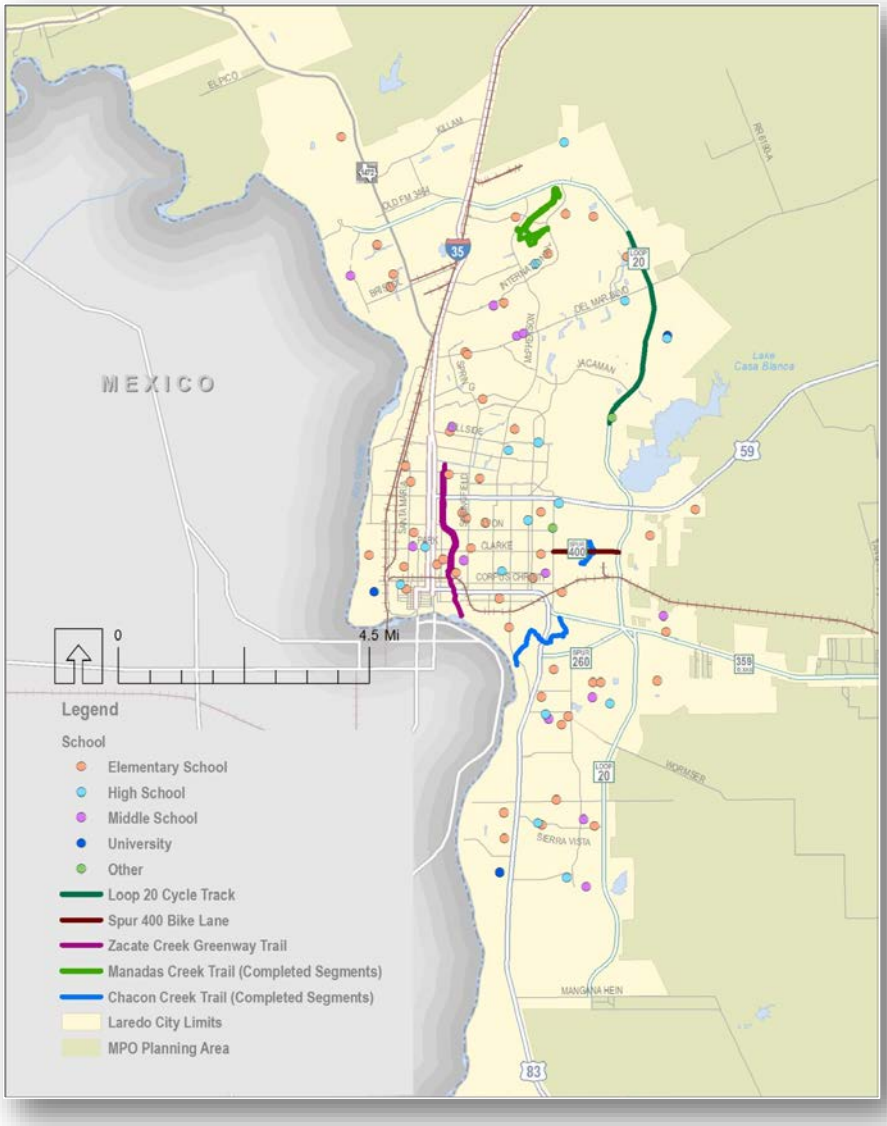
The Chacon Creek Hike and Bike Trail, when fully completed, will connect the LCC South campus to the southern terminus of the existing Loop 20 trail. Along its path, it will connect to several parks including Santa Rita Park, Benavidez Park, Dryden Park, Villa Del Sol Park, and Eastwoods Park. Currently, the segment between Rio Grande River and SH 359 and the segment between Haynes Recreation Center to Eastwoods Park have been completed. This trail will greatly benefit students wishing to bicycle from TAMIU to the LCC South campus. Similarly, the completed segments of Manadas Creek Trail are located at North Central Park and San Isidro Park. It is part of the proposed 15-mile long hike and bike trail. It encourages non-motorized transportation use by providing connections between the parks and the surrounding neighborhoods **Table 7-2** shows the bike route name, limits, and type of the existing bicycle facilities.

Table 7-2: Existing Bicycle/Pedestrian Routes

Bike Route Name	Limits	Type
Loop 20	Shiloh Dr to South of Sinatra Pkwy	Cycle Track
Spur 400	N Arkansas Ave to Loop 20	Bike lane
Zacate Creek Greenway Trail	Canal St to Rio Grande River	Shared path
~~North Central Park~~Manadas Creek Trail	At North Central Park and San Isidro Park	Shared path
Chacon Creek Trail	Rio Grande River to SH 359 and Haynes Recreation Center to Eastwoods Park	Shared path

Figure 7-2 on the following page presents the area's existing bicycle routes and the locations of different types of schools, which could help identify where the bicycle facilities could be installed to improve the safety of students who ride bicycles.

Figure 7-2: Existing Bicycle and Pedestrian Facilities and Schools



City of Laredo Planned Projects

In order to identify what improvements to the pedestrian/bicycle trail system will be in the near future, this section discusses the locally planned projects identified form the City of Laredo's 2014-2018 Capital Improvement Program (CIP). Federally funded projects are discussed in Chapter 12 - Financial Plan and Recommended Planned Improvements. **Table 7-3** lists the information of the CIP bicycle and pedestrian related project and **Figure 7-3** illustrates the locations of project. The 06-PARKS-008 project is Chacon Creek Recreational Improvements that includes trails, crossings, intermodal nodes, restrooms, fountains, and bike nodes.

Table 7-3: City of Laredo Planned Bicycle/Pedestrian Projects

Year	ID	Roadway	Limits	Description	Total Cost
2016	06-PARKS-008	Chacon Creek	Rio Grande River to Lake Casa Blanca	Construct various improvements, including hike and bike trail	$15,607,000

Figure 7-3: City of Laredo Planned Bicycle/Pedestrian Projects

CHAPTER 8

AIRPORT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

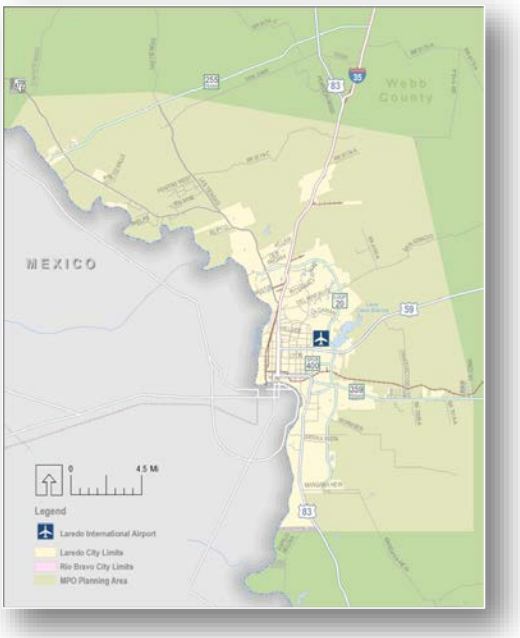
CHAPTER 8: AIRPORT

Introduction

An airport is a key economic engine to make a region keep its close ties with national and global markets. It provides efficient long distance transportation to move people and goods, and it is essential for a region's business activities, tourism, and trade. This chapter discusses the existing conditions of the airport, including the physical characteristics and operational statistics, forecast of future traffic, and strategies to improve the operations of the airport.

The Laredo International Airport (LRD), illustrated in **Figure 8-1,** is the primary airport in the Laredo MPO region and provides air transportation services for both cargo and passengers. LRD is located on approximately 1,800 acres of the former Laredo Air Force Base in eastern Laredo and is generally bounded by U.S. 59 to the south, Lake Casa Blanca State Park and Loop 20 to the east, and Jacaman Road to the north. LRD received the "Airport of the Year" award in 2006 and the "Airport Safety of the Year" award in 2009 from the Federal Aviation Administration (FAA).

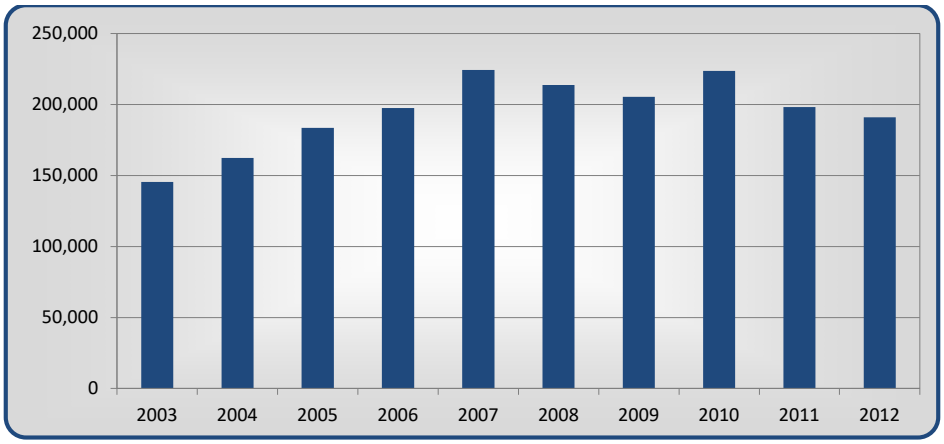
Figure 8-1: Location of Laredo International Airport



LRD is owned and operated by the City of Laredo and provides daily commercial flights to Houston, Dallas/Fort Worth, Las Vegas, and Orlando. Private fixed wing and helicopter service is also available. Additionally, LRD is classified as a Foreign Trade Zone (FTZ) site and can accommodate aeronautical and industrial purposes. Information on freight services is provided in more detail in Chapter 8.

Figure 8-2 portrays the total number of annual passengers at LRD from 2003 to 2012. The airport passenger volume increased steadily year by year between 2003 and 2007. After 2007, the number of passengers using the airport has shown a decrease year by year except in 2010. The passenger volume in 2012 was about 191,000.

Figure 8-2: Annual Airport Passengers



Source: Laredo Development Foundation via the Laredo International Airport (LRD)

Airport Characteristics

LRD's airfield contains two parallel runways and one cross-wind runway. Taxiways connect the runways to the apron and terminal areas located on the west side of the airfield. The primary runway, Runway 17L/35R is approximately 8,200 feet long; while the secondary runway, Runway, 17R/35L is approximately 8,700 feet long. The cross-wind runway, Runway 14/32, is approximately 5,900 feet long. Further, LRD is aided by runway and taxiway lighting systems, an instrument landing system (ILS) for the Runway 17R/35L, an air traffic control tower in operation 18 hours on the weekdays and 12-13 hours on the weekends, and other navigational aids for operation under both visual flight rule (VFR) and instrument flight rule (IFR) conditions. The installed airport geographic information system (AGIS) helps the FAA collect airport data to develop electronic Airport Layout Plans.

The current passenger terminal is approximately 78,000 square feet and provides space for five airlines, five car rental agencies, a duty-free store, and government and federal inspection facilities. In particular, the passenger terminal has the potential to be expanded on surrounding available land. In fact, the *Laredo International Airport Master Plan Update* calls for it to be expanded by approximately 26,500 square feet with two additional gates in order to accommodate future demand.

LRD has a Federal Inspection Station that offers 24/7 federal inspection services, including custom, agriculture, and immigration services for the international aviation community. Additionally, the airport is serviced by three fixed base operators that provide general aviation services. Surrounding land on the city-owned airport property is available for lease, and other entities, such as the Laredo Police Department, are located on airport property. In addition, an El Metro park and ride lot is near the airport entrance. The basic airport characteristics of LRD are summarized in **Table 8-1**.

Table 8-1: Airport Characteristics of the LRD

Characteristics	*Laredo International Airport*
Location ID	LRD
Year Built	1975 (converted from military to civilian airport)
Land Area (Acres)	Approximately 1,800
Ownership	City of Laredo (public)
Distance from Laredo city center	3 nautical miles northeast of Laredo, TX
Opening Hours	Opens 24/7 to the public
Roadway Access	Bob Bullock Loop (Loop 20)
Terminals	1
Commercial Airlines	Allegiant, American Airlines, and United Airlines
Aircraft Hangars	7
Runways	3
Taxiways	12
Fuel Types	100LL, JET A

Source: The National Flight Data Center (NFDC) of FAA and Laredo International Airport (LRD)

Over the past 20 years, the City of Laredo and the FAA have invested over $200 million to upgrade the airport's infrastructure. Noticeable projects that have been completed during this time period include:

- A totally reconstructed Runway 17L/35R to accommodate heavy aircraft;
- A totally reconstructed runway 17R/35L to accommodate heavy aircraft;
- Rehabilitated Runway 14/32;
- Engineered Materials Arresting System (EMAS);
- New and reconstructed cargo aprons with capacity to simultaneously park an additional 20 large cargo aircraft;
- New and reconstructed taxiways, a new passenger terminal, and a new fuel farm;
- Constructed airside cargo warehouses;
- Airport Geographic Information System (AGIS);
- Constructed ARFF Station (fire station);
- Noise Abatement;
- Upgraded Federal Inspection Station (FIS);
- Rehabilitated general aviation aprons;
- Upgraded Runway 17R lights and electrical vault; and,
- Constructed cargo pads at cargo aprons
- Constructed an approximately 13,000 s.f. Federal Inspection Service Facility to clear private and cargo aircraft and house U.S. and Mexican Customs.

It is worth noting that LRD is the only airport outside Republic of Mexico to have an operation of Mexican Customs.

Operations

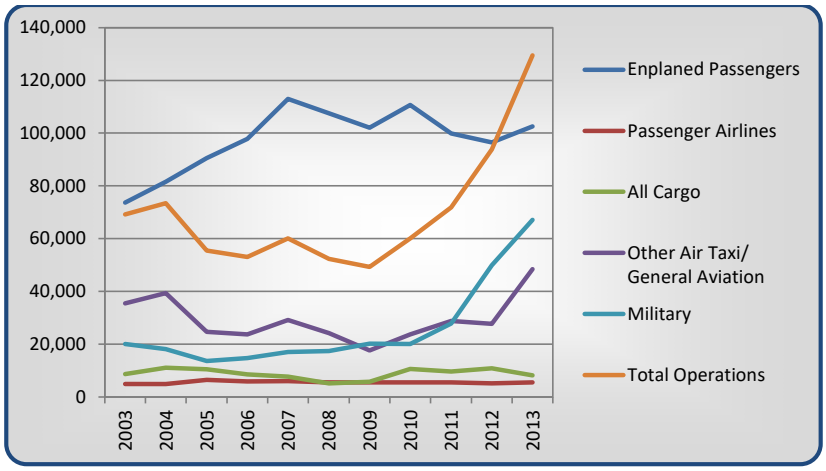
Based on the *Laredo International Airport Master Plan Update*, both historic and forecast data of enplaned passengers and aircraft operations are gathered for this plan. Several methods were used for the forecasting process, such as market share analysis, socioeconomic regression analysis, and trend analysis. The forecasts were developed based on assumptions about daily flight activity changes for the airlines, and the comparison with other sources, such as historical trends, the FAA Terminal Area Forecast (TAF), and TxDOT regional results. 2014-2018, 2023, and 2033 are the forecast years, and numbers in other years between 2014 and 2040 are derived based on the assumption of the same growth trend. Enplaned passengers are those who board a commercial flight. An operation is either a takeoff or landing at an airport by an airplane. General aviation is all civilian aviation operations other than scheduled passenger airline services.

The historic numbers for enplaned passengers, as well as the aircraft operations of four categories: passenger airline, all cargo, other air tax/general aviation, and military from year 2003 through 2013 of LRD are presented in **Figure 8-3**.

Several methods were used for the forecasting process, such as market share analysis, socioeconomic regression analysis, and trend analysis.

The forecasts were developed based on assumptions about daily flight activity changes for the airlines, and the comparison with other sources, such as historical trends, the FAA Terminal Area Forecast (TAF), and TxDOT regional results.

Figure 8-3: Historic Enplaned Passengers and Operations

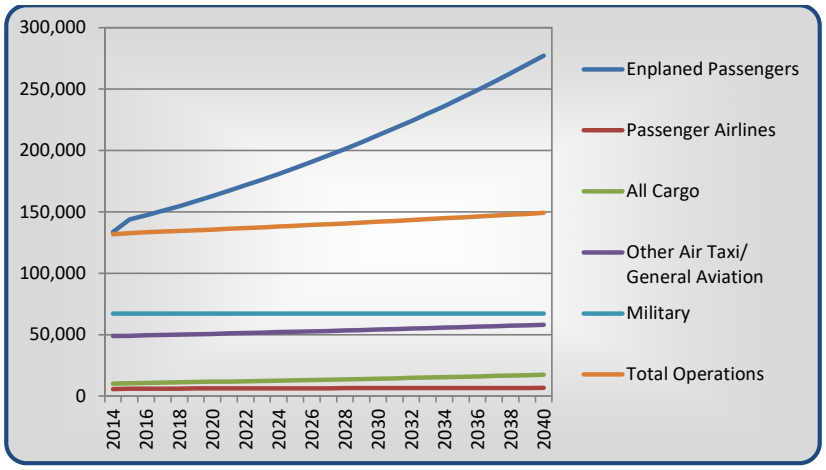


Source: Laredo International Airport Master Plan Update

In 2007, the total number of enplaned passengers exceeded 100,000, and the level remained similar in 2008 through 2013. In 2013, the total number of enplaned passengers is approximately 102,500, and the number of total operations is 129,500. From 2010 to 2013, the number of total operations had more than doubled. It is mainly due to the also more than doubled levels of other air taxi/general aviation and military aircraft operations.

The forecast enplaned passengers, and passenger airline, all cargo, other air taxi/general aviation, and military operations are presented in **Figure 8-4**.

Figure 8-4: Projected Enplaned Passengers and Operations



Source: Laredo International Airport Master Plan Update and Study Team

It is forecasted that enplaned passengers will increase at a higher rate than operations. Based on the same growth trend beyond 2033, in 2040, the total number of enplaned passengers is forecasted to be about 230,000. Passenger airlines, all cargo, and other taxi/general aviation aircraft operations are also forecasted to increase through 2040; yet they would increase at a comparatively slower rate. In 2040, LRD is projected to have approximately 6,620 passenger airlines operations, 17,000 all cargo operations, 58,000 other air taxi/general aviation operations, and 149,000 total operations.

Proposed Strategies

Commented [GRJ1]: Updated to emphasize enhancing travel and tourism is also a goal in strategies to improve the facility, accessibility, and land use coordination

Continued investment in LRD is essential to maintain and enhance Laredo's ability to attract businesses and passengers. Strategies related to facility improvement, accessibility, and land use coordination ~~enhance the~~to improve airport operations~~, and~~ support economic development, and enhance travel and tourism. The City of Laredo and the FAA also have further plans to improve the airport. The currently planned improvements for the next 20 years include the following projects:

- Extend Runway 17L/35R;
- Install Instrument Landing System (ILS) for Runway 17L/35R;
- Continue Reconstruction of West Side General Aviation/Air Cargo Apron;
- Expand West Side General Aviation/Air Cargo Apron;
- Construct New Airport Traffic Control Tower;
- Extend Taxiway G;
- Construct Connecting Taxiways;
- Construct Runway and Taxiway Shoulders;
- Expand Airport Terminal Building and Apron;
- Reconstruct Airport Perimeter Road;
- Construct Airport Maintenance Facility;
- Replace Localizer V-Ring Antenna with Log Periodics Antenna;
- Replace Mark 1F Transmitter with Mark 20 Transmitter;
- Construct Air Cargo Development Road;
- Acquire Land for Runway 17L Protection Zone;
- Expand Airport Terminal Building Parking Lot;
- Southwest and Northwest Air Cargo Development;
- Hotel Development; and,
- Construct Rental Car Service

Continuous efforts are constantly being made to improve the operations of LRD. Laredo is one of the fastest growing cities in the U.S. in recent years, and by the measure of gross landed weight in 2012, LRD is ranked sixth among all airports in Texas. Its national rank changed from 78th in 2008 to 43rd in 2012. It is also projected to have a continuous increase in numbers of enplanements and aircraft operations in future years to 2040. Several strategies are proposed in order to retain the competitiveness of LRD in the coming years.

Facility Improvement

As noted in the list of planned projects, facility capacity is planned to be increased by extending runway and taxiway, extending runway and taxiway shoulders, and expanding

general aviation and cargo aprons. A new air traffic control tower is planned to replace the current one. New technology is also considered to be continuously added to the airport facility, such as ILS for Runway 17L/35R, and new types of antennas and transmitters. A new airport maintenance facility which the airport currently lacks is also planned.

Accessibility

Safe and efficient access to the airport is essential to attracting passengers and enhancing travel and tourism. LRD is located approximately six-and-half-mile by roadway from the downtown area, and near the intersection of US 59 and Bob Bullock Loop. The main entrance is on the east side of the airport from Bob Bullock Loop and the parking lot is just in front of the terminal building. It is planned to expand the current parking lot to further meet the demand of increasing passengers. Also, a rental car service facility is currently planned to provide more convenient rental car connections to travelers.

The expansion of air cargo apron and air cargo areas and air cargo development road are also planned to accommodate potential higher demand of air cargo. LUTS will continue to coordinate with LRD to consider the ways to improve the access to and from the airport and facilitate and improve the passenger and freight movement.

Land Use Coordination

Land use around an airport is important to an airport. When preparing the future land use plans and allocating future population and employment growths, it is crucial to consider the impact of these developments on the airport. Well-planned developments around the airport would support its operations. The recent and planned hotel development around the airport area would provide more convenient accommodations for travelers. LUTS would keep working closely with LRD for developing an integrated land use and transportation plans around the airport.

Commented [GRJ2]: Again, adding some key text to emphasize travel and tourism as one of the new FAST Act planning factors.

CHAPTER 9

FREIGHT AND GOODS MOVEMENT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 9: FREIGHT AND GOODS MOVEMENT

Introduction

The Laredo regional economy relies significantly on the freight transportation system due to its special geographic location and socioeconomic and development characteristics. The North American Free Trade Agreement (NAFTA), which has resulted in increased trade with Mexico, has created a strong demand for trucking, warehousing, and support service industries in the region.

The port of Laredo serves as a major national gateway connecting the U.S. with Mexico, making freight movement an extremely important local issue. Over time, increasing freight movement will require more infrastructure improvements and better connectivity between the national transportation system corridors and trade partners in order to increase synergies that reduce logistics costs of goods and services in final consumption markets. By being able to provide quick, affordable, and efficient goods movement, the Laredo MPO region is expected to attract more freight-dependent industries and benefit from trade related strategies.

The port of Laredo serves as a major national gateway connecting the U.S. with Mexico, making freight movement an extremely important local issue.

The purpose of this chapter is to provide a general understanding of freight activities in the Laredo MPO region and aid planners in making informed freight planning policies and investment decisions. This chapter addresses various aspects of freight transportation, including freight infrastructure, current and forecasted freight flows by mode, and issues and challenges faced by the freight industry.

Congressional High Priority Corridors

Congress has designated a total of 80 corridor High Priority Corridors (HPCs) in the country, and three of these (HPC 23, HPC 20 and HPC 38) travel through the Laredo MPO region. These corridors, shown in **Figure 9-1**, connect the international markets of Canada, the U.S., and Mexico.

Commented [GRJ1]: Updated to add a brief summary on the National Highway Freight Network and the National Multimodal Freight Network. These systems are both provisions of the FAST Act and described in greater detail in Chapter 5.

Figure 9-1: Congressional High Priority Corridors

As mentioned in Chapter 5, the FAST Act introduced both the National Highway Freight Network (NHFN) and the National Multimodal Freight Network (NMFN) in order to strategically direct federal resources and policies toward improved performance of the national freight transportation system. Within the NHFN, there are 19 miles of Primary Highway Freight System (PHFS) roadways. PHFS roadways are considered the most critical

highway portions of the US freight transportation system. Within the Laredo MPO area, the PHFS consists of I-35 and portions of US 59, Bartlett Avenue, and Maher Avenue connecting to the industrial area on the west side of the Laredo International Airport. The NMFN compliments the NHFN by identifying critical assets of all freight transportation modes. Within the Laredo MPO area, the NMFN consists of the 19 miles of PHFS roadways from the NHFS, the Laredo International Airport, the Lincoln-Juarez International Bridge (Bridge #2), and 40 miles of railways.

Freight Infrastructure

Laredo has a strong freight transportation system that serves the movement of goods and chiefly supports international trade between the U.S. and Mexico. The main freight transportation modes in the Laredo MPO region are highway and rail. **Figure 9-2** shows the major freight transportation infrastructure, including both network and facilities, in the Laredo MPO region.

Highway Network

Laredo is the busiest truck freight gateway in Texas, and truck transportation is the most important goods movement mode serving the area. The value of cargo moved by truck represents about 72% of total cargo moved in the Laredo MPO region.

Designated Truck Routes

Commented [GRJ2]: Updated to include the NHFN and NMFN designations from the FAST Act

The Laredo MPO region has designated truck routes which separate commercial traffic from non-commercial traffic. These truck routes consist of major transportation corridors and major arterials, as well as some local streets that provide access and connections to intermodal and industrial facilities within the region. The primary truck routes that provide for the movement of goods are:

- Interstate: Interstate 35÷
- U.S. Highways: U.S. 59 and U.S. 83
- State Highways/Loops: SH 359, Loop 20 (including Cuatro Vientos Boulevard), SH 255, and Spur 260
- Farm-to-Market (FM) roads: FM 1472, FM 3338, and FM 3464/Milo Road, and
- Arterials: Killam Industrial Boulevard, Santa Isabel Avenue (a segment), Santa Maria Avenue (a segment), Anna Road, Calton Road (a segment), and Jefferson Street (westbound only).

As mentioned previously, the National Highway Freight Network and the National Multimodal Freight Network both identify 19 miles of highway assets consisting of

portions of I-35, US 59, Bartlett Avenue, and Maher Avenue that are critical for freight movements through the US.

Figure 9-2: Freight Transportation Infrastructure

Figure 9-3 and **Figure 9-4** show the level of service (LOS) for the truck routes in the Laredo MPO region for 2008 and 2040. In 2008, certain segments of U.S. 83, U.S. 59, SH 359, Loop 20, and FM 1472 are considered to be over capacity. If there were no highway capacity expansion, beyond what is committed in the current TIP, by 2040 the congestion would spread out into more roadway segments in the Laredo MPO region.

Figure 9-3: Truck Route Level of Service, 2008

Figure 9-4: Truck Route Level of Service, 2040

Railroad Network

Commented [GRJ3]: Updated to include NMFN designations from the FAST Act.

Laredo is one of seven rail ports of entry on the U.S.-Mexico international border and is the largest rail freight gateway in the U.S. Laredo's freight rail service is provided by two U.S. carriers: Union Pacific (UP) Railroad and the Kansas City Southern Railway (KCS).

UP is a Class I railroad and operates the most extensive rail network in not only Texas, but also the U.S. Within Laredo, UP has two rail yards, one located about four miles north of the IH 35 and Loop 20 interchange, south of the Unitec Industrial Park, and the other located north of the International Railroad Bridge yard, between Zaragosa and Moctezuma Streets. UP operates between 15 and 20 trains per day through Laredo south of Loop 20, and 20 to 25 trains per day from the Texas Mexican Railway International Bridge to the city limits. By the year 2020, the traffic volumes are projected to increase by at least 30 percent.

KCS is a Class I railroad operating in the central United States. It also owns and indirectly operates Kansas City Southern de México (KCSM) in the central and northeastern states of México. The main KCS rail yard is located about two miles east of Loop 20 and has a capacity of 1,375-cars. KCS currently operates six to seven trains per day.

On the Mexican side of the border, KCSM maintains the Sanchez yard, which is located 11 miles south and west of Nuevo Laredo. This rail yard contains 22 tracks, including two for car repairs and an intermodal terminal capable of handling 1,500 trucks per day. According to the KCS *Feasibility Study for Proposed International Rail Bridge*, the Sanchez yard was improved to double its capacity to 40 trains per day.

The National Multimodal Freight Network (NMFN) was introduced in Chapter 5. In 2016, an Interim NMFN was established and open to public comment. Freight rail systems of Class I railroads are components of the Interim NMFN. As such, the 40 miles of UP and KCS Class I railroads in the Laredo MPO area are part of the Interim NMFN.

Laredo has five international bridges serving the border crossings between the U.S. and Mexico.

International Border Bridges

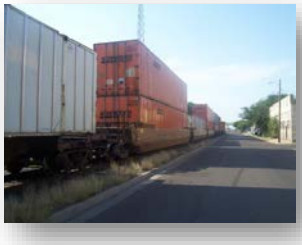
Laredo has five international bridges serving the border crossings between the U.S. and Mexico. Only three of these bridges, the Colombia-Solidarity Bridge, the World Trade Bridge, and the Laredo International Railway Bridge, allow commercial traffic. The other two international bridges (i.e., Juarez-Lincoln International Bridge, Gateway to the Americas Bridge) are for passenger usage only. Additional information regarding these bridges can be found in the previous chapter.

The Texas Mexican Railway International Bridge is currently owned by KCS, which purchased Tex-Mex and KCSM. It is a single track bridge, and both UP and KCS share operation of it. According to the *Presidential Permit Application for KCS East Loop Bypass*, the rail bridge is expected to exceed its capacity of 40 trains per day by or before 2020. It should be noted that this prediction is based on no substantive changes in

trans-border security measures in the interim. More stringent screening and inspections could substantially decrease the total capacity.

Mexican Multimodal Corridor

In an ongoing study sponsored by the Mexican Secretariat of Communications and Transportation, the Lázaro Cárdenas – San Luis Potosí – Monterrey – San Antonio Corridor has been identified as a high priority trade corridor that will provide Mexico with a master plan to develop a multimodal transportation network of key corridors that meets the requirements of a world class multimodal transport system, and that furthers the goal of Mexico becoming a prominent participant in world trade.



Corridor 6, which is shown in **Figure 9-5**, begins at the port city of Lázaro Cárdenas, and ends in the San Antonio, Texas. The Mexican portion of this corridor ends at the city of Nuevo Laredo, just before the U.S.-Mexico international border. It is approximately 953 miles from the port to the border. This corridor is connected by a KSCM rail line, and links the port of Lázaro Cárdenas to Monterrey and the U.S. market via Laredo.

Figure 9-5: Lázaro Cárdenas – San Luis Potosí – Monterrey – San Antonio Corridor

Source: Mexico Multimodal Master Plan

This route connects important industrial cities in the NAFTA corridor, including Querétaro, San Luis Potosí, Saltillo, and Monterrey. The MPO will continue to monitor the developments of this corridor and coordinate as necessary with federal and state entities on both side of the border.

Foreign Trade Zones

An FTZ is a location where domestic and foreign merchandise are brought for the purpose of storage, manufacturing, accessibility, exhibition, manufacturing or other operations, free from customs duties until the goods leave the zone and enter the U.S. for domestic use. Freight forwarding, custom brokerage, and other manufacturing companies can utilize the FTZ sites in Laredo and reduce operating costs for their businesses.

In 2012, the U.S. Department of Commerce and the Foreign Trade Zone Board approved the reorganization of the Laredo's FTZ 94 service area to include all of 3,376 square miles of Webb County. This would not affect current FTZ operators, but it would benefit all logistics, manufacturing, brokers, and third-party logistics providers in Webb County. Originally, there were seven industrial parks designated as foreign trade zone sites, but after the expansion of the FTZ 94 service area, other industrial sites or individual warehouse of a company can apply to the city to be FTZ sites. The other individual warehouses not located in the industrial parks would be usage driven sites. There are a total of 22 operators in 13 sites currently, and they are listed in **Table 9-1**.

In 2012, the U.S. Department of Commerce and the Foreign Trade Zone Board approved the reorganization of the Laredo's FTZ 94 service area to include all of 3,376 square miles of Webb County.

Table 9-1: Current Foreign Trade Zone Operators

Company Name	
AC IMPORTS & EXPORTS	AMERICAN AIR FREIGHT
BA FORWARDING CO.	BRUNI SUPPLY CHAIN SOLUTIONS
CONNECTIONS GLOB. LOG	CROMEX FORWARDING INC.
ED GROUP & TFS CUSTOMS BROKER	H. K. GLOBAL TRAIDING LTD
KUEHNE + NAGEL, INC.	LAREDO DUTY FREE
MULTIMODAL LOGISTICS, INC	NIPPON EXPRESS
PG DISTRIBUTION, LLC	RADCO INTERNATIONAL, LLC
RAVISA DISTRIBUTION CENTER, LC	SEEGROVE
SONY ELECTRONICS, INC	SPECIALIZED CUSTOMS SERVICES
TEXAS FORWARDING SVC. U.S. BROKERS	TRADE UNLIMITED, INC.
UNITRADE FORWARDING	YUSEN LOGISTICS (AMERICAS) INC.

Source: Laredo International Airport

Air Freight Facilities

Air freight in Laredo is served by the Laredo International Airport (LRD), which has dedicated air freight facilities. LRD is located approximately three and half miles from the center of the city, and six miles from the international border (straight distance). The airport has direct access to US 59 and Loop 20.

LRD currently has three runways, 579,000 square feet of storage space, and 20 air cargo operators, including Federal Express, UPS, Kallita Charters, McNeely Charters, Encore Air Cargo, IFL Group LCC, Northern Air Cargo, and USA Jets. **Table 9-2** presents existing hanger and air cargo facilities in the airport.

Table 9-2: Storage Facilities in Laredo International Airport

Category	Storage Space (square feet)
10 Aircraft Hangars	207,000
15 Air Cargo Facilities	360,000
Federal Express Facility	30,000
Total Storage Space	597,000

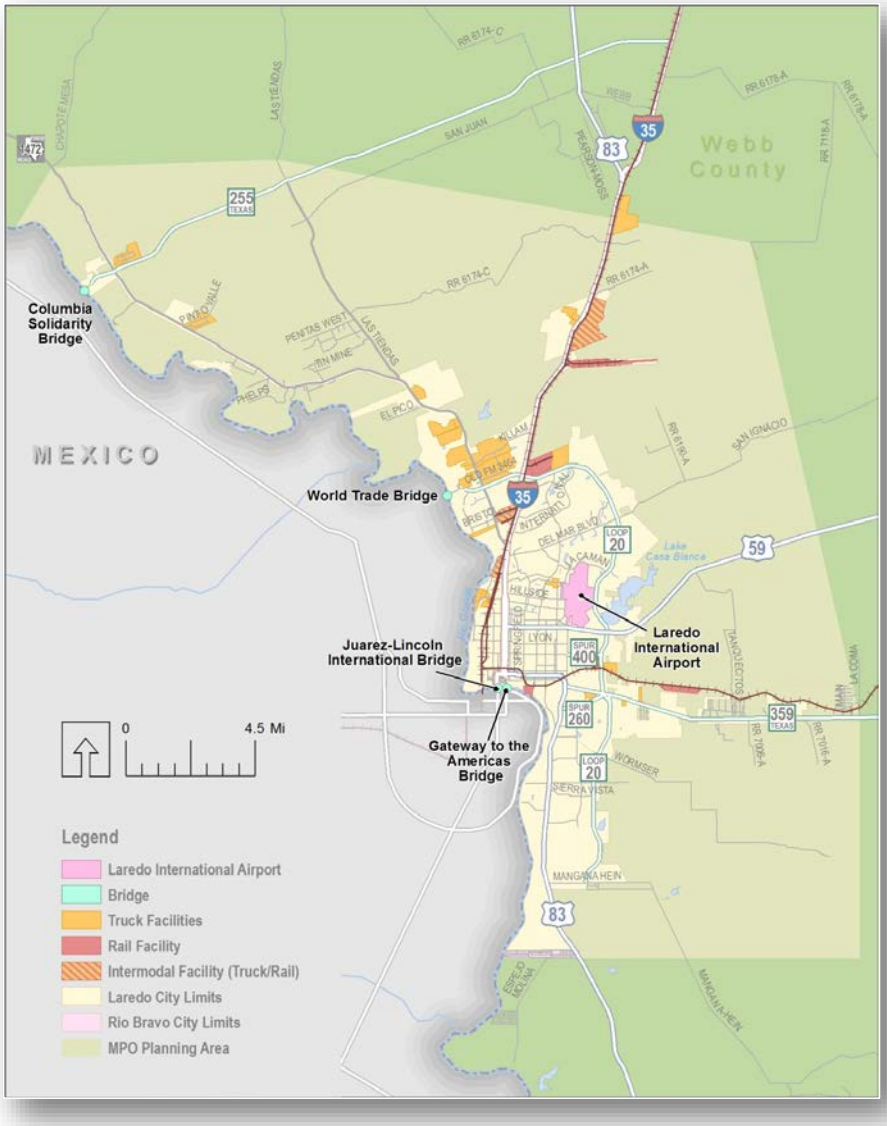
Source: Laredo International Airport

According to the *Airport Master Plan Update*, the existing air cargo apron and building space will be expanded in order to accommodate growing air cargo activities. The recommended air cargo expansion plan includes a total of 720,000 square feet of air cargo building space, 246,000 square feet of aircraft parking apron, 82,100 square feet of truck docking area, and 55,000 square feet of fuel farm or non-aviation commercial activities.

Industrial Facilities

Industrial facilities in the Laredo MPO region are the nerve centers for freight traffic in the Laredo MPO region. These facilities serve as the origins and destinations of the majority of commercial traffic. Through zoning and other regulations, the city of Laredo has steered the development of these facilities away from residential areas and have tried to isolate their impacts to a handful of clusters around the region. No doubt, the location of future facilities will impact the freight movement throughout the region. Strategic investments in the transportation infrastructure near and around these industrial facilities will help support this critical piece to the local and national economy. **Figure 9-6** shows the location of regional industrial facilities.

Figure 9-6: Regional Industrial Facilities



Goods Movement

Trading Partners

According to the FHWA's Freight Analysis Framework 3 database, Laredo's top five domestic trading partners include locations in other parts of Texas, Michigan, California, and Illinois. **Table 9-3** shows the value of the amount traded with these regions along with five-year growth rates.

Table 9-3: Top Domestic Trading Partners in the U.S. (Millions of Dollars)

State	Region	Annual Trade Value (millions) 2007	2012	Annual Growth Rate (2007-2012)
Texas	Houston-The Woodlands CSA	$13,480	$16,093	3.61%
	Dallas-Fort Worth CSA	$9,425	$12,051	5.04%
Michigan	Detroit-Warren-Ann Arbor CSA	$10,942	$13,789	4.73%
California	Los Angeles-Long Beach CSA	$6,137	$7,052	2.82%
Illinois	Chicago-Naperville CSA	$5,420	$6,432	3.48%

Source: Federal Highway Administration. Freight Analysis Framework 3.

Table 9-4 shows the trade value for 2007 and 2012 between Laredo and foreign trading partners. According to the *FHWA's Freight Analysis Framework 3 database*, Laredo's top foreign trade partner is Mexico, with which total trade value accounts for 98 percent of the total trade value in 2012. The numbers with all trading partners except the rest of Americas showed growths from 2007 to 2012.

Table 9-4: Top Foreign Trading Partners in the U.S. (Millions of Dollars)

Country/Region	Annual Trade Value (millions) 2007	2012	Annual Growth Rate (2007-2012)
Mexico	$108,898	$138,858	4.98%
SE Asia and Oceania	$818	$921	2.40%
Eastern Asia	$851	$870	0.44%
Europe	$308	$407	5.73%
Rest of Americas	$319	$232	-6.17%

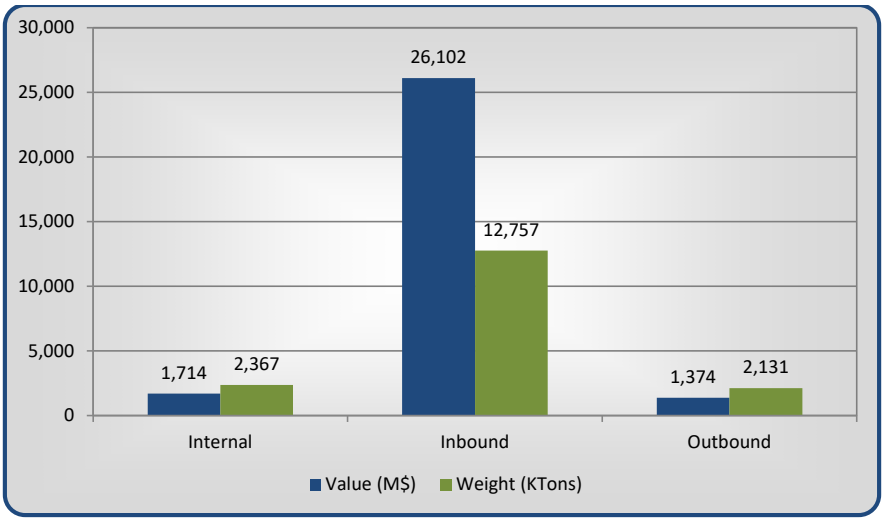
Source: Federal Highway Administration. Freight Analysis Framework 3.

Domestic Flows

Existing Freight Demand

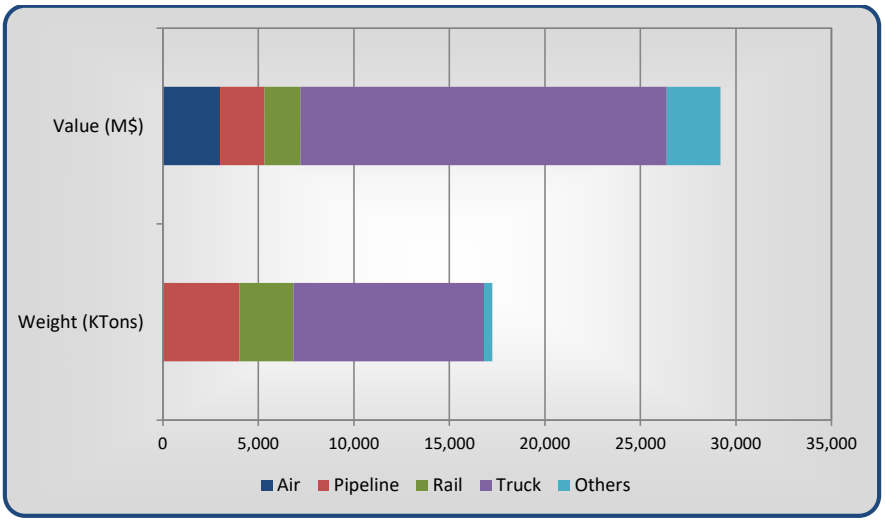
Movement Type - According to the Freight Analysis Framework Version 3 (FAF3) data, in 2012 the internal flow inside Laredo MSA is approximately 1.7 billion dollars or 2.4 million tons of weight. A total of 26.1 billion dollars or 12.8 million tons of goods were transported inbound into Laredo MSA from other destinations in the U.S via various modes including air, truck, rail, pipeline, and mail. A total of 1.4 billion dollars or 2.1 million tons of goods were transported outbound from Laredo to other destinations in the U.S. **Figure 9-7** shows the total value and weight of domestic flow by internal, inbound, and outbound directions.

Figure 9-7: Domestic Flow by Movement Type



Mode - Truck is the dominant mode for transporting goods between Laredo and other locations in the U.S. **Figure 9-8** shows the total value and weight of freight by mode in 2012. Trucks transported approximately 19.2 billion or 10 million tons of goods for domestic trade. Air transportation accounts for the second largest share of value– approximately three billion dollars, but only 22 thousand tons. Meanwhile, pipelines transported approximately 2.3 billion or four million tons of goods, and rail transported approximately 1.9 billion or 2.8 million tons of goods for domestic trade in 2012.

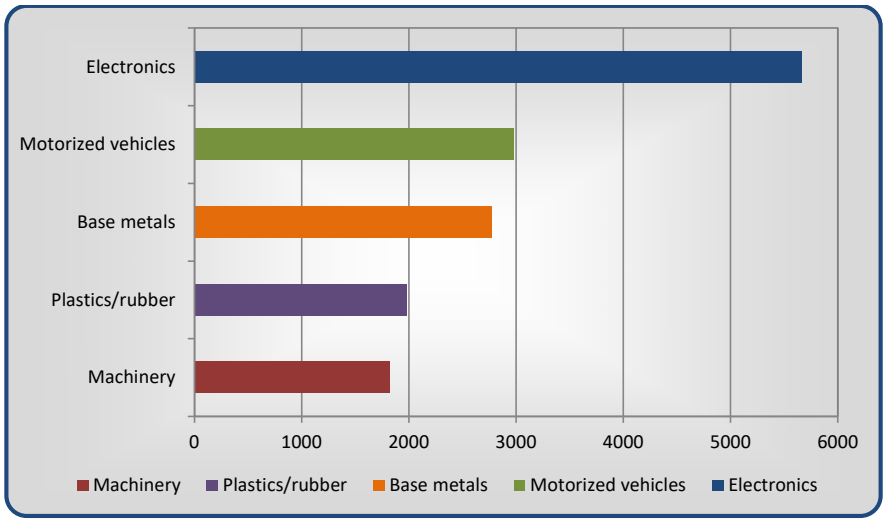
Figure 9-8: Domestic Flow by Mode



Source: Federal Highway Administration. Freight Analysis Framework 3

Commodity - **Figure 9-9** shows the top five total commodities of total domestic trade value of freight in 2012. The top five outbound commodities include electronics, motorized vehicles, base metals, plastics/rubber, and machinery. These commodities represent approximately 52 percent of the total value of commodities in 2012.

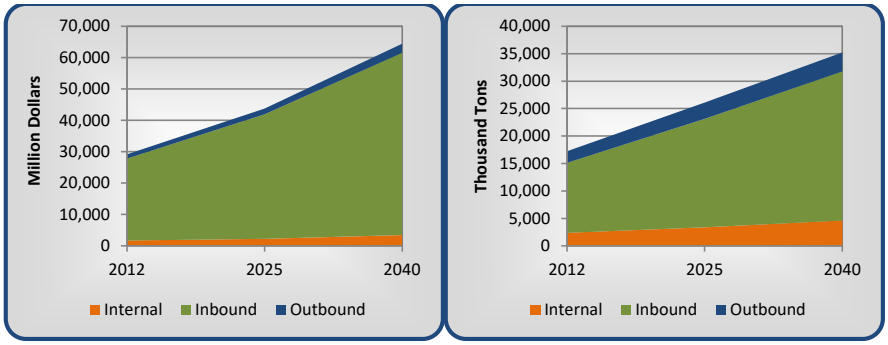
Figure 9-9: Domestic Flow by Commodity



Future Freight Demand

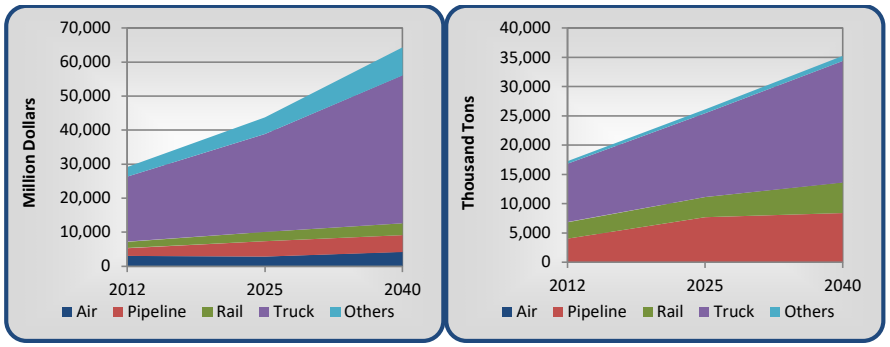
Movement Type - Based on the projections from the FAF 3 database, in 2040 the trade values of all outbound, inbound, or internal types of freight movement are projected to be more than double than the current levels. **Figure 9-10** shows the existing 2012 and projected 2025 and 2040 total value and weight of freight by movement type. The total trade value of internal movement within Laredo MSA is projected to be approximately 3.5 billion dollars in 2040. The total values of inbound and outbound movements are projected to be 58.1 billion dollars and 2.9 billion dollars, respectively. The total weight of internal, inbound, and outbound movements within Laredo MSA are projected to be approximately 4.6, 27.1, and 3.5 million tons, respectively.

Figure 9-10: Existing and Projected Domestic Flow by Movement Type



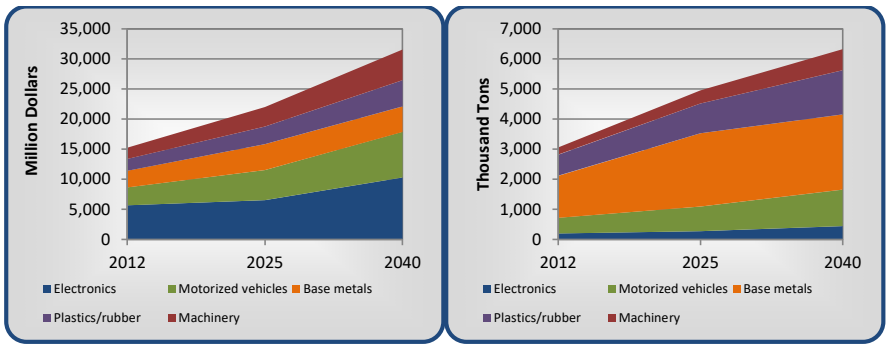
Mode - **Figure 9-11** presents the existing 2012 and projected 2025 and 2040 total value and weight of freight levels by mode. Air transportation is projected to grow by 40 percent, railroad by 85 percent, and pipeline and truck by more than 100 percent between 2012 and 2014.

Figure 9-11: Existing and Projected Domestic Flow by Mode



Commodity - **Figure 9-12** shows the existing 2012 and projected 2025 and 2040 total value and weight of freight by commodity. All these five commodities are expected to grow by more than 50 percent by year 2040. It is projected that machinery will have the highest percentage of growth between 2012 and 2040 among these five – approximately 179 percent, followed by motorized vehicles – 155 percent. These commodities are projected to account for 49 percent of total value of domestic trade in 2040.

Figure 9-12: Existing and Projected Domestic Flow by Commodity

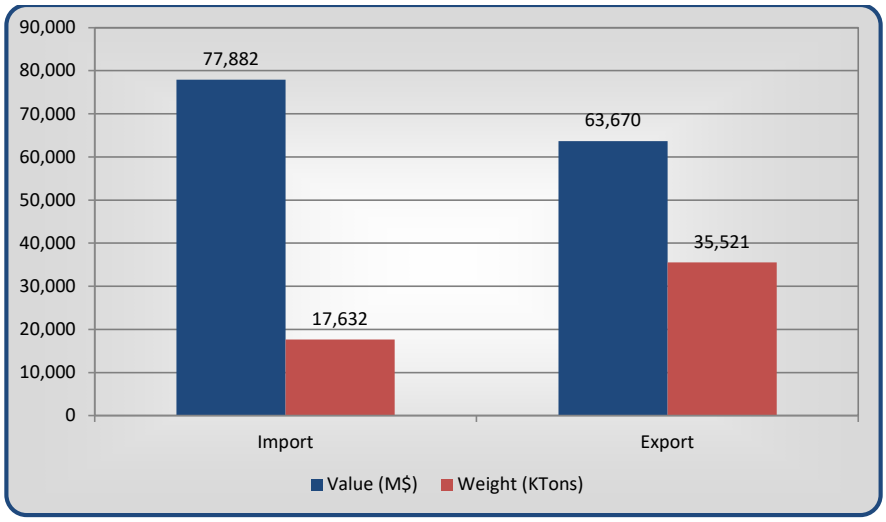


International Flows

Existing Freight Demand

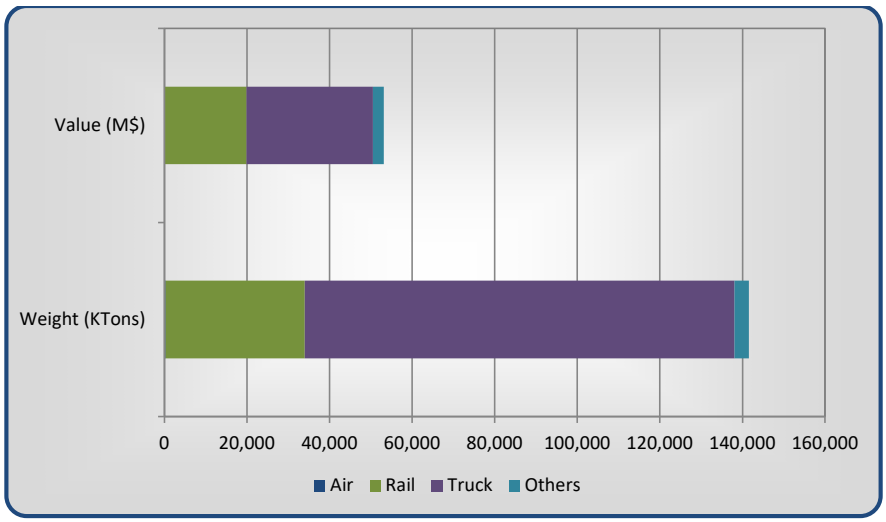
Movement Type - In 2012 approximately 77.9 billion dollars or 17.6 million tons of goods were imported from foreign countries through Laredo into the U.S, and approximately 63.7 billion dollars or 35.5 million tons of goods from the U.S. were exported through Laredo to foreign countries. **Figure 9-13** shows the total import and export value and weight through the port of Laredo in 2012.

Figure 9-13: International Flow by Movement Type



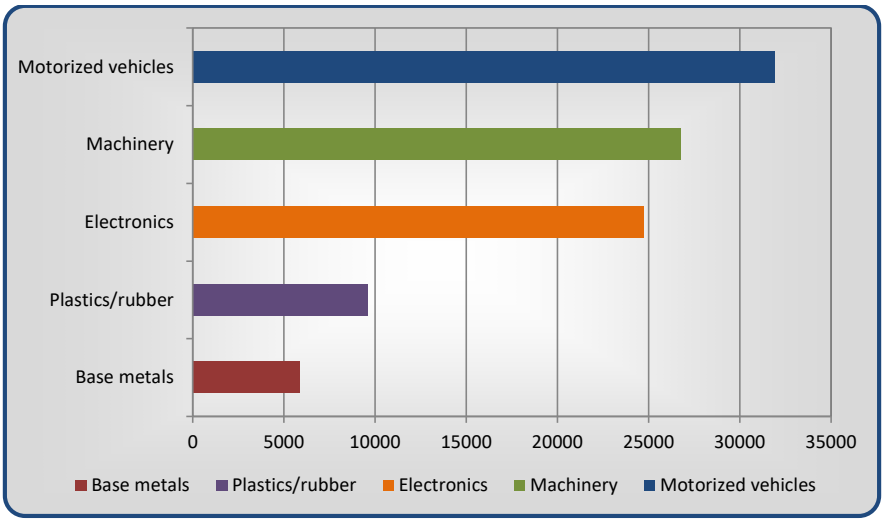
Mode - **Figure 9-14** presents the total goods transported by different modes measured by value of weight in 2012. Similar to domestic trade, truck is still the dominant mode of transportation. It accounts for 58 percent of total trade value and 74 percent of total weight of goods traded internationally. Compared to domestic flows, rail accounts for higher shares of international freight – it accounts for 24 percent and 14 percent of the total weight and value of goods, respectively.

Figure 9-14: International Flow by Mode



Commodity - **Figure 9-15** shows the top five total commodities of international trade measured by value in 2012. The top five outbound commodities include motorized vehicles, machinery, electronics, plastics/rubber, and base metals. These commodities represented 70 percent of the total international value of commodities in 2012.

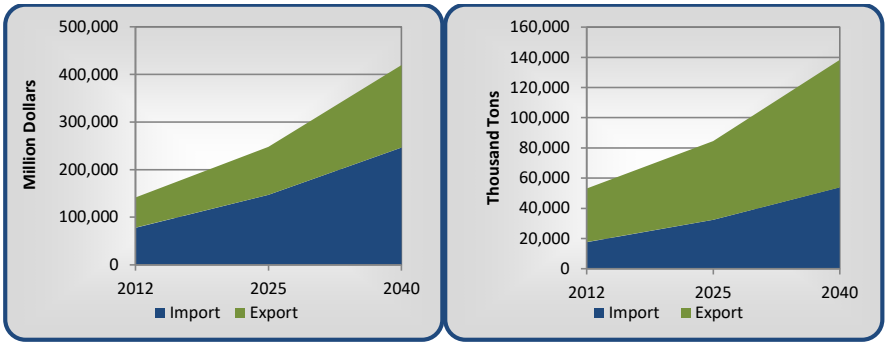
Figure 9-15: International Flow by Commodity



Future Freight Demand

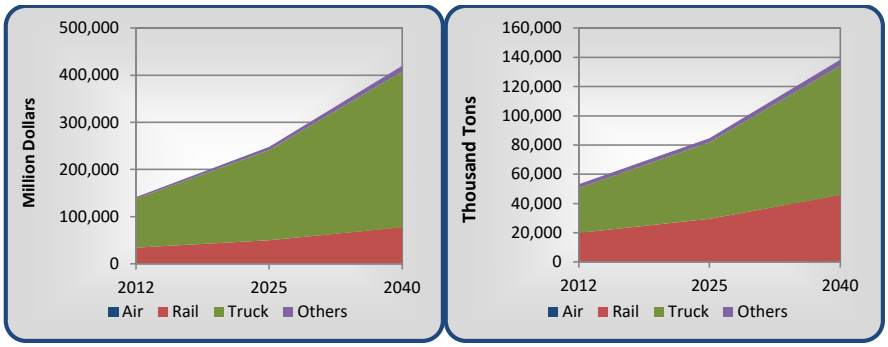
Movement Type - **Figure 9-16** shows the existing 2012 and projected 2025 and 2040 import and export total value and weight of freight from the FAF3 projections. The total trade value of import goods is projected to increase from approximately 77.9 billion dollars in 2012 to 246.5 billion dollars in 2040, which translates to a growth of more than 200 percent. The total trade value of export goods is projected to grow from approximately 63.7 billion dollars in 2012 to 173.4 billion dollars in 2040. The total weights of import and export goods are also projected to grow in a similar way.

Figure 9-16: Existing and Projected International Flow by Movement Type



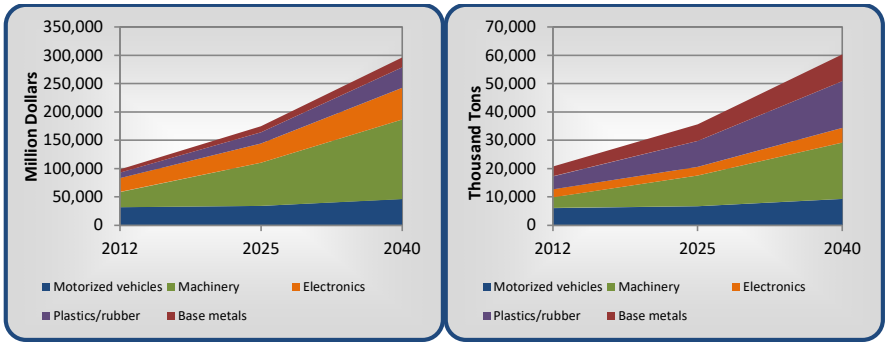
Mode - **Figure 9-17** presents the existing 2012 and projected 2025 and 2040 total value and weight of freight by mode. Air transportation will grow by approximately 40 percent, railroad by approximately 85 percent, and pipeline and truck by more than 100 percent between 2012 and 2014.

Figure 9-17: Existing and Projected International Flow by Mode



Commodity - **Figure 9-18** shows the existing 2012 and projected 2025 and 2040 total value and weight of freight by commodity. All these five commodities are expected to grow by more than 50 percent by year 2040. It is projected that machinery will have the highest percentage of growth between 2012 and 2040 among these five – 179 percent, followed by motorized vehicles – 155 percent. In 2040, these commodities are projected to account for 71 percent of all commodities.

Figure 9-18: Existing and Projected International Flow by Commodity



Trade with Mexico

Value of Trade

The FAF3 data shows Mexico is Laredo's dominant trade partner. Data from the Texas Center for Border and Economic and Enterprise Development indicates that the Port of Laredo accumulated approximately $175 billion worth of U.S./Mexico trade in 2013. Comparatively, this amount far exceeded the amount of other ports along the Texas/Mexico border. **Table 9-5** shows the total amount of U.S./Mexico trade dollars by

port of entry in Texas for 2011 and 2013. Laredo's closest competitor, El Paso, accumulated about $67 billion worth of trade in 2013, less than half as much as Laredo.

Table 9-5: U.S./Mexico Total Trade Dollars by Port of Entry in Texas

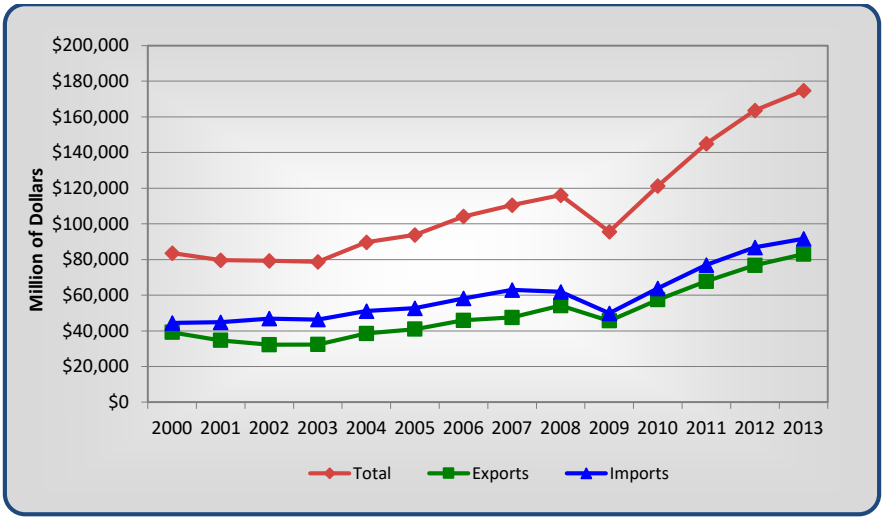
Port of Entry	2011	2013	% Change
Laredo	$144,894,809,670	$174,627,443,005	20.5%
El Paso	$59,877,887,861	$66,597,119,612	11.2%
Hidalgo/Pharr	$24,500,983,949	$27,431,211,647	12.0%
Eagle Pass	$19,621,517,526	$21,434,480,451	9.2%
Brownsville-Cameron	$13,461,098,943	$14,631,676,856	8.7%
Del Rio	$3,695,647,734	$4,453,415,482	20.5%
Presidio	$342,902,360	$450,828,458	31.5%
Rio Grande City	$238,156,026	$252,585,766	6.1%
Progreso	$402,641,485	$392,776,396	-2.5%
Roma	$51,804,640	$72,179,276	39.3%
Fabens	$34,634,291	$36,610,132	5.7%

Source: Texas Center for Border and Economic and Enterprise Development

Freight Flows

Figure 9-19 shows that U.S.-Mexico trade value through the port of Laredo has steadily increased over the last 13 years, with an annual growth rate of 5.8%.

Figure 9-19: U.S.-Mexico Trade Value, Through Port of Laredo



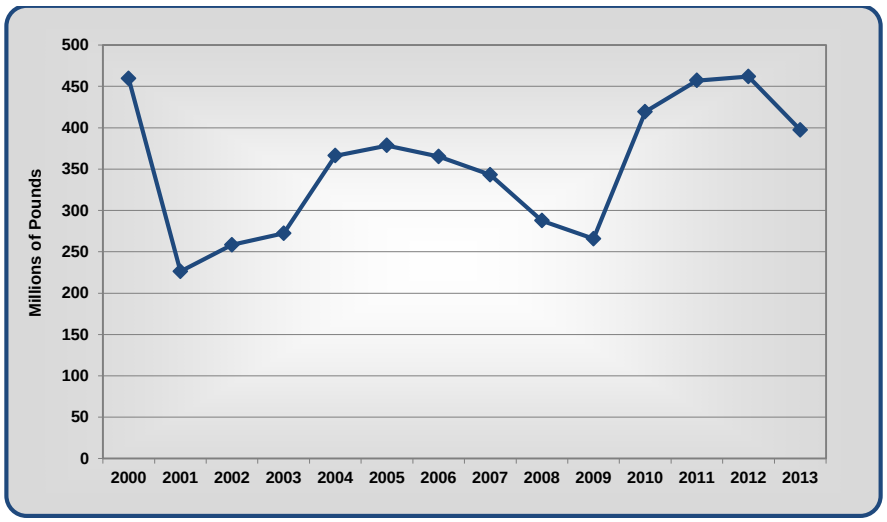
Source: Bureau of Transportation Statistics. North American Transborder Data

Air Freight through Laredo International Airport

In the Laredo MPO region, air freight is becoming an increasingly important component of the transportation of goods. Air freight typically serves time-sensitive, high-value commodities such as documents and precision equipment. FedEx and UPS currently serve LRD on a scheduled basis, while non-scheduled operators include Northern Air Cargo, Ameristar, U.S.A Jet, and others.

Figure 9-20 presents the historical air cargo shipments measured by air cargo aircraft gross landed weight in LRD from 2000 to 2013. According to the information provided by LRD, the air cargo business at LRD, about 90% of the air cargo business is related to the automobile industry.

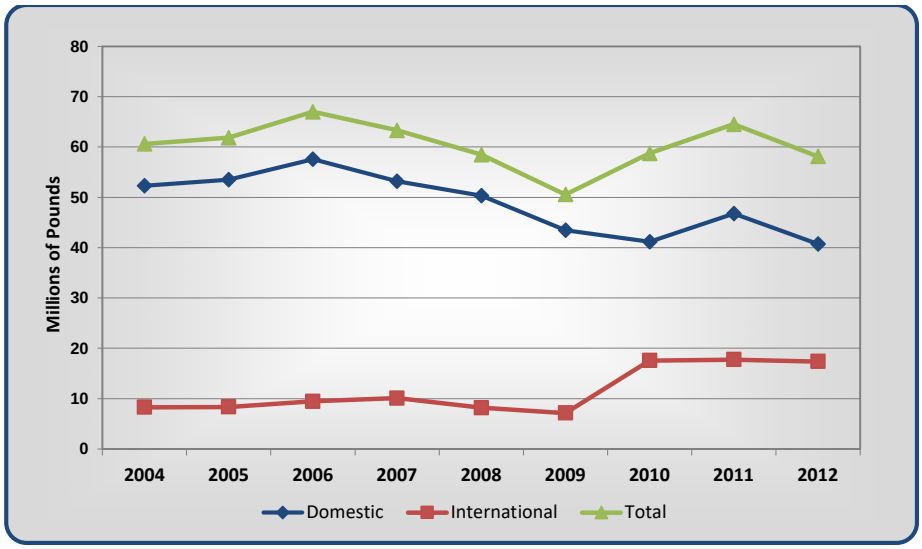
Figure 9-20: Air Cargo Aircraft Gross Landed Weight at LRD, 2000-2013



Source: Laredo International Airport via Laredo Development Foundation

Figure 9-21 shows the historical air cargo activity measured by the weight of cargo carried by both all-cargo and passenger airlines from 2004 to 2012. As shown on the figure, although the total weight in 2012 did not increase from that in 2004, the total weight and share of international increased noticeably, indicating the growing importance of international trade through LRD.

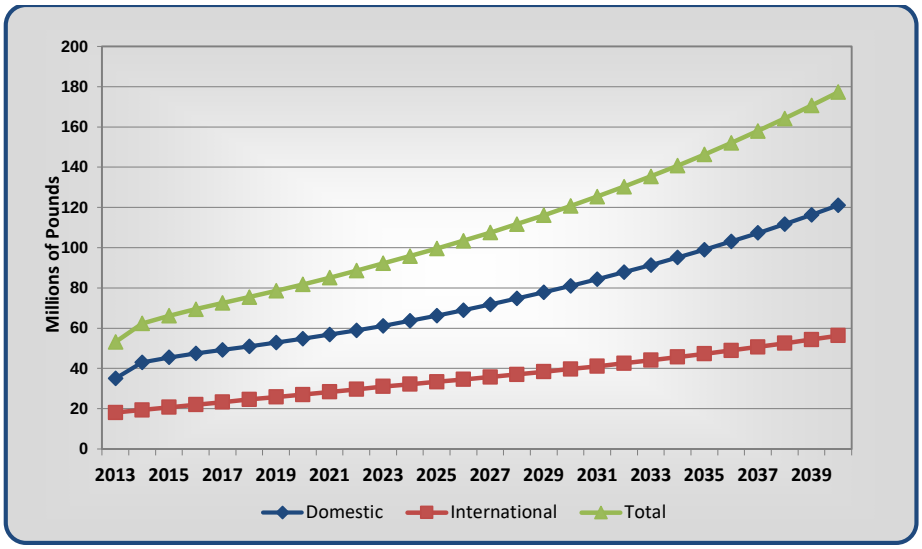
Figure 9-21: Historical Air Cargo at LRD, 2004-2012



Source: Laredo International Airport Master Plan Update

The *LRD Master Plan Update* forecasts that growth in air freight between 2012 and 2033 will be 4.1 % annually. The result is based on the regression analysis of the historical activity and the FAA's Aerospace Cargo Ton Mile Forecast for 2013 to 2033. Total international air cargo pounds are forecasted to increase at a 4.5% annual growth rate. The future projections for the domestic and international trade are presented in **Figure 9-22**. The numbers in years other than the forecast years of 2014-2018, 2023, and 2033 are derived based on the same growth trend.

Figure 9-22: Projected Air Cargo at LRD, 2013-2040



Source: Laredo International Airport Master Plan and Study Team

Two alternative forecast scenarios were also established through the comparison to other related forecasts. The lower growth scenario is based on an assumption that domestic growth is reduced to 0.7% annually, similar to FAA's forecast for domestic growth nationally, yet the baseline international growth was maintained. The higher growth scenario assumes the baseline domestic growth rate, but increased the international growth rate to 7% based on increasing imports to Mexico with a higher growth rate through 2018 followed by a 5.5% growth rate through 2033.

In 2012, the Mexican customs for pre-clearing the Mexico bound cargoes at LRD was opened. The customs clearance operation expedites delivery of air cargo by reducing time and cost.

Based on the air cargo growth forecast, the plan indicates that the existing air cargo facilities currently located on the southwest side of the airport are fully developed, and will have deficiencies starting in 2015; therefore, a new air cargo area should be identified for improvements.

In 2012, the Mexican customs for pre-clearing the Mexico bound cargoes at LRD was opened. The customs clearance operation expedites delivery of air cargo by reducing time and cost. Air cargo cleared at LRD arriving in Mexico will be immediately released to the owner without having to pause at a Mexican airport bonded facility. Laredo is the only city in the U.S. to provide Mexican Customs service. LRD now is the only city in the southern border to have 24/7 customs service availability. The convenience of air freight operations at LRD would be a catalyst for regional economic development and make Laredo an air cargo hub for NAFTA countries.

Texas Freight Mobility Plan ~~Listening Session~~

Commented [GRJ4]: Brought up to date now that the Texas Freight Mobility Plan has been completed and updated.

During the development of this plan, The Texas Department of Transportation ~~is currently~~was working on the Texas Freight Mobility Plan (TFMP) which was published in 2016. ~~The latest~~ MAP-21 ~~encourages~~ ~~had~~ encouraged such a statewide plan and also encourage~~d~~s each state to establish a freight advisory committee with a representative cross-section of stakeholders from both the public and private sectors~~rs of stakeholders~~. The panel Texas Freight Advisory Committee (TxFAC) was established to serve as a forum to support agency transportation decisions affecting freight. The listening sessions were conducted around the state as part of the outreach efforts of the TFMP. They gathered information for the TFMP needs identification and assessment and input into freight project prioritization and freight improvement strategies. Stakeholders ~~are~~ were encouraged to provide their opinions about the challenges and opportunities they ~~are facing~~face in these listening sessions. ~~A collection of stakeholders with a potential interest to discuss freight transportation includes:~~Stakeholders included:

- Transportation providers, e.g. railroad, motor carrier, steamship line
- Freight generators, e.g. distributors, manufacturers, retailers, forwarders
- Elected officials and appointed representatives
- Transportation and planning agencies
- Governing entities
- Enforcement agencies, national and statewide

~~The 10th listening session for Laredo was conducted on June 19, 2013.~~ There are a number of freight movement issues and challenges ~~in the Laredo MPO region issues and challenges~~ identified in the Laredo MPO region through the listening sessions for Laredo. These challenges include system capacity, border/ports-of-entry, and Mexico Trade and Relationship.

With the enactment of the FAST Act, each state is required to develop a freight plan that comprehensively addresses short- and long-term freight planning activities and investments. The latest 2017 Texas Freight Mobility plan serves as a guide to address freight transportation needs by establishing goals and strategies to guide investment decisions and prioritize projects that align with the state's transportation and economic development goals. The plan outlines priorities for freight investments, identifies facilities that are critical for economic growth and the movement of goods, strategizes for enhanced economic growth and competitiveness, expands freight policies, ensures consistency with neighboring states and federal goals and objectives, and provides a realistic implementation plan.

System Capacity

Capacity issues will be the most critical challenge to the international gateways, and Laredo will be no exception. The freight flow projections presented above indicate that freight growth will continue to add capacity burdens on an already congested network. In fact, the

majority of the comments received in the listening sessions are related to system capacity. Some capacity issues being mentioned include:

Current Conditions

- Truck traffic congestion lines up, impacting passenger vehicle movement on I-35 (two lane area to San Antonio)
- San Antonio to San Marcos truck movement not as fast as passenger, causing slow-downs
- Growth in oil and gas industry along US 83 and US 59 causes more traffic
- Expansion on I-35 from Loop 20 to mile marker 13 (two lanes to three lanes) works; truck traffic stays on the far right lane; after mile marker 13 to San Antonio, congestion is much greater
- Mobility on I-35 is important. There is plenty of right-of-way to go to San Antonio to expand highway
- Proposal of an outer loop around Laredo to move truck traffic around Laredo (10-15 years ago it was discussed)
- Lack of truck parking. It is possible to expand rest area parking to include dedicated truck parking
- Loop 20, as a means to divert truck traffic from I-35, is not complete and not continuous; there is a lack of direct connection to 35; needs to come up to interstate standards to ensure full capacity; provides most benefit to truck traffic

- There should be more consideration for US 59 route; Laredo should get more funding for the I-69/US 59 improvements
- A large amount of freight moves across Laredo's commercial bridges. It is crucial to make sure that traffic flows out efficiently
- The Union Pacific trains in the downtown area block traffic at the rail crossings. Emergency vehicles and other vehicles are stuck to wait for trains

Future Conditions

- Look at I-69 as it ties into Loop 20 and wraps to I-35. Increase mobility with another lane on I-35 to San Antonio

- China, near Corpus, building manufacturing plant for pipes for the Eagle Ford Shale ($1 billion); partnership with Chesapeake
- Discussions with 13 oil companies; anticipating that the build-up will be ongoing until 2016-2018; drop off will begin about 2032
- Eagle Ford Shale will have 20-24 years of gas recovery; secondary recovery another 10 years; -also Jackson Shale in Zapata County; discovery of Buda Shale also; impact of shale development will be long-lasting
- Del Rio and Eagle Pass major development will also have an impact on capacity; there is potentiality to shift some of the congestion from Laredo to that area
- The Port to Plains Corridor initiative
- Checkpoint 35; Eagle Ford Shale has caused increase in traffic; now at 8,000 trucks a day (4,000 to 7,000 only a short time ago). Trying to facilitate, but pushing capacity at the 35 crossing; if traffic increases fourfold, truck traffic would see incredible back-ups/delays
- Columbia Bridge has HazMat and oversize/overweight issues
- Planned outlet mall in downtown Laredo could impact traffic in downtown Laredo and I-35. The construction is expected to take place in 2014 ~~construction~~ and the mall is slated to open in 2015. The Outlet Shoppes at Laredo opened in 2017 with 59 stores on 3 levels.
- Traffic congestion will trend worse for Laredo if infrastructure in rest of region is not improved
- Need to have something happen on Nuevo Leon side; Until that happens State Highway 255 may not be fully used
- Passenger railway planning. Should we use of the existing rail or new rail? How will this impact current freight movement; integration of freight and passenger rail
- Highway 2 in Mexico functional in 4-5 years; anticipate freight traffic will increase fourfold during that time period
- Where is the final destination for automotive-related freight (Detroit, Ohio, etc.)? They need to be aware of impact and bring them into the discussion, especially the impact on Laredo; not just a Laredo issue

Commented [GRJ5]: Vanessa: Just wanted to identify this development now that construction has completed and the mall has opened.

Border/Ports-of-Entry

Border crossing wait times is another factor that exacerbates highway and rail congestion. Heightened security practices instituted over the last decade coupled with growing demand have increased travel times and delay. According to the 2012 Commercial Border Crossing and Wait Time Measurement at Laredo World Trade Bridge and the Colombia-Solidarity Bridge, approximately half of the northbound trucks crossing at the World Trade Bridge spent more than 40 minutes and at the Colombia-Solidarity Bridge more than 30 minutes. In contrast a non-delayed border crossing should normally take only 10 minutes. Some of the comments related to border/port-of-entry include:

Current Conditions

- Peak hour congestion (2 pm-6 pm/3 pm-9pm)
- Border crossing from US-Canada not the same system; paperwork is more straightforward and moves more quickly
- There is potentiality to speed up traffic through the use of barcodes and move traffic more quickly. If the system is expanded, it will help congestion issues at border crossing
- Congestion observed in Laredo international bridges.
- More trade agreements with Asia and South American counties such as Colombia, Peru, Chile, Argentina, etc. would add to volumes that are coming to the U.S. It has impact on not only truck but also rail traffic

Future Conditions

- The consideration of the new international commercial bridge construction in the next 10 years in Laredo should address commercial and other traffic
- If trucks entered at Columbia, and had pre-clearance and did not have to go through Laredo, could use State Highway 255 and pass through going north. It could help move traffic away from Laredo, avoid checkpoint need, and alleviate some congestion. Trucks would not have to pull in/stop if pre-cleared (trusted carrier program)

Mexico Trade and Relationship

As the top trading partner with Laredo, Mexico's economy as well as the relationship Laredo and Mexico could highly affect Laredo's freight transportation. Some of the comments related to border/port-of-entry include:

Current Conditions

- Mexico's growing economy with auto and other manufacturing industries makes freight in Laredo increase. When Mexico prospers, this area prospers, and we have to be prepared for it
- Automotive industry in Mexico has increased considerably. Port of Lazaro-Cardenas services Pacific Rim, bringing parts in that eventually go through Laredo. There are always positive increases in growth in Laredo due to increase in growth through port
- Highways linking Mexican Pacific to Mexican Gulf will also bring more freight into Laredo
- Mexican drayage companies complain that they operate only 3 crossings per day, and want to operate more, but it is too congested
- Mexican ports are looking to implement clean air act and port harbors, similar to ports in U.S.
- Building infrastructure strictly on current traffic counts is not considering infrastructure growth in Mexico relative to the Del Rio and Eagle Pass Ports

Future Conditions

- Highway improvement (Highway 2, west coast) in Mexico will bring additional traffic to Laredo (perishables)
- There is investment in new automotive plants south of the border; the impact of that freight will be coming in 12-18 months
- Mexico City conference: Mexico is looking to modify constitution to bring horizontal drilling and bring investment. If that happens it will also have an impact on Laredo; Eagle Ford goes into Mexico (40-60 miles). This will have an impact on the Laredo community
- China invested Mexico Highway 2 to move their products too, and access east coast markets
- Bi-national movement of cargo is critical, and has more of an impact than some of the local initiatives/development that increases truck traffic
- 40% of Mexico-US crosses Laredo bridges, 60% if expanded to Del Rio to Brownsville (customs district)
- There could be a new international commercial bridge that connects Loop 20 to Mexico
- Wages in Mexico drops below the wages in China, so Mexico is becoming a dominant worldwide economy

Potential Strategies

Some potential strategies that could help improve the freight movement include:

Operational Improvements

- Providing real-time information on incidents, weather, congestion, and other traffic conditions
- Creating routing restrictions for heavy loads
- Improving management of truck and container traffic at terminals
- Adjusting street traffic signals near freight terminals
- Managing curb space for freight deliveries
- Establishing dedicated truck routes
- Creating emergency management and incident response systems for truck routes

Demand Management

- Tolls, Value/Congestion pricing
- Peak and off-peak delivery for freight

Capacity Enhancement

- Creating truck-only lane facilities
- Widening access roads to rail intermodal yards
- Constructing grade separated railroad crossings
- Improving landside access to airports
- Reconfiguring terminals

CHAPTER 10

CONGESTION MANAGEMENT PROCESS

TABLE OF CONTENTS

LIST OF FIGURES

LAREDO METROPOLITAN TRANSPORTATION PLAN 2015 – 2040 UPDATE
Laredo Urban Transportation Study

CHAPTER 10: CONGESTION MANAGEMENT PROCESS

Background

Traffic congestion is an essential part of many people's lives, and it is especially apparent in bigger cities and is expected to be more severe with the population growths and residential and commercial developments. Federal rules mandate that metropolitan planning organizations designate~~d~~ Transportation Management Areas (TMAs) to develop and implement a Congestion Management Process (CMP) as part of their metropolitan transportation planning process. A TMA is a metropolitan area with a population exceeding 200,000, and the Laredo MPO was designated as a TMA recently in 2013 due to its population exceeding the threshold.

Process

Introduction

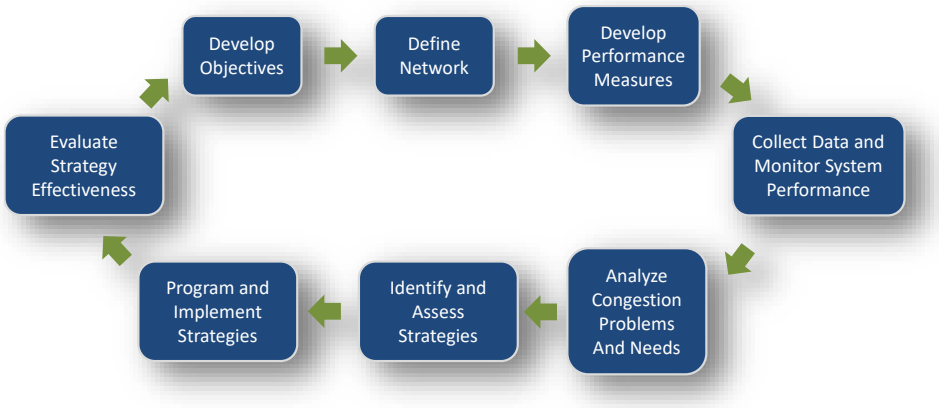
The CMP is a systematic and regionally accepted approach that provides for the safe and effective management and operation of new and existing transportation facilities through the use of congestion management strategies. Congestion Management is the application of congestion management and reduction strategies to improve transportation system performance and reliability by reducing the negative impact of congestion on the movement of people and goods.

The CMP is an ongoing process that progresses and adjusts over time as current information changes, new issues arise, or new data becomes available. Generally, a CMP would include the following activities:

- Development of Objectives
- Define a Network
- Develop Performance Measures
- Collect Data/Monitor System Performance
- Analyze Congestion Problems and Needs
- Identify and Assess Strategies
- Program and Implement Strategies
- Monitor Strategy Effectiveness

The structure of Laredo MPO's CMP is illustrated in **Figure 10-1**. The boxes show the different activities being implemented in the CMP, and the directional arrows show the cyclical and on-going nature of the congestion management process. The key activities of the CMP are described in the following sections.

Figure 10-1: Activities in Congestion Management Process



Objectives

The first step of the congestion management process is to identify the goals and objectives for local congestion management. Locally defined objectives are based on the local needs and serve as the primary connection between the CMP and the Metropolitan Transportation Plan. A vision statement, goals, and objectives developed for the Laredo MPO's congestion management process are based on those already included in the existing documents as the FHWA's congestion management guidebook as a reference. The vision is to develop a transportation system that offers safe, efficient, and affordable travel choices for people and goods, while supporting economic development and long term quality of life. The goals and objectives are:

- Goal: Provide a safe transportation system.
  - Promote policies and projects that reduce the number and severity of vehicle collisions.
- Goal: Provide an efficient transportation system.
  - Encourage a proactive approach to addressing future transportation needs.
  - Promote policies and projects that reduce travel delay.
- Goal: Provide affordable travel choices for people and goods.
  - Promote the increase of viable, affordable travel choices for people and goods.
  - Promote policies and programs to increase transit ridership on existing services.
  - Promote awareness of multimodal facilities.
- Goal: A transportation system that promotes economic vigor and long term quality of life
  - Promote the efficient and effective connection of people, jobs, goods and services.
  - Promote the minimization of environmental impact and improved environmental quality.

- Promote the unique identities and qualities of neighborhoods, communities, and region as a whole.

Network

In order to allocate the resources to the transportation planning efforts, a CMP network should be identified. Efforts to improve traffic conditions in the region will begin on the CMP network, and the level of congestion on the network will serve as a gauge for overall congestion in the area.

The MPO Technical Committee, which is comprised of 24 area agency representatives, held meetings in March, May, and October 2013 to identify Laredo's CMP network. The entire CMP network was reviewed and the discussions were made to gather the information from the participants regarding various aspects, including operational issues, safety concerns, route usage and history. Currently, the draft network includes 272 centerline miles pf roadways in the Laredo MPO region. Additional technical review and public involvement will be sought to further refine and identify a finalized CMP network.

Performance Measures

Performance measures are essential tools to identify and assess congestion in the congestion management process, and they are the objective ways to track progress of a project, program, or initiative. Various measures were recommended for data collection methods to assess system performance and congestion levels. They include travel time measures, volume-to-capacity ratios, level-of-service, accident rate, freight performance measure, and congestion index. The Policy Committee will continue to re-evaluate its selected performance measures in order to make adjustments as needed to reflect newer technologies or network conditions.

Data Collection

The continuous data collection and system performance monitoring are the essential element when it comes to assess congestion level and severity, and to evaluate the effectiveness of implemented mitigation strategies in the future. The Laredo MPO will lead the tasks of data collection for the adopted performance measures in cooperation with its planning partners. The types of data related to the performance measures recommended to be collected include traffic counts, travel time, crash data, STRATIS data, and ITS data.

Congestion Problems and Needs

This step is to use available data and performance measures to identify the locations and severity of congestion problems and needs. Persistent congestion could happen on different kinds of facilities, such as expressways and interchanges, arterial corridors, intersections, and transit facilities or routes. Different mitigation strategies should be considered for congestion on different facilities.

Identification of Strategies

Many congestion management strategies are available, and they must be carefully selected to apply to different roadways and intersections to effectively improve the congestion related problems. A range of strategies that the CMP framework identifies can be summarized into the following categories:

Commented [GRJ1]: Updated to add reference to the ATCMTD program that provides competitive grants for the development of advanced tech and congestion management tech. This program was established under the FAST Act.

- Transportation Demand Management (TDM) – including intercity bus operators, employer-based commuting programs such as a carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program
- Traffic Operational Improvements
- Public Transportation Strategies
- Road Capacity Strategies
- Jobs Access Projects

Funding the development of advanced technologies that will improve safety, efficiency, system performance, and infrastructure return on investment, the FAST Act established the Advanced Transportation and Congestion Management Technologies Deployment Program. The program provides competitive grant funding for the development and deployment of advanced transportation and congestion management technologies. In 2017, the program awarded grants valued at $53.6 million for 10 states to fund the development of advanced technologies. TxDOT was awarded a grant for The Texas Connected Freight Corridors Project which will deploy connected vehicle technologies in over 1,000 trucks and agency fleet vehicles that will transmit data and receive warnings from 12 connected vehicle applications.

Implementation of Strategies

Congestion management strategies could be implemented through the inclusion of strategies in the fiscally constrained MTP and TIP documents. Projects to be included in the MTP requires the consideration of a variety of criteria, such as traffic operations, safety, modal impacts, community development, project cost, project readiness, environmental impacts, and system management. Funding for the congestion management process as well as the implementation of the selected strategies is important to the success of the process. The Laredo MPO would give careful consideration to identification of federal or nonfederal funding for potential CMP-related programs and projects.

Evaluation of Strategies

According to the federal guidance, it is essential and required to evaluate the strategy effectiveness of the CMP. The purpose of this activity is to ensure that the implemented strategies are effective in tackling congestion issues as intended, and to adjust the strategies based on the results as necessary. Two general approaches exist for the evaluation:

- System-level performance evaluation – Regional analysis of historical trends to identify improvement or degradation in system performance.
- Strategy effectiveness evaluation – Project-level or program-level analysis of conditions before and after the implementation of a congestion mitigation effort

Findings from evaluation would show if specific strategies or efforts leads to improvement in congested conditions. In tandem with the periodic and on-going data collection efforts in the CMP, the evaluation is an important step in the feedback loop that provides local decision makers with valuable information for adjusting current strategies or envisioning new strategies.

Next Steps

The next steps for the Laredo MPO are to continue the CMP process as outlined in Figure 10-1. The MPO has collected travel time, congestion index, and speed and delay data on all the major roadways in the region. The MPO will utilize the travel demand model results along with the data collected in field to evaluate the regions roadway network and identify potential strategies to reduce congestion in the future. The link between the metropolitan transportation plan and the CMP has also been strengthened by incorporating the existing congestion in the MPO project evaluation criteria and awarding additional (20 possible points) points to those projects arising from ~~through~~ the CMP process. While the CMP process may not have progressed enough to generate prospective projects in time for the finalization of the MTP, it will have done so shortly thereafter.

CHAPTER 11

SAFETY ~~AND~~, SECURITY, AND RESILIENCE

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 11: SAFETY, ~~AND~~ SECURITY, AND RESILIENCE

Introduction

Commented [GRJ1]: Updated to include reference to the FAST Act planning factor for resilience. The added text distinguishes security and resilience concepts and describes how they will be addressed in the chapter.

In a post Katrina and 9/11 world, the planning for transportation safety ~~and~~, security, and resilience has increasingly become a crucial component of the metropolitan transportation planning process. MPOs are responsible for addressing ways to ensure the security, resilience, and safety of the transportation system for motorized and nonmotorized users, by coordinating with agencies that have direct influences on specific security, safety, or emergency planning. The Laredo MPO addresses these issues by actively communicating and coordinating with multiple agencies.

Safety may be defined as the freedom from unintentional harm. Planning for safety on the transportation network, including the highway infrastructure, transit system, rail network, airports, and bicycle and pedestrian facilities, should consider ways that the transportation system can operate efficiently while still being safe for users from accidents, crashes, and other unintentional events resulting in fatalities, injuries, or loss of property. This could include any number of projects or programs such as police surveillance, intelligent transportation systems, and improvements at high-crash locations.

Security, on the other hand, may be defined as the freedom from intentional harm. This includes harm~~, including those~~ inflicted by people~~,~~ as well as harm from natural phenomena, such as extreme weather events, or indirect effects on the natural environment from transportation infrastructure, such as stormwater runoff and pollution. ~~, such as extreme weather events.~~ Regardless of the source of ~~harm,~~harm, these risks, if not managed properly, endanger the lives of people and important transportation infrastructure that is vital to the region. Per ~~SAFETEA-LU requirements, carried over by MAP-21~~the FAST Act, security has been designated as a separate planning factor in the development of long-range MTPs.

Security and resilience are linked concepts; however~~In particular~~, ~~security~~ resilience goes beyond ~~safety~~ security related provisions to reduce or manage threats and includes ~~the~~ proactive planning to prevent, ~~manage, or respond~~adapt, and rapidly recover from~~to~~ threats to the region and the transportation system. Resiliency and reliability involve several components including emergency response, redundancy in the transportation system to ensure mobility, travel demand management, and reducing vulnerability of the transportation system during extreme weather events. The ability to effectively manage, operate, and maintain a safe and reliable transportation system under disruptive circumstances has become increasingly important, and the FAST Act now designates Resiliency and Reliability as an additional planning factor in the development of long-range MTPs. ~~These threats could include any number of events, such as natural disasters, terrorist threats, and smuggling of people or drugs, all of which endanger the lives of people and important transportation infrastructure that is vital to the region.~~

Although safety, ~~and~~ security, and resiliency planning for the transportation system can be considered as completely separate efforts, in essence, they overlap each other significantly,

and thus, are not mutually exclusive. Regions must consider ~~them~~ these factors both simultaneously and separately. Therefore, this chapter addresses ~~both~~ safety ~~and~~, security, and resiliency programs and initiatives simultaneously, but gives adequate consideration to these issues separately to fulfill federal transportation planning requirements.

The purpose of this chapter is to discuss transportation safety, ~~and~~ security, and resiliency, and to provide an overview of ~~security and safety~~ related issues and ongoing efforts that are being coordinated to protect the transportation network, infrastructure, users of the transportation system, modes of travel, and transport of goods in the Laredo region.

In particular, safety ~~and~~, security, and resiliency of the transportation system is coordinated within various agencies at the federal, state, and local levels. While the efforts of these agencies may range from the active implementation of programs and measures to lesser actions of simply coordinating activities within other agencies, the role of each agency enhances safety ~~and~~, security, and resiliency of the regional transportation network.

Federal Agencies and Programs

The U.S. Department of Transportation and the U.S. Department of Homeland Security address a variety of transportation safety and security/resiliency efforts in the Laredo region.

U.S. Department of Transportation

As stated by the U.S. Department of Transportation (DOT), the mission of the U.S. DOT is to "serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future." The U.S. DOT comprises 13 administrations and bureaus, each with its own management and organizational structure, and responsible for the various aspects of policies and planning for our nation's transportation infrastructure, including the planning for transportation safety and security. Even though all administrations and bureaus are involved with various aspects of transportation safety and security, the following information will provide a brief overview of agencies involved in the Laredo region.

Federal Highway Administration

Commented [GRJ2]: Updated to include information on the Safety performance measures

The Federal Highway Administration (FHWA) has the broad responsibility of ensuring that the nation's roads and highways are safe and efficient and the most technologically up-to-date. Through the Federal-aid Highway Program, the FHWA provides federal financial and technical support to state and local governments for constructing, preserving, and improving the nation's roads. FHWA ensures safety and security of the transportation system through a variety of efforts such as:

- Supporting the National Highway System

- Working with the U.S. Department of Defense to maintain and enhance the Strategic Highway Safety Network (STRAHNET) and its connecting network
- Dedicating its Office of Safety to reducing highway fatalities and crash severities by addressing the "4E's" of safety: engineering, education, enforcement, and emergency medical services
- Focusing its safety programs on roadway departures, intersections, and pedestrians
- Conducting safety research, technology, and outreach projects.
- Administrating the national Highway Safety Improvement Program (HSIP), as signed into law as part of the passage of SAFETEA-LU and carried forward with the FAST Act, to reduce traffic fatalities and serious injuries on all public roads through infrastructure-related highway safety improvements. The Safety Performance Management Measures (Safety PM) Final Rule, signed on March 12, 2016, sets performance measures with the purpose of carrying out the HSIP to assess serious injuries and fatalities on all public roads. The Safety PM Final Rule establishes 5 performance measures including: (1) number of fatalities, (2) rate of fatalities per 100 million Vehicle Miles Traveled (VMT), (3) number of serious injuries, (4) rate of serious injuries per 100 million VMT, and (5) number of non-motorized fatalities and non-motorized serious injuries.

National Highway Traffic Safety Administration

The National Highway Traffic Safety Administration (NHTSA) is committed to education programs, research, safety standards, and enforcement activity which reduce traffic-related fatalities, injuries, and economic costs. NHTSA focuses traffic and vehicle safety initiatives on such issues related to aggressive driving, speeding, bicyclists, pedestrians, child passengers, seat belts, disabled drivers and passengers, drowsy and distracted driving, emergency medical services, enforcement and justice services, impaired driving, motorcycles, new drivers, occupant protection, older drivers, school buses, airbags, brakes, tires, and overall vehicle safety testing . NHTSA also administers the National Center for Statistics and Analysis (NCSA), which provides statistical and analytical support for NHTSA.

Research and Innovative Technology Administration

The Research and Innovative Technology Administration (RITA) is responsible for coordinating research programs in the U.S. Department of Transportation and advancing technology to enhance the nation's transportation system. For instance, RITA dedicates an office for the advancement of Intelligent Transportation Systems (ITS) in the nation. Also within RITA, the Transportation Safety Institute provides transportation safety and security training to those involved with enforcement or compliance with security and safety standards in the nation's transportation system.

Federal Motor Carrier Safety Administration

The Federal Motor Carrier Safety Administration (FMCSA) is dedicated to reducing crashes, injuries, and fatalities involving large trucks and buses through developing and enforcing regulations, focusing safety information systems on higher risk carriers, implementing educational programs, and partnering with various stakeholders.

Pipeline and Hazardous Materials Safety Administration

The Pipeline and Hazardous Materials Safety Administration (PHMS) is comprised of the Office of Hazardous Materials Safety and the Office of Pipeline Safety. The Office of Hazardous Materials regulates and strives to ensure the safe and secure transport of hazardous materials by air, rail, highway, and water. The Office of Pipeline Safety regulates and strives to ensure the safe and secure transport of the nation's 2.3 million miles of natural gas and hazardous liquid pipelines. PHMS requires that all hazardous materials transportation and pipeline accidents are reported to the National Response Center (NRC), which is the national point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment.

Federal Transit Administration

The Federal Transit Administration (FTA) provides support to state and local transit providers through various programs, including financial assistance, to either improve and maintain existing transit systems or develop new transit systems in the nation. Across the U.S., public transportation supported by the FTA include buses, subways, light rail, commuter rail, streetcars, monorail, passenger ferry boats, inclined railways, and people movers. In the Laredo region, the public transit system includes buses and paratransit vehicles. The FTA also strives to ensure safety and security on the nation's public transit system through its Office of Safety and Security utilizing a variety of initiatives such as:

- Encourage transit systems to develop and implement a safety program plan
- Developing guidelines and best practices
- Providing training for employees and supervisors of transit systems
- Improving emergency preparedness by strengthening emergency preparedness plans and funding emergency response drills conducted in cooperation with local responders.
- Increasing public awareness of safety and security issues
- Performing system safety analyses and review of transit systems
- Coordinating with the Transportation Security Administration (TSA)

Federal Aviation Administration

The Federal Aviation Administration (FAA) is responsible for overseeing and regulating all aspects of civil aviation in the U.S., including private and commercial air transportation. Other major roles include promoting safety, regulating air navigation facilities' geometry and flight inspection standards, developing civil aeronautics and new aviation technology, regulating pilot certificates, overseeing a system of air traffic control and navigation for both civil and military aircraft, researching and developing the National Airspace System, overseeing programs to control aircraft noise and other environmental aviation impacts, and promoting air transportation safety. The FAA enhances air transportation safety through such programs as their Aviation Safety Reporting System (ASRS), which is an online database to voluntarily submit aviation safety incidents, and the FAA Safety Team, which promotes safety principles and practices through training, outreach, and education. Additionally, the FAA works actively with the Transportation Security Administration (TSA), which is responsible for screening passengers, air cargo, and baggage at airports.

Federal Railroad Administration

The Federal Railroad Administration (FRA) primarily works to advance and enforce rail safety regulations, provide financial support through railroad assistance programs, and conduct research and policy analysis, and provide recommendations on the overall rail industry and railroad system in the U.S. The FRA's efforts are focused mainly on supporting freight rail and the nation's intercity rail passenger system, including Amtrak. Through its Office of Railroad Safety, the FRA promotes and regulates safety in the railroad industry through such efforts as the following:

- Employs over 415 federal safety inspectors in eight regional offices across the U.S.
- Federal safety inspectors specialize in five safety areas, including hazardous materials, locomotive power and equipment, operating practices (including drug and alcohol), signal and train control, and track structures.
- Collects and analyzes rail accident/incident data from railroads

U.S. Department of Homeland Security

After the terrorist attacks on the nation on September 11, 2001, the U.S. Department of Homeland Security (DHS) was established to protect the security of the United States from external and terrorist attacks, as well as for responding to natural disasters and domestic emergencies. Today, DHS consists of approximately 16 agencies, offices, and directorates to fulfill its mission of integrating multiple agencies and leveraging resources from federal, state, and local layers of government in order to protect the homeland of the United States. The

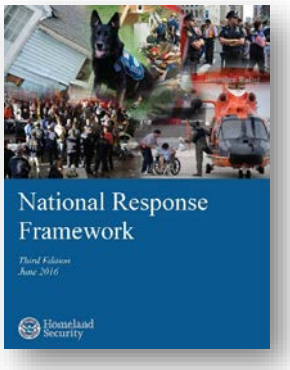
national strategy is to develop a comprehensive and complementary system that does not duplicate efforts, and to coordinate the homeland security responsibilities of more than 87,000 different governmental jurisdictions at the federal, state, and local levels.

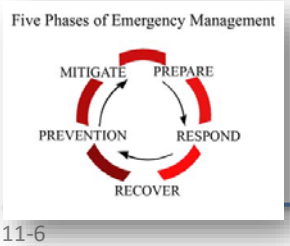
DHS is primarily concerned with issues such as border security, critical infrastructure protection, emergency preparedness and response, domestic intelligence activities, bio-defense, researching and implementing security technologies, the detection of nuclear and radiological materials, and the provision of transportation security. Although there are numerous entities within DHS, the agencies discussed below have a direct role in overseeing the secure movement of people, goods, aviation activities, and well as the overall safety and security of the region.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is focused on supporting citizens and first responders to ensure that the nation is coordinated at all levels to prepare for, protect against, respond to, recover from, and mitigate all hazards, including natural disasters, acts of terrorism, and other man-made disasters. FEMA leads and supports the country in a risk-based, comprehensive emergency management system, and strives to reduce the loss of life and property associated with all types of hazards and disasters. As a sub-part of FEMA, the National Preparedness Directorate (NPD) manages the National Response Framework and the National Incident Management System (NIMS).

The **National Response Framework** (2016) ~~replaced the National Response Plan in 2008 and~~ provides the structure and processes for national-level policy for the management of incidents. The framework is important for transportation security because it provides guidance and support, and establishes protocols for the national government's coordination of communities, states, tribes, private-sectors, and nongovernmental partners for security and incident-related events. Specifically, the plan assimilates best practices and mechanisms from all incident management professionals, including emergency management, law enforcement, firefighting and first response, public works, and emergency medical services. The second edition of the National Response Framework, which was updated in 2013, provides context for how the whole community works together and how response efforts relate to other parts of national preparedness. The concept of whole community calls for the involvement of everyone – not just the government – in preparedness efforts.





The **National Incident Management System** is designed to work in coordination with the National Response Framework and provide the template for the management of incidents. NIMS provides a systematic and proactive approach to guide all levels of government, nongovernmental organization, and the

private sectors to work in coordination in order to prepare for, respond to, recover from, prevent, and mitigate the effects of incidents. In order to receive federal preparedness assistance through grants, contract, and other activities, states, tribes, and local organizations must adopt NIMS. Thus, public entities in the Laredo region incorporate NIMS guidelines to develop and maintain all homeland security activities.

Transportation Security Administration

As part of the Aviation and Transportation Security Act that was passed after the tragedies of September 11, 2001, the Transportation Security Administration (TSA) was created to secure the nation's transportation system. TSA oversees and coordinates with state, regional, and local organizations to secure highways, railroads, buses, mass transit systems, ports, and the 450 national airports. The largest group of employees, and most visible to the public, consists of Transportation Security Officers at airport checkpoints. Besides screening passengers, TSA officers must also screen all commercial luggage and packages for explosive and other threats before coming aboard airplanes. Besides the more obvious TSA Officers, other layers of security screening include intelligence gathering and analysis, checking passenger manifests against watch lists, random canine team searches at airports, federal air marshals, federal flight deck officers and more security measures both visible and invisible to the public. The following list provides more information on security enhancing programs or initiatives administered by TSA:

- **Visible Intermodal Prevention and Response (VIPR) teams**: Teams consisting of federal air marshals, surface transportation security inspectors, transportation security officers, behavior detection officers, and explosives detection canine teams present to increase security at important transportation facilities around the country.
- **Travel Document Checker (TDC):** A specially trained TSA officer present at every checkpoint in all U.S. airports to check passengers' boarding passes and identification.
- **Behavior Detection Officer (BDO)**: An officer trained to detect high-risk passengers through the use of non-intrusive behavior observation.
- **Secure Flight**: Program in place to streamline the watch list matching process.
- **Federal Air Marshall**: Serves as the primary law enforcement entity with TSA and protects airports, passengers, and crews against hostile acts.
- **Federal Flight Deck Officers**: Eligible flight crewmembers who are authorized by TSA's Office of Law Enforcement/Federal Air Marshal Service to use firearms to defend against an act of criminal violence or air piracy attempting to gain control of an aircraft.
- **Employee Screening**: TSA officers assigned to screen and inspect workers as well as their property and vehicles at airports.

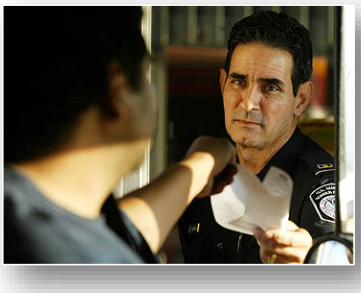
- **Checkpoint Screening Technology**: Constantly striving to use the most advanced screening technologies.

US Customs and Border Protection

The United States Customs and Border Protection (CBP) is responsible for securing the country's border at and between the official ports of entry. The CBP facilitates the legal flow of trade and travel across the country's borders by preventing the illegal entry of people and goods, including terrorists and terrorist weapons, while simultaneously enforcing numerous U.S. laws. Within the CBP, the Office of Border Patrol and the Office of Field Operations play key roles in securing the border and the Laredo port of entry. In the Office of Border Patrol, the agents are responsible for securing the borders between the ports of entry; whereas, the Office of Field Operations is responsible for securing the ports of entry.

Office of Border Patrol

The Office of Border Patrol coordinates with many agencies in securing the border in the Laredo region and also the transportation system. These include a whole range of agencies such as the Highway Patrol and Commercial Vehicle Enforcement in the Texas Department of Public Safety, Transportation Security Agency, Immigration and Customs Enforcement (ICE), and also the local police department. Besides acting as law enforcement along the nation's border, the Office of Border Patrol also runs public education programs, including a drug demand reduction program where agents visit schools and discuss the dangers of drugs.



The Office of Border Patrol was present at the safety and security roundtable and relayed several transportation issues in the Laredo region that make securing the borders challenging.

The representatives mainly discussed concerns about people evading border security through abuse of the transportation infrastructure. Specifically, roadways in close proximity to the border are necessary to regulate the border, but they are also used for people to enter the U.S. illegally or for smuggling drugs or even people. This is further complicated by one-way streets which prevent border patrol officers from safely pursuing individuals who choose to violate the law and drive in the opposite direction. Another specific issue raised was the need to consider safety and security when designing new bridges and infrastructure along the border.

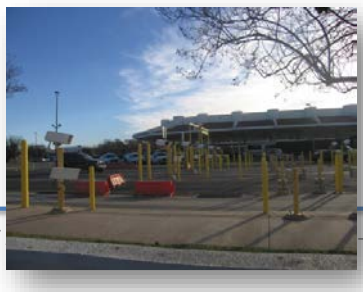
Texas Hold 'Em is a multi-agency initiative between U.S. Customs and Border Protection, ICE, and the Texas Department of Public Safety to improve border security. This initiative has reduced human and illegal contraband smuggling in commercial vehicles such as tractor-trailers, buses, and freight carriers. Specifically, if a driver of a commercial vehicle is found to be smuggling people or drugs, then that driver will not only suffer consequences of breaking federal laws, but will also lose their Commercial Driver's License (CDL) under Texas law.

This initiative also includes a media awareness campaign to educate the general public, transportation industry, freight forwarding agencies, customs brokers, and commercial drivers regarding the consequences of the Texas Hold 'Em initiative, including the disqualification of the perpetrator's CDL. Furthermore, not only is it the goal of this program to become standard practice for all Border Patrol sectors in Texas, but to also increase overall communication and coordination between transportation stakeholders and law enforcement agencies.

Office of Field Operations

The Office of Field Operations, in the U.S. Customs and Border Protection, works with a variety of agencies in securing the ports of entry and also the transportation system. Examples of federal agencies include the US DOT in conducting safety examinations on commercial truck conveyances, the Food and Drug Administration on importations of food and drug items, and the Department of Agriculture on food items. In the Laredo region, they also work with several state agencies and local agencies such as fire, police, and EMS.

The Office of Field Operations institutes many actions to screen people, trucks, rail cargo, and non-commercial vehicles. In general, all people and merchandize are screened at the international border. At times, this may be done more in-depth with certain vehicles and people. All vehicles and people must go through a security screening before proceeding through the official port of entry, and all vehicles must also be screened at a location several miles on the north side of Laredo on IH-35. Overall, CBP officers are extensively trained in detecting any anomalies in cargo and people attempting to traverse the international borders. However, security enhancing technologies are utilized to aid in securing the borders.



Because the Port of Laredo processes the largest amount of commercial traffic on the US/Mexico border, the screening of commercial vehicles is an important process and is accomplished through a multi-layered approach. Via an electronic manifest, a commercial vehicle must notify CBP at the U.S. port of entry of its approach and of the types of merchandize being transported at least one hour in advance (30 minutes for members of the FAST program discussed in more detail below).

Once at the border crossing, automated systems are used on trucks, and agents will run additional targeting on commercial conveyances. Some trucks may be forced to undergo additional security clearances. All vehicles go through a secondary express screening, in which CBP officers and canines examine the vehicles. If selected for additional screening, non-intrusive imaging systems are used. Finally, there is an exit gate that all vehicles must use, and if certain measures were not taken, then the trucks can be sent back to undergo additional screening.

For rail cargo traveling northbound into the U.S., non-intrusive imaging systems are used to scan rail cargo. If anomalies are detected, rail cargo can be selected for additional screening. CBP officers are also present at all international rail crossings.

For the transport of hazardous materials, there are additional requirements for commercial vehicles transporting this sensitive cargo. For example, drivers of commercial vehicles must provide additional documentation and cross at the Laredo-Columbia Solidarity Bridge. Per ~~SAFETEA-LU~~federal requirements of the U.S. DOT Federal Motor Carrier Safety Administration, and as part of TSA's Hazmat Threat Assessment Program, drivers who wish to obtain a new Hazardous Materials Endorsement (HME) on their state-issued Commercial Driver's License (CDL) must undergo the collection of biographical information and fingerprints.

Other Specific Programs and Initiatives

Besides everyday screening of commercial, non-commercial vehicles, and pedestrians who cross the international border in Laredo, there are several other programs that are present. Examples of these include the initiatives under the Trusted Traveler Programs, Western Hemisphere Travel Initiative, Secure Border Initiative, Customs-Trade Partnership Against Terrorism, and the Automated Commercial Environment.

The Secure Electronic network for Travelers Rapid Inspection (SENTRI) is a program under the Trusted Traveler Program, in which pre-approved, low-risk travelers are provided expedited CBP processing. Applicants must be pre-screened and voluntarily undergo a thorough biographical background check. The people who qualify can use a dedicated lane on the Lincoln-Juarez Bridge for expedited crossing. This is accomplished through a Radio Frequency Identification Card (RFID) that identifies the person and vehicle in a database at the U.S. Port of Entry.

Similar to the SENTRI program, the Free and Secure Trade Program (FAST) is also a Trusted Traveler Program that is specific to commercial vehicles, where pre-approved low-risk shipments are afforded expedited CBP processing. Commercial carriers must have completed thorough background checks and fulfill certain eligibility requirements. Further,

participation in the FAST program requires that all associated links in the company, including drivers and imports are certified under the Customs-Trade Partnership Against Terrorism (C-TPAT) program. Once qualification is established, qualified commercial vehicles may use a dedicated lane on the World Trade Bridge for expedited crossing. However, although they already have taken measures to show that they are low-risk, this does not preclude CBP from requiring additional screening, if necessary.

The C-TPAT is a voluntary initiative between government and businesses to establish cooperative relationships that improve trading and U.S. border security. To be eligible, a company must submit a security profile, and the CBP will evaluate the application and inspect the business in Mexico. The CBP may make recommendations to ensure that the business is not susceptible to any security issues before they are approved for the C-TPAT program. The FAST program, as described above, is also a benefit of being part of this program.

Affective in June of 2009, the Western Hemisphere Travel Initiative instituted new land and sea requirements, which obligate all U.S. citizens to present appropriate proof of citizenship such as a passport in order to return to the U.S. According to a media relations employee in the Office of Field Operations, the Laredo region is seeing about a 90% compliance rate of U.S. citizens, including those providing proof of citizenship such as a passport or proof that they have applied for such documentation. Overall, however, this initiative has not had a significant affect on everyday operations, as only about 20 to 25% of inbound traffic is comprised of U.S. citizens. Approximately 75% are from non-U.S. citizens that must show some type of special documentation to enter the country.

The Secure Border Initiative, according to the U.S. Homeland Security website, is "a comprehensive multi-year plan to secure America's borders and reduce illegal migration", and includes more agents to patrol the border and ports of entry and enforce immigration law, upgrading of certain technology, and increased investment in infrastructure improvements at the border. Although this initiative is important for all divisions in U.S. Customs Border Protection, it mainly affects the operations of Border Patrol.

The Automated Commercial Environment (ACE) is the commercial trade processing system that is being developed by CBP to enhance trade while also improving border security. At its most basic level, it is a secured web page, which connects CBP, certain government agencies, and the trade industry to communications and information regarding cargo shipments. Presently, the CBP is converting from the previous Automated Commercial System (ACS) to ACE, a more modernized and robust system.

State of Texas Agencies and Programs

Within the State of Texas, the Texas Department of Transportation and the Texas Department of Public Safety address a variety of transportation safety and security/resiliency issues in the Laredo region.

Texas Department of Transportation

In the Laredo region, the TxDOT Laredo Office works on behalf of the State and in coordination with the Laredo MPO to carry out transportation planning tasks and activities, including the planning of transportation safety and security.

TxDOT works to ensure the safety of Texas roadways through a variety of means. It partners with other state, federal, and local entities to enhance safety on the roadways and have a focused traffic safety program that includes 13 targeted safety program areas. TxDOT also collects crash data from law enforcement agencies and evaluates the cause of crashes and fatalities in order to focus efforts in making roadways safer. For more information on Laredo-specific crash data and high crash locations in the region, please refer to Chapter 5.

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TxDOT also has increased seat belt use through the Click It or Ticket enforcement program and has also addressed safe driving among teens in the Teens in the Drivers Seat program. Further, TxDOT has improved overall roadway safety by administering a grant called the Selective Traffic Enforcement Program (STEP), which funds additional hours of traffic law enforcement. To decrease the number of impaired drivers on roadways, TxDOT has also funded a large variety of alcohol and drug countermeasure programs.

TxDOT maintains designated hazardous materials routes and works with the Texas Department of Public Safety to develop contra-flow plans for major hurricane evacuation routes. Specifically, U.S. Highways 59 and 83 are designated as evacuation routes for coastal communities such as Brownsville and Corpus Christi, and the Laredo region serves as an evacuation point for such communities. For more information on hazardous materials routes in the Laredo region, please see Chapter 5.

TxDOT has various intelligent transportation system (ITS) elements in place to monitor traffic and safety and security issues in the Laredo region. These include dynamic message signs (DMS), closed-circuit television (CCTV) cameras, lane control signals, highway advisory radios, speed detectors, and video image vehicle detection systems (VIVDS). Additionally, a railroad coordination system called the Wireless Advisory Railroad Network (WARN) is in place to inform drivers of closures at railroad crossings.

The TxDOT Laredo District operates the South Texas Regional Advance Transportation Information System (STRATIS), which serves as a transportation management center (TMC) for the region. Working in cooperation with local agencies, TxDOT provides a data connection between STRATIS and the City of Laredo TMC for sharing of CCTV camera feeds and control. This system also allows the City of Laredo TMC to view messages placed on the DMS. Further, TxDOT also provides the City of Laredo 911 Dispatch Center with its CCTV camera images.

Recognizing the impacts of urbanization and highway construction, TxDOT provides guidelines to reduce or mitigate the impacts of stormwater from surface transportation through the *Hydraulic Design Manual: Storm Water Management*. This manual provides stormwater management measures that are both non-structural and structural including:

- Erosion control to minimize erosion and sediment transport
- Stormwater detention and retention systems to reduce peak runoff rates and improve water quality
- Sedimentation and filtration systems to remove debris, suspended solids, and insoluble pollutants
- Vegetation buffers to reduce transport of pollutants

The manual recommends several best management practices to mitigate stormwater quantity and water quality including detention and retention ponds, rock filter dams, silt fences, and vegetation to filter and slow the flow of water.

Strategic Highway Safety Plan (SHSP)

The Texas Strategic Highway Safety Plan (SHSP) identifies safety needs and directs investment decisions in order to reduce highway fatalities and serious injuries on public roads. This type of plan is required for all states in order to receive federal funding for roadway improvement ~~projects,.~~projects. The plan was produced by reviewing national crash initiatives and emphasis areas from key publications and professional organizations, examining Fatal Analysis Reporting System (FARS) crash data, and consulting with various stakeholders throughout Texas. Under ~~AMP 21~~ the FAST Act, it is required to regularly evaluate and update SHSP, and there is a penalty for not having an updated SHSP. The coordination of other plans and programs with SHSP is also required.

The most recent version was published in ~~2013~~2017. Emphasis areas and issues were established and crash reduction objectives related to those issues were developed.

The SHSP is divided into the following emphasis areas involving crash fatalities and serious injuries: run off the road, head-on, intersection, work zone, railroad grade crossing, older drivers, teen drivers, motorcyclists, bicyclists, pedestrians, large truck drivers, driving under the influence (DUI), speeding, aggressive driving, lack of restraint use, distracted driving, traffic/crash records, E 911 reporting systems, and both public and policy maker awareness.

Texas Department of Public Safety

The Texas Department of Public Safety (DPS) was created, as described in its mission statement, "to provide public safety services to those people in the state of Texas by enforcing laws, administering regulatory programs, managing records, educating the public, and managing emergencies, both directly and through interaction with other agencies." Texas DPS includes 15 divisions; and of these divisions, Criminal Investigations, Law Enforcement Support, Texas Highway Patrol, and the Division of Emergency Management play vital roles in the safety and security of the transportation system in Laredo.

Criminal Investigations

The Criminal Investigations Division (CID) is divided into five specialized sections: Administration, Gang Program, Drug Program, Special Investigations Program, and Investigative Support Section. The Gang Program is responsible for developing proactive strategies and initiatives to reduce the impact of organized crimes. The Drug Program is responsible for the overall direction of the enforcement efforts against drig and human

trafficking. The Special Investigations Program is charged with investigating, disrupting, and dismantling criminal organizations involved in property crimes, including vehicle theft.

Law Enforcement Support

The Law Enforcement Support Division (LESD) is responsible for supporting law enforcement agencies and citizens by providing services including biometric identification, access to criminal justice and emergency information, and technical assistance for LESD programs. Within the division, three major units are important in managing safety and security on the transportation system in Laredo, including the Crime Laboratory, Crime Records, and Public Safety Communications. The Crime Laboratory Service is responsible for assisting law enforcement agencies by analyzing evidence from criminal cases, reporting findings, and testifying to those findings in criminal trials. The Crime Records Service operates and maintains statewide information systems that hold criminal justice information. The Public Safety Communications Service supports the communications and technical assistance needs of first responders throughout the state and leads in the planning and implementation of voice, data, and video interoperability.

Texas Highway Patrol

The Texas Highway Patrol (THP) Division is generally responsible for police traffic supervision and traffic and criminal law enforcement on the rural highways of Texas. THP's Commercial Vehicle Enforcement group specializes in enforcing state and federal laws governing the operation of commercial motor vehicles, including vehicle weight and size limitations, driver licenses, insurance requirements, vehicle registration, and motor carrier safety. The Motor Carrier Bureau is responsible for tracking commercial vehicle enforcement documents and distributes information regarding commercial vehicle enforcement. Also within Texas Highway Patrol, the Vehicle Inspection Service oversees the statewide Vehicle Inspection Program.

Highway Patrol Service

Perhaps the best known group within the Texas Highway Patrol is the Highway Patrol Service, which regulates traffic along Texas' rural roads and highways in order to prevent and minimize the effects of crashes and to prevent crime. Highway Patrol Service troopers focus their enforcement activities on intoxicated drivers, speeding, seat belt use, drug violations, fugitives from justice and ongoing criminal activity. Further, Highway Patrol troopers play a special role in public safety awareness in Texas. Throughout Texas, and locally in Laredo, Highway Patrol has safety education troopers visit schools and

businesses to educate people on safety issues. They also relay information and make public service announcements for the Texas DPS Public Information Office.

Within the Laredo region, the Highway Patrol works with many federal agencies such as the FBI, CBP, and ICE on such issues as the smuggling of people and drugs into the country.

However, the primary law enforcement agency within the Laredo region is the City of Laredo Police Department. They are assisted by Webb County's sheriffs and constables. On a day to day basis, Highway Patrol is mainly focused on regulating traffic and crime on the rural highways and roadways of the region. In the event of an emergency, troopers also serve important roles in emergency management and mitigation efforts, particularly in directing traffic during evacuations.

Although Highway Patrol primarily works with monitoring vehicular traffic, they may also coordinate with, for instance, the railroad police for issues regarding rail transportation. The railroad police are police officers employed by rail companies, and they have the authority to conduct investigations and make arrests for crimes committed against the railroad.

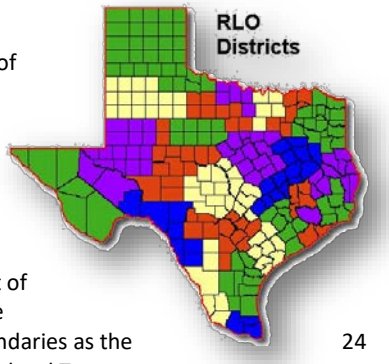
In particular, the Highway Patrol Service in Laredo works in close cooperation with the TxDOT Laredo District to address transportation safety and security issues. In fact, Highway Patrol's offices are situated in a building next door to TxDOT's offices in Laredo. TxDOT periodically sends the Highway Patrol bulletins on roadway issues and crash problems.

Texas Division on Emergency Management

The mission of the Texas Division on Emergency Management (TDEM) is to carry out a "comprehensive all-hazard emergency management program for the State and for assisting cities, counties, and state agencies in planning and implementing their emergency management programs." This comprehensive approach includes preparation, protection, response, recovery, and mitigation efforts of all known hazards.

TDEM develops and maintains state-level emergency plans, distributes state standards for local emergency management plans, assists local jurisdiction in developing emergency plans, and also reviews those plans for conformance with state planning standards. Also, TDEM provides training to state and local emergency responders for emergency management, and administers numerous state and federal grants for emergency management. In the Texas DPS headquarters in Austin, TDEM manages and staffs the State Operations Center (SOC), which serves as the state's warning point and center for emergency operations. Collocated with the SOC, is the Border Security Operations Center (BSOC), which monitors border security along the Texas-Mexico border.

As discussed previously, the State of Texas and all local jurisdictions conform to the federal NRF and NIMS standards for the management of incidents and emergencies. In the event of any type of incident, large or small, emergency management activities begin at the local level and then continue in a hierarchical structure to include state and federal assistance, depending on whether the situation exceeds the capabilities and resources of lower levels of government. In regard to the transportation system, emergency management activities include traffic management and transportation services for evacuees.



24

The State of Texas is divided into 24 disaster districts, which function as regional emergency management organizations and serve as the first point of state emergency assistance for local governments. The disaster districts also have the same geographical boundaries as the Councils of Government. The chairman of a district is a local Texas Highway Patrol commander; and along with directing a district, the chairman oversees a committee consisting of state agencies and volunteer groups that have resources within the District's area of responsibility. This function is important for identifying resources in order to respond to requests for emergency assistance from local governments and state agencies.

To aid local jurisdictions to prepare for, protect against, respond to, recover from, and mitigate all hazards, Regional Coordinators (RLOs), employed by TDEM, are stationed throughout the State. They serve as the conduit of state government and local government in regard to emergency management. Specifically, RLOs both carry out emergency preparedness activities and coordinate emergency response operations.

At the local level, mayors and county judges have the responsibility of emergency preparedness and response within their jurisdictions. However, an Emergency Management Coordinator (EMC) may be appointed to manage day-to-day program activities. Local emergency management organizations or agencies are often part of the local fire department or law enforcement agency, but may also be organized as part of other offices.

Regional and Local Agencies and Programs

The South Texas Development Council, Webb County, and the City of Laredo also address transportation safety and security/resiliency efforts in the Laredo region.

South Texas Development Council

The South Texas Development Council (STDC) is one of 24 Council of Governments (COGs) in Texas that coordinate regional planning. STDC encompasses four counties in South Texas, including Webb, Starr, Zapata, and Jim Hogg. Within the STDC, various departments advance regional planning goals and initiatives. In particular, the Department of Homeland Security acts as coordinator and

steward for the Governor's Homeland Security Strategy in the South Texas region. They work with state government in assisting local jurisdictions with emergency management efforts and administering emergency management funds from the state to local governments. The main resource for emergency management is the state homeland security grant.

The STDC Department of Homeland Security is aided by the South Texas Homeland Security Advisory Committee (HSAC) and serves in an advisory role to address issues related to homeland security, terrorism, disaster planning, regional response issues, communication, and training in the STDC region. The HSAC also provides guidance on projects related to homeland security, and is made up of representatives from various jurisdictions within the four-county region. In particular, representatives from the City of Laredo and Webb County are part of the HSAC.

Additionally, the STDC Department of Homeland Security has played vital roles in the development of the STDC Homeland Security Interoperability Plan. Required of all 24 COGs in Texas, this plan deals with communication and coordination between entities in order to make communication interoperable for emergency operations.

The Regional Action Mitigation Plan is also a plan that has been developed with the involvement of STDC. It is primarily concerned with mitigating natural hazards along the Rio Grande border, including hurricanes, drought, flooding, hazardous material release, fuel pipeline breach, dam failure, wildland fire, hail, tornadoes, and extreme summer heat. This area includes the Laredo region and involved Webb County and the City of Rio Bravo in the planning effort. The City of Laredo, however, was not involved in the planning process, as it already has a hazard mitigation plan within its emergency management plan.

Webb County

Commented [GRJ4]: Updated to add reference to the functions of the Webb County Planning Department in relation to resiliency.

Webb County provides various services which contribute to ensuring the safety and security of the transportation system in the Laredo region. These services include law enforcement through the Sheriff's Office and Constables, emergency management through the Emergency Management Coordinator, and transportation infrastructure management through the Engineering and Road and Bridges departments. As stated by Webb County's emergency management coordinator, the sheriffs and constables are the lead group on the ground and are the "eyes" of the county. For other important services, the City of Laredo provides emergency response services and 911 communications through a mutual aid agreement.

Webb County also coordinates with other agencies to guarantee safety and security of the transportation system. For overall emergency planning and preparedness, they work with the South Texas Development Council, Disaster District, and City of Laredo. In the event of an emergency, representatives of Webb County will convene at the Emergency Operations Center, along with other pertinent agencies, such as the City of Laredo, Texas Department of Public Safety, TxDOT, U.S. Border Patrol, and many more, in order to respond to

contingencies and coordinate together whatever needs to be provided, whether it be shelter, public works, or public transportation. For road and traffic issues on major roadways, TxDOT is especially important in providing oversight and coordination in emergency situations.

To coordinate responses in the event of an emergency, Webb County has an emergency management plan, which is required of all local jurisdictions in the State of Texas. This plan is similar in structure to many other emergency management plans and stipulates responsibilities and the use of resources during emergencies. The last plan update was completed in 2011. A more in-depth discussion on emergency management plans, especially in regard to the City of Laredo, is provided later in this chapter.

Especially in regard to the transportation system, Webb County does not have as many safety and security issues due to its mostly rural nature. However, the presence of colonias in the rural areas brings many challenges to the area, as the developments often do not have proper infrastructure and roadways to support the people. This is further complicated by the fact that many people rely on public transit or other means for their transportation. These issues will continue to be important to address when dealing with life-threatening events.

The Webb County Planning and Physical Development Department is involved in supporting the resiliency of the transportation system through regulatory enforcement of land use and development activities including floodplain development permits and building permits in compliance with federal laws and local regulations. The department also provides technical assistance for issues related to water and wastewater facilities, transportation, road and drainage improvements, parks and recreational facilities, and public buildings. Through coordination with multiple representatives from both the private and public sectors, the department develops and maintains GIS data that is essential to planning for safety, security, and resilience. GIS data collected by the department can be used to identify transportation assets vulnerable to natural disasters and extreme weather events as well as utilization by emergency response providers.

City of Laredo

The City of Laredo performs several functions which contribute to transportation safety and security in the Laredo region.

City of Laredo Emergency Management

The City of Laredo has a mutual aid agreement to provide emergency services and 911 communications outside of its jurisdiction, including the four-county region of the South Texas Development Council. First response or emergency services are provided by the City of Laredo Fire Department. In most cases, mutual aid would include Fire, EMS, law enforcement, public works, or public health resources. The City's Emergency Management Coordinator is the Chief of the Fire Department.

Laredo Fire Department Office of Emergency Management

- Monitor severe weather and tropical disturbances
- Remain in compliance with the National Response Plan (NRP) and continue to support and implemented the National Incident Management System (NIMS)
- Provide "on-location" support and assistance to local first response agencies (Fire, EMS, Health Department, and Law Enforcement) with our proposed Mobile Command Unit (MCU)
- Develop local emergency response plans, procedures and guidelines
- Provide technical assistance to public and private emergency management programs
- Provide or coordinate mutual aid with the State of Texas and surrounding counties
- Comply with state and federal emergency preparedness and response requirements and standards
- Review emergency plans for health care facilities, residential developments, businesses and government agencies
- Implement local hurricane shelter and evacuation development standards
- Collect and distribute emergency related information, such as the All Hazards Guide English and Spanish
- Conduct and coordinate public outreach seminars and workshops, as a public service to the community
- Conduct local emergency management briefings, workshops, meetings and training courses
- Coordinate regional/state/federal emergency-related training courses
- Conduct and evaluate local emergency exercises and drills
- Maintain the Special Needs Program for the City and County

Emergency Operations Center (EOC)

The City of Laredo, in cooperation with Webb County, operates an Emergency Operations Center (EOC), which functions as a hub and gathering point for agencies during the event of an emergency. During an emergency situation, the EOC receives emergency information through the Emergency Dispatch Center (911) and reports serious emergencies to the State Warning Point (SWP), located at the State EOC in Austin. In turn, they coordinate State and/or Federal involvement or assistance within the County through the Multi-Agency Coordinating Center (MACC).

The EOC has three preparedness stages, also known as activation levels. Level III functions at a normal operating level on a day-to-day basis. Level II requires partial activation, with some available EOC aspects. Lastly, Level I is the full activating level, with 24 hour services during an emergency. During Level I activation, essential representatives from public safety agencies, emergency relief organizations, county departments, municipalities, utility companies, media and other pertinent agencies convene at the EOC.

City of Laredo Traffic Department

The City of Laredo Traffic Department's website mission is to "provide for safe and efficient movement of traffic on all City streets, adequately illuminate intersections and major roadways, and enforce parking regulations in the central business district." Their department is divided into addressing traffic safety, granting permits to transport oversized loads, and enforcing parking restrictions.

The Traffic Department also operates and maintains traffic signals and the Traffic Management Center (TMC), which includes various intelligent transportation system (ITS) and security enhancing technologies to monitor traffic in Laredo. These include closed-circuit television (CCTV) cameras, video image detectors systems (VIVDS), and loop detectors to monitor traffic. Furthermore, the Traffic Department coordinates with TXDOT by sharing information. Video images from TxDOT's CCTV cameras and information from TxDOT's dynamic message signs (DMS) and traffic signals are sent to the TMC.

Projects in the 2005 City of Laredo ITS Master Plan that have been or soon will be completed that enhance the safety, security, and efficiency of the transportation system include:

- Improvements to downtown traffic signals including a downtown closed loop signal system on routes approaching Bridge 1
- Traffic coordination on routes approaching Bridges 1 and 2 including additional CCTV cameras to monitor traffic and DMS to provide motorists with traffic information
- Flood detection and roadway closure system on Flecha Lane and Las Cruces Drive
- Upgrade of traffic signal control equipment and communication devices
- Installation of additional video monitoring devices at major intersections and arterials
- Installation of dynamic message signs at major arterials
- Installation of traffic signals at needed intersections
- Installation of streetlights to provide proper illumination and visibility at various places

Future projects that would also enhance safety and security, as outlined in the ITS Master Plan and round table discussion on safety and security, are:

- Installing emergency vehicle signal preemption on priority intersections to allow EMS and fire vehicles to preempt traffic signals
- Red light cameras to monitor vehicles running red lights at high crash intersections
- Collocation of the Emergency Operations Center (EOC), TMC, and 911 Dispatch

Overall, safety issues are addressed in-house and are evaluated on a case by case basis. This may include restriping of streets and improvements or installation of road signs.

City of Laredo Plans

Among other plans, the City of Laredo has two important plans in place to respond to emergency situations. They are the Pre-Disaster Mitigation Plan and the Emergency Management Plan.

Pre-Disaster Mitigation Plan

Changes in federal policy along with the passage of the Disaster Mitigation Act in 2000 have encouraged local jurisdictions to develop plans and procedures for hazard mitigation. As such, the City of Laredo has developed their Pre-Disaster Mitigation Plan to serve as a blueprint for the prevention of hazards and emergency situations. Particularly, it seeks to make areas more resistant to disasters and sustain fewer losses by reducing the risks of loss of life and property damage associated with various disasters.

Emergency Management Plan

The City of Laredo's Emergency Management Plan is a standard plan required of all local jurisdictions and or/regions in the State of Texas. The Texas Division on Emergency Management TDEM provides a standard, sample emergency management plan, which can act as a template for any local government's emergency management plan. This plan, in turn, is adopted and tailored to the specific jurisdiction's circumstances and resources. The City of Laredo and Webb County utilize this standard plan, including the basic plan and the associated annexes.

Specifically, the Emergency Management Plan for the City of Laredo is considered an "advanced level" of information plan and has different components (also known as annexes) on relevant issues. The basic plan outlines the general approach to emergency operations and provides guidance for emergency management activities. It provides for organization and designated responsibilities to mitigate, prepare, respond to, or recover from incidents or emergency situations. The annexes provide additional information on various functions and resources. They are as follows:

Annexes			
A	Warning	**L**	Utilities
B	Communications	**M**	Resource Management
C	Shelter & Mass Care	**N**	Direction & Control
D	Radiological Protection	**O**	Human Services
E	Evacuation	**P**	Hazard Mitigation
F	Firefighting	**Q**	Hazardous Materials & Oil Spills
G	Law Enforcement	**R**	Search & Rescue
H	Health	**S**	Transportation
I	Emergency Public Information	**T**	Donations Management
J	Recovery	**U**	Legal
K	Public Works & Engineering	**V**	Terrorist Incident Response

Considering the City of Laredo's vulnerability to a variety of hazards that threatens communities, businesses, and the environment, the city established an Emergency

Commented [GRJ5]: Added reference to a web resources that is supposed to act as a hub for emergency operations.

Vanessa: Is it possible to create a page on the Laredo MPO website with emergency response information? This was mentioned on the TxDOT checklist as a potential strategy to show compliance on the update.

Vanessa: Would it be possible to get the contact list from the PPP for contacts related to natural disaster risk reduction? We could identify government entities, authorities, etc. related to natural disaster risk reduction as well in this section.

Operations Center (EOC) that serves as a regional hub for disaster and emergency management. The purpose of the EOC is to provide a single location where multiple levels of government, agencies, and organizations can coordinate decisions, resources, and information strategically. More information on the City of Laredo EOC can be found at http://www.ci.laredo.tx.us/cmo/CASS/Pres_Fed/2017/emergency.html

Laredo Police Department

The Laredo Police Department (LPD) provides law enforcement services within the City of Laredo's jurisdictional boundaries. Along with law enforcement, LPD also provides additional transportation safety and security in the region through its coordination with other City of Laredo departments, Webb County Sheriff's Department, TxDOT, Highway Patrol, and federal agencies such as US Customs and Border Protection.

In the Laredo metropolitan planning area, LPD coordinates with the Webb County's Sheriff's Department and the Texas Department of Public Safety Highway Patrol troopers for law enforcement and traffic monitoring. However, LPD primarily deals within the urban area, while Webb County sheriffs and Highway Patrol troopers primarily work with the more rural areas of the region. At the federal level, LPD also works with such agencies as the US Customs and Border Control for matters associated with border and homeland security.

Specific to transportation safety, LPD works with TxDOT to report traffic accidents on roadways and enforce traffic safety laws. This is particularly important as TxDOT administers federal traffic safety grants through the National Highway Traffic Safety Administration (NHTSA) for public education initiatives and traffic enforcement. Examples of these grants include Commercial Motor Vehicle enforcement, Safety Belt, Child Safety Seat, and Intoxicated Driver Enforcement grants. In fact, LPD pays some officers overtime for concentrating their efforts on monitoring moving violations, per a grant funded by TxDOT.

For other modes of transportation, LPD provides safety and security services for public transit providers, handles truck route and other commercial vehicle violations, and monitors rail crossings. To keep track of these and other incidents, LPD has a records division that retains information on everything from traffic accidents to citations for speeding. The public can obtain certain accident and incident reports for a fee through an internet based site and also from LPD in-person.

For the Laredo region, specific challenges for the local police include issues related to its location along the international border and along a highly utilized trade thoroughfare. In terms of transportation safety and security, the transport of hazardous materials and the enforcement of commercial vehicle violations are particularly challenging due to aforementioned issues.

El Metro

El Metro, the primary public transit provider within the Laredo region, has established certain measures in order to ensure the safe, secure, and efficient service of the transit system. In particular, El Metro has contracted with an outside vendor to provide security services at the Laredo Transit Center, as well as at the operation and maintenance facilities. Along with providing security services at the Transit Center, the security guards also patrol alighting and boarding activities in the area surrounding the Transit Center building. A security plan is in place for these services and is described in more detail in the section below

Besides providing for safety and security services at transit facilities, El Metro has also ensured that all new fixed route buses and paratransit vehicles include surveillance cameras. These cameras, although not having real-time capabilities, are necessary in the event of incidences occurring on the buses. If such safety and security incidences were to occur, the drivers are trained in how to handle such situations, and procedures are in place to contact local law enforcement.

In order to be prepared for safety and security occurrences, safety meetings are held once every two months for employees. Additionally, El Metro has a safety coordinator who participates in safety meetings within the Laredo region. The safety coordinator must also keep track of any safety and security incidents or accidents, document what actions were taken, and determine if the incidents were preventable. In doing so, the coordinator is also aided by a committee of drivers and mechanics that helps to determine the outcomes of incidents.

El Metro's Bus Safety Rules

- Don't wait for a bus in or near the street; stay safe on the sidewalk.
- Always enter the bus through the front doors.
- Never stand in the stairwell or in front of the yellow line near the driver.
- Don't stand near the doors while the bus is moving.
- Avoid conversation with the operator while the bus is in motion.
- Stay seated while the bus is in motion unless you are holding on to a handrail.
- Never cross in front of or behind a bus. Driver cannot see you.

In addition to safety and security operations within El Metro and training for employees, El Metro also has programs in place to educate the public on bus safety and security issues. These programs include disseminating information on bus safety rules, material detailing types of suspicious behavior, response instructions and emergency preparedness tips, and other information related to the Transit Watch campaign. In particular, the Transit Watch program, developed by the Federal Transit Administration (FTA) in coordination with agencies, is a nationwide initiative advocating for the active participation of passengers and employees to cooperate together in order to ensure a safe and secure transit system. In essence, it encourages employees and passengers to be the "eyes and ears" of the public transit system.

In the event of an emergency, El Metro works in cooperation with other entities to provide drivers and buses if necessary. As provided in the City of Laredo's Emergency Management Plan, El Metro has agreed to be called upon to provide for the evacuation of people during life-

threatening events. Similarly, El Metro has passed agreements with facilities such as the Doctor's Hospital to provide buses, which would evacuate all patients to another location during an emergency. El Metro is currently converting analog video surveillance cameras to digital ones at the Transit Center in order to improve the quality of recording.

Facilities Department Security Plan

El Metro has a specific security plan in place for the Facilities Department, including the security of the Transit Center and the operations and maintenance buildings. Specifically, this plan, revised in March 2009, recommends the services of a security company for the Transit Center and the operations and maintenance buildings, which include the prevention of vandalism, theft, fire, trespassing, and illegal entry and assault. Moreover, the plan outlines evacuation procedures for the Transit Center and the operation and maintenance buildings in the event of an emergency. The plan also includes Annex S of the City of Laredo's Emergency Management Plan, which delineates roles and responsibilities for the transportation of people, supplies, and materials during the event of an emergency. Following the recommendations by the plan, El Metro will continue to keep all buildings and grounds well lighted and upgrade alarm and monitoring systems for improving the safety and security of transit facilities.

Annex S - City of Laredo's Emergency Management Plan

Annex S of the City of Laredo's Emergency Management Plan is focused on providing for the transportation of people, supplies, and materials during the event of an emergency. In particular, it identifies the Transportation Officer as El Metro's General Manager, who will be responsible for coordinating transportation operations in the event of an emergency. Among many issues, it addresses the transportation challenges of transporting special needs groups, including medical patients, nursing home residents, the elderly, prisoners, school children, and those with disabilities. The plan identifies that such special facilities (schools, hospitals, nursing homes, day care facilities, and correctional facilities) are ultimately responsible for the welfare of the affected persons and must have an emergency plan which addresses emergency evacuation and arrangements for transportation services.

Furthermore, the transportation section of the Emergency Management Plan assumes that the primary mode of transportation in an emergency will be private vehicles. For those without personal vehicles, the City will use their own transportation resources, as well as those available through inter-local agreements. Other resources may include school buses, leased or rented buses, donated transportation equipment or services, municipal or rural transit system buses, and state-owned or contracted vehicles. The transportation of emergency cargo will be addressed through the use of city/county-owned vehicles, commercial freight carriers, leased or contract equipment, cargo vehicles provided by other jurisdictions pursuant to inter-local agreements, and donated transportation equipment or service. . It especially identifies Laredo Independent School District (LISD), United Independent School District (UISD), and El Metro as providers of school buses and drivers to assist in emergency operations.

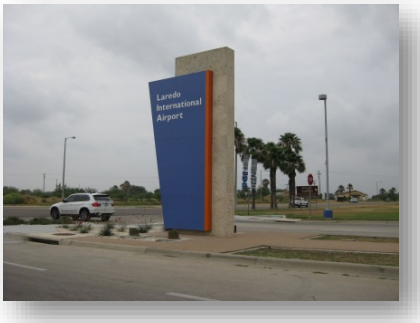
Laredo International Airport

The Laredo International Airport (LRD) is the primary airport in the Laredo region that provides air services for both cargo and passengers. As the main provider for air transportation, it has the responsibility to ensure safe, secure, and efficient service, along with other cooperating entities. Agencies that LRD coordinates with for safety and security include the Federal Aviation Administration (FAA), the Transportation Security Administration (TSA), US Customs and Border Protection (CBP), and other local agencies such as the City of Laredo Fire Department.

In particular, the FAA named LRD "airport of the year" in 2006 and received the "Airport Safety of the Year" award in 2009 from the FAA.. As such, this honor would also indicate the level of preparedness and accommodations for safety and security issues.

Safety and Security/Resiliency of Operations and Existing Infrastructure

The Transportation Security Administration (TSA) and U.S. Customs and Border Protection (CBP) provide standard safety and security services for the Laredo International Airport. In support of these services, the airport also provides approved screening technologies for baggage, cargo, and passengers and other precautions. Additionally, since LRD is classified as a Federal Aviation Regulation (FAR) Part 139 airport for operations, certain measures related to on-airport security are in place. Specifically, FARs are rules imposed by the FAA, which govern all aviation activities in the U.S such as airplane design, airline flights, pilot training activities, building and structure heights, and model aircraft operation in order to advance aviation safety and national security.

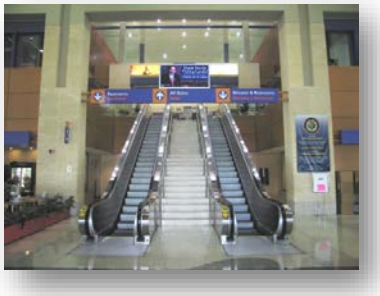


Examples of specific airport safety infrastructure in place include airfield signage, security fencing, airfield lighting, navigational aids, and an airport rescue and firefighting facility. For vehicle ground movements, LRD has lighted guidance signs around the paved areas of the airfield. Security fencing is in place around the airport property boundary, and access gates at various locations provide restricted access to the airfield. Airfield lighting of high and medium intensity provides visual aid during evening hours and low light conditions. Additionally, LRD has navigational aids (NAVAIDS), which are electronic or visual instruments that provide guidance or position information to aircraft in flight.

Situated just north of the current air traffic control tower, the airport rescue and fire fighting (ARFF) facility provides for both structural firefighting and ARFF services. The station is staffed by City of Laredo firefighters, per a mutual aid agreement between LRD

and the City of Laredo. LRD also purchased a new fire truck to aid in fire and emergency events at the airport.

Besides standard safety and security services provided by TSA and CBP and existing airport infrastructure, examples of LRD safety and security precautions include regular infrastructure and surface checks, security technologies, incident management, and general safety and security plans. In particular, LRD has its own airport police that provide added safety and security at the airport. In addition to their regular duties, the officers examine airport signage, fences, light conditions, and airport pavement two or three times a day. Airport pavement checks may include checking for debris or other surface conditions on the runways, taxiways, and other supporting airport structures. Further, the airport is aided by security enhancing technologies such as surveillance cameras and general protocol such as evacuation plans in the event of an emergency. If emergency events or other similar incidents were to occur, LRD records and reports these incidences to the FAA.



Safety and Security/Resiliency Enhancing Projects

In addition to safety and security precautions, further examples of recently completed or future projects and programs which would enhance the safety and security/resiliency of LRD include the new federal inspection station (FIS), reconstruction and maintenance of airport infrastructure, runway extensions, the airport noise compatibility program, airport terminal and parking lot improvements, a new air traffic control tower, and new airport maintenance building.

The new FIS located on the west side of the airport (general aviation side) processes private aircraft and air cargo only. The original terminal continues to process commercial flights. The new FIS houses US Customs, as well as Mexican Customs for pre-clearance. Overall, the separation of air cargo and private aircraft from commercial flights provides added security to the airport and all aviation users.

To further enhance airport safety, Runway 17L/35R and 17R/35L have been totally reconstructed to accommodate heavy aircraft, and Runway 14/32 has been rehabilitated. Also, LRD will be reconstructing all taxiways and aprons and will have pavement that will be superior in all aspects to the old concrete. Moreover, the airport is planning to extend Runways 17L/35R and acquire land for Runway 17L Protection Zone. Runway 17L/35R will undergo a benefit cost analysis to justify the extension and the installation of an instrument landing system (ILS) to enable precision landings.

The airport noise compatibility program tends to mitigate the effects of airport noise on residential property located south of the airport. The program includes three voluntary options for affected property owners: either to sell their property, soundproof their home if it is feasible and sell a navigational easement, or to simply sell a navigational easement in order to fly aircraft over the property. LRD expects to continue receiving federal grants for this program.

LRD also plans to expand airport terminal building and apron, the general aviation/air cargo apron, and airport terminal building parking lot. Other future safety and security enhancing projects include the construction of a replacement air traffic control tower and an airport maintenance building, which, in particular, would consolidate airport building and grounds operations in order to better service daily operation needs, and thus, airport safety and security needs.

Laredo Bridge System

The Laredo Bridge System is a department within the City of Laredo. The City of Laredo owns the four international bridges - Laredo-Colombia Solidarity Bridge, Juarez-Lincoln Bridge, Gateway to the Americas Bridge, and World Trade Bridge, and is responsible for the operations and maintenance of the infrastructure. The United States' General Services Administration (GSA) owns the border stations on the four international bridges. The Bridge Department's administration offices are at Bridge 1 (Gateway to the Americas) and 4 (World Trade Bridge), while federal offices, including U.S. Customs and Border Protection (CBP) are at Bridge 2 (Juarez-Lincoln) and Bridge 4.

For safety and security, the bridge department primarily works with the City of Laredo Police Department and CBP. The City of Laredo has an emergency management plan, which also applies to the bridge department. Safety and security incidents are recorded and kept track of by the CBP. In terms of security enhancing infrastructure, the international bridges have technology such as surveillance cameras and live web cameras to show continuous bridge conditions and traffic. Although the surveillance cameras are part of the bridge department's own internal control, law enforcement can request to look at the recordings. Further, deflation devices are in place on Bridges 1 and 2 in order to detour vehicles attempting to evade law enforcement when traveling into the U.S.

Other recently completed projects or projects in progress related to bridge safety includes the following:

- **Northbound Lane Delineators – Bridge 2** – Installation of lane delineators on northbound lanes at the Lincoln-Juarez Bridge in order to prevent traffic from shifting lanes.
- **Surveillance System – Bridges 1, 2, 3, and 4** – Upgrade existing surveillance system on all bridges, except the Gateway to Americas Bridge, in order to monitor customer crossings and transactions.
- **Federal Inspection Station Expansion Project – Bridge 4** Expansion of the federal inspection station on the World Trade Bridge by adding seven lanes in order to increase the processing capacity of northbound commercial truck traffic into the U.S.
- **Toll Booth and Lane Barriers – Bridge 2 –** Replacement of toll booth doors and adding protective barriers.
- **Digital Video Auditing System (DVAS) Upgrade** – **Bridges 1, 2, 3, 4** – Upgrade the current system to a more updated system.
- **Access Control Upgrade** – **Bridges 2, 3, and 4** – Upgrade the access control system.
- **Uninterruptable Power Supply (UPS) Upgrade** – **Bridges 1, 2, 3, and 4** – Upgrade UPS to provide continuous power to toll, computer and network to avoid interruption during sudden power loss.

In the near future, safety and security enhancing projects, as identified in the *2014-2018 Capital Improvement Program* for the City of Laredo, include the following:

- **Lighting – Bridge 1** – Improvements to the wiring and fixtures at the Gateway to Americas Bridge in order to ensure better visibility and security.
- **Toll Booth and Lane Barriers – Bridges 1** - Extension of toll booth islands and adding lane protective barriers on four lanes of Gateway to Americas Bridge
- **Hazardous Materials Containment System, Bridge 4** Construction of this facility is necessary should the World Trade Bridge be used as a crossing for hazardous materials. Hazardous materials containment system would collect hazardous materials spills occurring on the bridge approaches, ahead of the bridge span.
- **Tire Deflation Devices – All bridges** – Addition of more tire deflation devices in order to hinder vehicles attempting to avoid law enforcement.

Private Railroad Companies

In general, railroad companies and government agencies coordinate to ensure safety of railroads and motorists crossing at railroad and roadway intersections. Typical features in place include standard cross buck signs, advanced warning signs, and active warning devices or signals to warn motorists of crossing at railroad and roadway intersections. Further, federal laws are in place, through the FRA, governing rail safety. For instance, locomotive horns must be sounded at all public grade crossings 15-20 seconds before entering a crossing, but not more than one-quarter mile in advance. However, quiet zones may be implemented if alternative safety measures are in place.

In the Laredo region, Union Pacific (UP) and Kansas City Southern (KCS) coordinate with local, state, and federal agencies to ensure the safety and security of the railroad. These companies have their own public safety departments dedicated to advancing public safety, as well as police departments which deal with hazardous materials releases, personal injuries, criminal activities, illegal dumping, or other safety and security incidents. For instance, in the Laredo region, Texas KCS has two special agents assigned to the KCS Police Department with K-9 units. The railroad companies also have local emergency preparedness plans for the Laredo region which focus on safety and security emergencies. Moreover, UP and KCS both have toll-free emergency numbers that are used to contact the companies in the event of an emergency. For example, KCS coordinates all safety and security issues through their Critical Incident Desk (CID) in Kansas City and notifies all local first responders internally and externally in the event their services are needed.

To prevent the occurrence of certain events, KCS and UP are both active in public awareness organizations or campaigns which seek to educate the public on transportation safety and security issues. One such organization is Operation Lifesaver, which is a non-profit, international continuing public education program established to end collisions, deaths, and injuries at railroad and roadway crossings and on railroad rights-of-way. In particular, KCS has four Operation Lifesaver presenters for the Laredo region that focus on performing three presentations per month. Another public awareness effort is Transportation Community Awareness and Emergency Response (TRANSCAER), which focuses on assisting communities to prepare for and respond to potential hazardous material transportation incidents. TRANSCAER is comprised of volunteer representatives from a variety of organizations, including UP and KCS. UP, for instance, has hazardous material special agents and personnel from their Hazardous Material Management department present emergency planning and response training classes to local emergency management coordinators and committees.

Because it is located along the U.S.-Mexico border, security is a special concern for the Laredo region. In the past, there have been issues of illegal aliens attempting to enter the U.S. via trains that operate on the rail network. In this regard, UP and KCS work closely with U.S. Customs and Border Protection, along with local and state law enforcement agencies, in order to minimize the occurrence of such events. Overall, extensive security measures are in place, through the DHS and CBP, to guard against the illegal crossing of people and goods into the U.S. CBP utilizes such technology as vehicle and cargo inspection system (VACIS) gamma ray detectors to scan the railcars crossing at the international border.

Resilience and Reliability

Commented [GRJ6]: Added section on Resilience and Reliability to introduce a framework to evaluate the region for vulnerabilities to natural disasters.

The FAST Act provides an increased focus on resiliency within the metropolitan transportation planning process. Resiliency of the transportation system must be considered, in addition to activities to reduce stormwater runoff from transportation infrastructure. Strategies to reduce the vulnerability of existing transportation infrastructure to natural disasters must be identified during the planning process. This 2040 MTP has been updated to reference the new requirements introduced by the FAST Act, but they will be treated in more detail in the new 2045 MTP.

Climate change and extreme weather events present significant and growing risks to the safety, reliability, effectiveness, and sustainability of transportation infrastructure and operations. The impacts of a changing climate (higher temperatures, sea-level rise, seasonality and intensity of rain events, etc.) and extreme weather events are affecting the lifecycle of transportation systems, and these affects are expected to intensify. For example, the reoccurrence of high heat events can degrade materials, and this can result in more frequent replacement cycles and higher maintenance costs. Although transportation infrastructure is designed to absorb the range of impacts of the local climate, planning for more resilient and reliable infrastructure in the face of climate change and extreme weather events is critical to protecting the integrity of the transportation system and making well informed investments.

The Laredo MPO will use the guidelines provided by the FHWA *Vulnerability Assessment and Adaptation Framework, 3rd Edition* (2018) to conduct an assessment of the Laredo MPO's vulnerability of the transportation system to extreme weather and climate effects. The Framework steps include:

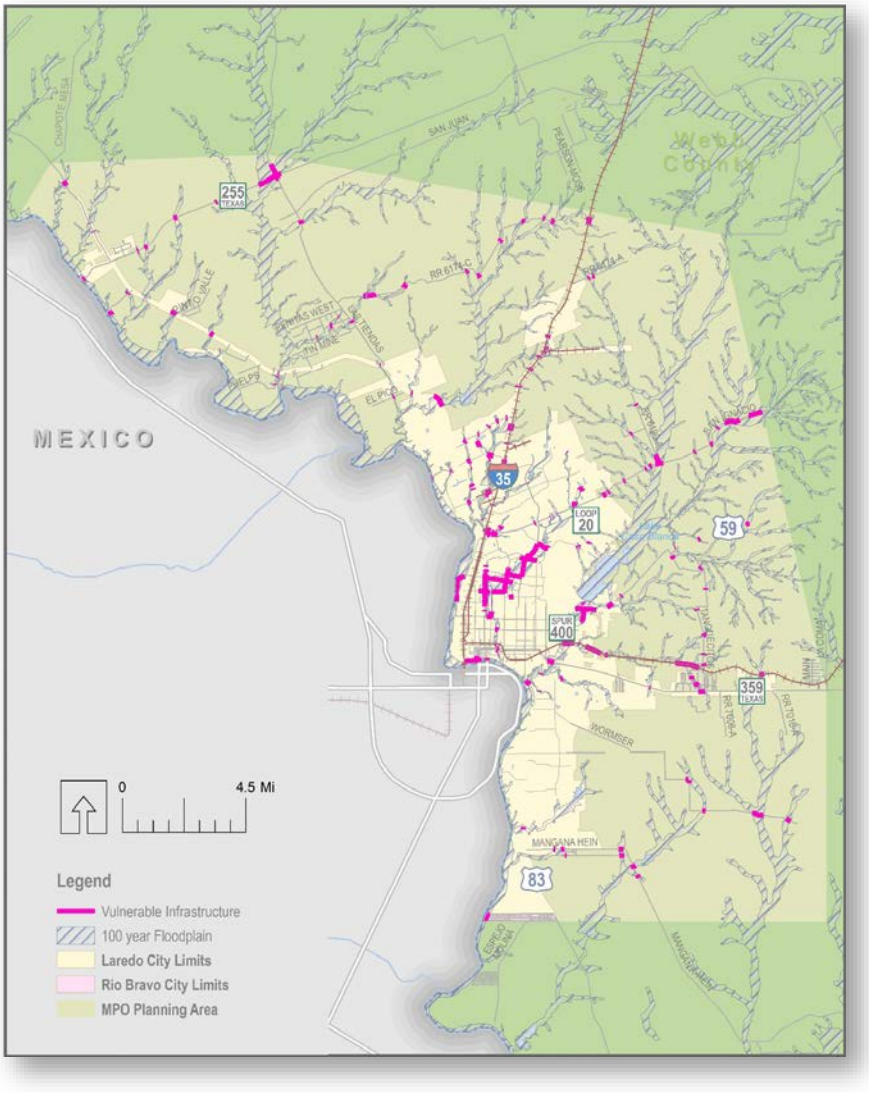
- Articulate objectives and define study scope
- Obtain asset data
- Obtain climate data
- Assess vulnerability
- Identify, analyze, and prioritize adaptation options
- Incorporate assessment results in decision making
- Monitor and revisit

In addition to the FHWA Framework, the Laredo MPO will incorporate the following strategies into the planning process in order to reduce the vulnerability of the existing transportation infrastructure to natural disasters.

- Coordinate with agencies in natural disaster risk reduction (Department of Homeland Security Federal Emergency Management Agency, Department of Defense United States Army Corps of Engineers, Department of Commerce National Oceanic and Atmospheric Administration, Texas Department of Transportation)
- Assess vulnerability of transportation assets to types of natural disasters
- Identify at-risk assets and potential impacts of disasters
- Evaluate approaches to system management, operations, and maintenance
- Determine assets to retrofit, rehabilitate or relocate
- Analyze appropriate areas to build new facilities
- Prioritize funding using costs, benefits, risks, and impacts
- Develop systems for monitoring and reporting
- Educate and engage decision-makers, partners, and public

Using available geospatial datasets, the Laredo MPO has begun identifying transportation infrastructure that is vulnerable to natural disasters. Figure 11-1 below identifies transportation infrastructure within the MPO planning area that is vulnerable to flooding. These assets are located within the 100-year floodplain. Obstruction of these links could significantly impact the vast amount of freight flows that occur through the Laredo MPO. Major transportation infrastructure identified as vulnerable to flooding include links of the Union Pacific (UP) Railroad, the Kansas City Southern Railway (KCS), I-35, US 59, US 83, SH 255, SH 359, FM 1472, and FM 3338.

Figure 11-1: Transportation Infrastructure Vulnerable to Flooding



CHAPTER 12

FINANCIAL PLAN AND RECOMMENDED PLANNED IMPROVEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LAREDO METROPOLITAN TRANSPORTATION PLAN 2015 – 2040 UPDATE
Laredo Urban Transportation Study

CHAPTER 12: ~~FINANCIAL~~ FINANCIAL ~~PLAN~~ PLAN AND ~~RECOMMENDED~~ RECOMMENDED ~~PLANNED~~ PLANNED ~~IMPROVEMENTS~~IMPROVEMENTS

Introduction

Federal planning regulations require that the financial plan in Metropolitan Transportation Plans be "financially constrained," meaning that the estimated cost for all transportation improvements presented in the plan cannot exceed the amount of "reasonably expected" revenues projected from identified funding sources. This requirement ensures that the plan is based upon realistic assumptions and is not merely a "wish list."

This chapter discusses the long-range financial constraints and opportunities in the Laredo MPO region over the next 25 years. The Laredo MPO cooperated with Technical Committee members and TxDOT staff to conduct a detailed analysis of what funds are to be reasonably expected, how these funds can be allocated, and how and when the selected projects will be financed. Undoubtedly, actual funding availability in the next 25 years ~~when~~ which this MTP covers will ~~hinge~~ largely hinge on future actions, public directives, and transportation planning related bills initiated at the federal and state levels.

Funding Sources

Commented [GRJ1]: Removed text describing that the future funding source is uncertain. The funding source is now certain, it's the FAST Act.

Funding for our nation's transportation system is at a crossroads. It is difficult for Federal and state transportation revenue streams ~~are difficult~~ to catch up with needed investments. A few key factors are eroding these sources of revenue. First, state and federal gas taxes have not changed since the early 1990s when the cost of a postage stamp was 29 cents. Second, consistently high levels of oil prices and an increased trend towards green technology have caused people to adjust their driving habits and buy more fuel-efficient cars.

~~Also, the current MAP-21 will soon expire in May 2015 and the next long range transportation bill is still on the drawing board. Regardless of what bill would be the successor to MAP-21, it is unlikely that it will adequately fund all of our nation's transportation needs. When it is enacted, however, the Laredo MPO stands ready with a prioritized list of transportation improvement projects.~~

Various suggestions have been made to improve federal and state transportation funding mechanisms, including increasing the gasoline tax and/or indexing it to the consumer price index, increasing local vehicle registration fees, and imposing a local tax dedicated to transportation improvements. However, such tax increases are typically very politically unpopular. Other suggestions include transitioning to a tax based upon miles driven, rather than gasoline consumed. Technologies to implement this type of solution have been around for years, but concerns over privacy are likely to prevent these solutions from materializing.

Roadway and Bicycle/Pedestrian Funding Source

Table 12-1 describes various roadway and bicycle/pedestrian related funding categories through TxDOT and the funding allocation at the time of this MTP plan.

Commented [GRJ2]: Added text to clarify that the funding structure remains from the writing of this MTP plan.

Table 12-1: TxDOT Funding Category

Funding Category	*Description*	*Usual Funding Allocation*		
		Fed	**State**	**Local**
1 - Preventive Maintenance and Rehabilitation	Provides for preventive maintenance and pavement rehabilitation on the existing state highway system, including installation and rehabilitation of traffic control devices and the rehabilitation and maintenance of operational traffic management systems.	90% 80% -	10% 20% 100%	- - -
2 - Metropolitan and Urban Area Corridor Projects	Addresses mobility needs in all metropolitan areas throughout the state.	80% -	20% 100%	- -
3 - Non-Traditionally Funded Transportation Projects	Addresses mobility needs throughout the state using funding sources not traditionally part of the state highway fund. The projects in this category include Proposition 12, Proposition 14, Pass through Toll Financing, Texas Mobility Fund, Concession, Regional Toll Revenue, Comprehensive Development Agreement, Local Participation, and unique federal funding.	80% - -	20% 100% -	- - 100%
		Varies by agreement and rules		
4 - Statewide Connectivity Corridor Projects	Addresses mobility and added capacity project needs on major state highway system corridors which provide statewide connectivity between urban areas and corridors which serve mobility needs throughout the state. The highway connectivity network is composed of the: Texas Trunk System; National Highway System (NHS); and connections from Texas Trunk System or NHS to major ports on international borders or Texas waterports.	80% -	20% 100%	- -
5 - Congestion Mitigation and Air Quality Improvement	Addresses the attainment of national ambient air quality standards in the non-attainment areas of the state. Projects are for congestion mitigation and air quality improvement in the non-attainment areas in the state.	80% 80% 90%	20% - 10%	- 20% -
6 - Structures Replacement and Rehabilitation Bridge Program; Railroad Grade Separation Program	Addresses the replacement or rehabilitation of deficient existing bridges located on public highways, roads and streets in the state; the construction of grade separations at existing highway railroad grade crossings; and the rehabilitation of deficient railroad underpasses on the state highway system.	90% 80% 80%	10% 20% 10%	- - 10%
7 – Metropolitan Mobility/Rehabilitation	Addresses transportation needs within the metropolitan area boundaries of Metropolitan Planning Organizations having urbanized areas with populations of 200,000 or greater.	80% 80% -	20% - 100%	- 20% -
8 - Safety	Addresses safety needs on and off the state highway system, and includes the High Risk Rural Roads program, and the Rail-way-Highway Safety program.	90% 90% 100% -	10% - - 100%	- 10% - -

Funding Category	*Description*	*Usual Funding Allocation*		
		Fed	**State**	**Local**
9 - Transportation Enhancements and Transportation Alternatives	Addresses projects that are above and beyond what could normally be expected in the way of enhancements to the transportation system, including the cultural, historic, aesthetic, and environmental aspects of transportation infrastructure.	80% 80%	20% -	- 20%
10 - Supplemental Transportation Projects	Addresses projects that do not qualify for funding in other categories, such as state park roads, landscaping, and handicap accessible curb ramps at on-system intersections.	- 80% 100%	100% 20% -	- - -
11 - District Discretionary	Addresses projects selected at the District Engineer's discretion.	80% 80% -	20% - 100%	- 20% -
12 - Strategic Priority	Addresses needs related to statewide economic development, military deployment routes, and manmade and natural emergencies.	80% -	20% 100%	- -

Transit Funding Source

Table 12-2 describes the FTA funding programs and the funding allocation at the time of this MTP plan.

Table 12-2: FTA Funding Category

Funding Category	*Program*	*Description*	*Usual Funding Allocation* Fed	State	Local
5307	Urbanized Area Formula Grant Program	Program subsidizes the operating and/or capital cost of transit services. Eligible expenses include planning, engineering, most administration, preventive maintenance, fuel, parts, and operating costs.	90% 80%	- -	10% 20%
5310	Transportation for Elderly Persons and Persons with Disabilities	Capital expenses that support transportation to meet the special needs of older adults and persons with disabilities.	80%	-	20%
5311	Rural Transit and Intercity Bus	Capital, planning, and operating expenses for public transit in non-urbanized areas with a population under 50,000 as designated by the Bureau of the Census.	80% 50% 90%	- - -	20% 50% 10%
5316	Job Access and Reverse Commute Program	Capital, planning, and operating expenses for projects that transport low income individuals to and from jobs and activities related to employment and for reverse commute projects.	80% 50% 100%	- - -	20% 50% -
5317	New Freedom Program	Capital and operating expenses for new public transportation services and new public transportation alternatives beyond those required by the Americans with Disabilities Act of 1990 (ADA) that are designed to assist individuals with disabilities.	80% 50%	- -	20% 50%
5339	Capital Improvement Program	Divided into three categories: modernization of existing rail systems, new rail systems, and new and replacement buses and facilities. These funds are used to subsidize the purchase of buses, bus-related equipment and paratransit vehicles, and for the construction of bus-related facilities.	80%	-	20%

Revenue Projections

The first step in the process of demonstrating financial constraints is to determine what revenues can be reasonably expected over the life of the plan. Most regional roadway projects are financed through federal and state funds which are mostly derived from taxes on fuel and fees from vehicle registration. Transit projects are also funded through federal, state, and local sources, as well as revenue received through fares.

Roadway and Bicycle/Pedestrian Funding Revenue

The MPO has worked with the TxDOT-Laredo District to determine the expected levels of funding for the fiscal years included in this plan. MPO also utilized the Transportation Revenue Estimator and Needs Determination System (TRENDS) database to project the reasonable revenue for the fiscal years included in this plan. TRENDS is a scenario planning model that forecasts revenues and expenses for the TxDOT. It is updated regularly to include the latest cash forecasts and letting schedules from TxDOT.

The annual average amount and the sum of the amounts of available funding through TxDOT by category from 2015 to 2040 are presented in **Table 12-3**.

Table 12-3: Roadway and Bicycle/Pedestrian Funding Revenue

Category	*Annual Average Amount*	*FY 2015 to 2040 Total Amount*
1	-	-
2	$262,692	$6,830,000
3	-	-
4	-	-
5	-	-
6	-	-
7	$4,474,245	$116,330,357
8	$70,037	$1,820,961
9	$632,615	$16,448,000
10	$2,509,040	$65,235,049
11	$727,308	$18,910,000
12	$599,755	$15,593,622

Transit Funding Revenue

Table 12-4 shows the annual average amount of funding expected for the various FTA funding categories, and the sum of the amounts projected for years from 2015 to 2040.

Table 12-4: Transit Funding Revenue

Category	Source	Annual Average Amount	FY 2015 to 2040 Projected Amounts
Section 5307 – Urbanized Formula	Federal Revenue	$3,408,654	$88,625,011
	State Match – TxDOT	$593,721	$15,436,758
	Local Match	$10,142,073	$263,693,892
	Total	$14,144,449	$367,755,661
Section 5310 – Seniors & People with Disabilities	Federal Revenue	$102,869	$2,674,599
	State Match – TxDOT	-	-
	Local Match	$20,574	$534,920
	Total	$123,443	$3,209,518
Section 5339 – Bus and Bus Facilities	Federal Revenue	$362,516	$9,425,416
	State Match – TxDOT	-	-
	Local Match	$90,629	$2,356,347
	Total	$453,145	$11,781,763
Total	-	$17,075,524	$443,963,615
Local-Only	Local Funds	$1,013,122*	$4,052,488*

** Only 2015-2018 are documented.*

Project Evaluation Criteria

In an effort to prioritize the future transportation needs of Laredo region, the MPO has developed a series of project evaluation criteria to objectively score projects. While the criteria attempt to quantify the potential benefits and effects of each project, they are not the sole determinant in establishing regional investment priorities. Rather, these criteria are simply a tool to help discuss the merits of each project and evaluate them on an equal playing field.

Congestion – 100 Points

Current Congestion

Does the project specifically address a currently congested facility; or in the case of a new alignment roadway, does it specifically address a "parallel" facility that is congested?

- Current Level of Service = E or F : 50 points
- Current Level of Service = D : 40 points
- Current Level of Service = C : 30 points
- Current Level of Service = B : 20 points
- Current Level of Service = A: 0 points

Future Congestion

Does the project specifically address a facility that is expected to become congested at the end of the MTP planning horizon (currently 2040), or in the case of a new alignment roadway, does it specifically address a "parallel" facility that is projected to be congested?

- Future Level of Service = E or F : 30 points
- Future Level of Service = D : 20 points
- Future Level of Service = C : 10 points
- Future Level of Service = B : 5 points

- Future Level of Service = A: 0 points

Congestion Management Process

Is this project a product of the congestion management process?

- Yes, indirectly : 20 Points
- No : 0 Points

Safety and Operations: 100 Points

Safety

Does the project specifically address a safety issue?

- Yes, directly : 60 Points
- Yes, indirectly : 30 Points
- No : 0 Points

**Based upon type of project.*

Yes, directly: Access Management, Frontage Road Conversion, Intersection Improvements, Bicycle/Pedestrian Facilities (some), Center Turn Lane, Lighting, Median, Realignment, Traffic Signal, Widen Lanes

Yes, indirectly: Reconstruction/Rehabilitation/Repair/Resurface, Upgrade to Freeway

No: Added Capacity, Drainage, Landscaping, Museum, Visitor Center, New Roadway

Operational Efficiency

Does this project include elements that specifically improve the operational efficiency of the transportation system?

- Yes, directly : 30 Points
- Yes, indirectly : 15 Points
- No : 0 Points

**Based upon type of project.*

Yes, directly: Upgrade Interchange/Intersection Improvement, Center Turn Lane, Add Turn lanes, Drainage, Frontage Road Conversion, Realignment, Signals, Traffic Flow Improvements, Median

Yes, indirectly: New Roadway, Additional Travel Lanes

No: Bicycle/Pedestrian Facilities, Landscaping, Lighting, Museum, Visitor Center, Reconstruction/Rehabilitation/Repair/Resurface

Hazardous Material

Does this project address the safe transportation of hazardous material?

- Yes : 10 Points
- No : 0 Points

Yes: Project located in a Hazmat route
No: Project not located in Hazmat route

Project Cost: 50 Points

Cost Reasonableness

Is the project cost per future vehicle mile of travel (DVMT from "build" alternative from travel demand model) a reasonable amount?

- $75 or less per VMT : 30 points
- Between $75 and $125 per VMT : 20 points
- Between $125 and $500 per VMT: 10 points
- More than $500 per VMT: 0 points

Alternative Financing

Does this project include non-traditional funding sources and enhanced cost sharing?

- Yes : 20 Points
- No : 0 Points

**Based upon whether there is any funding for this project beyond the typical federal funds and minimum local match. Alternative financing is considered to be an indication of Community Support. Examples of alternative financing includes local match, TIRZ, Tolls, etc.*

Modal Impact: 150 Points

Does this project specifically promote the use of or access to an alternative mode of transportation?

- Transit : 25 points
- Bicycling : 25 points
- Walking : 25 points
- Air Travel : 25 points
- Rail Travel : 25 points
- Freight: 25 Points

Environmental Impacts: 20 Points

Does this project impact environment in a positive manner? (0 to 10 points)

- The Technical Advisory Committee (TAC) evaluates and provides scores for each project based on their local knowledge

Does this project improve aesthetics of the community? (0 to 10 points)

- The TAC evaluates and provides scores for each project based on their local knowledge

Public Acceptance: 80 Points

Does the project have explicit community support? (0 to 50 points)

- The TAC will evaluate and provide scores for each project based on public outreach process

Is the project consistent with local and regional goals and objectives? (0 to 30 points)

- The TAC will evaluate and provide scores for each project

The scoring results serve as a guideline for the MPO to select Category 7 projects into the MTP.

Financial Constraints

It is of paramount importance to ensure that the projects selected in the MTP are financially feasible. The following pages show the comparison of expected revenue and project cost for roadway and bicycle/pedestrian and for transit by category, and the projects that are programmed to receive funding.

Estimated Revenue vs. Cost Estimate

Roadway

Table 12-5 demonstrates that the MTP is financially constrained with regard to roadway and bicycle/pedestrian projects. In other words, the revenue from Federal funding anticipated during the life of this plan is enough to cover the programmed amount of project cost.

Table 12-5: Roadway and Bicycle/Pedestrian Financial Constraint

Category	*FY 2015 to 2040 Projected Amount of Revenue*	*Programmed Amount of Project Cost*
1	-	-
2	$6,830,000	$6,830,000
3	-	-
4	-	-
5	-	-
6	-	-
7	$116,330,357	$116,330,357
8	$1,820,961	$1,820,961
9	$16,448,000	3,609,610
10	$65,235,049	$65,235,049
11	$18,910,000	$18,910,000
12	$15,593,622	$15,593,622

Transit

Table 12-6 shows the comparison of projected revenue from Federal funding and programmed amount of project cost and that the MTP is financially constrained with regard to transit projects.

Table 12-6: Transit Financial Constraint

Category	*FY 2015-2040 Projected Amount of Revenue*	*Programmed Amount of Project Cost*
5307	$88,625,011	$88,625,011
5310	$3,209,518	$3,209,518
5339	$11,781,763	$11,781,763

Lists of Projects

Roadway Projects

The projects that have been selected for inclusion with the Laredo long-range Metropolitan Transportation Plan were carefully selected and prioritized. The list of projects that are presented on the pages that follow was developed by including projects from the *2015-2018 TIP*, and *2015-2024 UTP,* and projects selected through this MTP development process. The locations of roadway and bicycle and pedestrian projects are shown on **Figure**

12-1. **Table 12-7** through **Table 12-13** show the details of projects such as letting year, total project cost, programmed federal and state amount of funding, and other amount of funding by TxDOT funding category.

Figure 12-1: Federally Funded Roadway and Bicycle and Pedestrian Projects

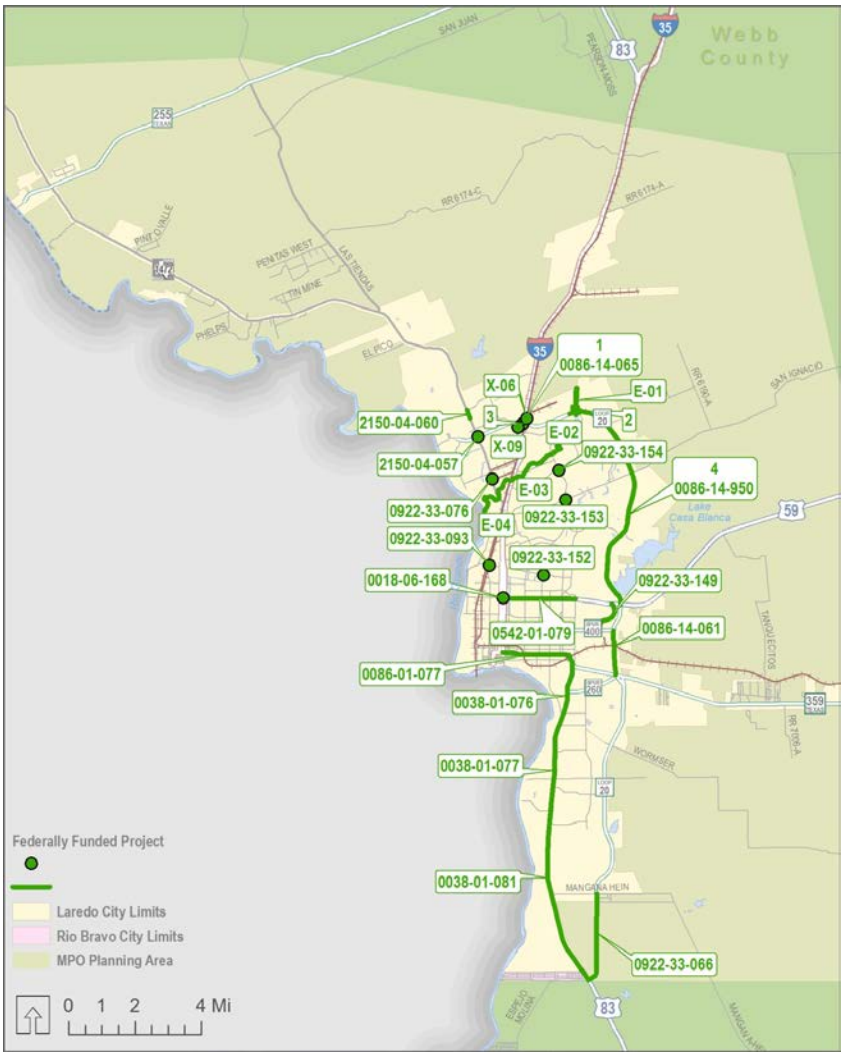


Table 12-7: Category 2M Roadway Projects

0922-33-066	*Loop 20 from Mangana-Hein Rd to US 83 at Rio Bravo:* ***Extension of Cuatro Vientos – Construct 2 lane rural section***

Description: The project will extend the existing Cuatro Vientos Boulevard southward from Mangana-Hein Road to US 83 at the City of Rio Bravo with two-lane roadway. Loop 20 provides connection between South Laredo with predominantly residential areas to the industrial areas in North Laredo. Cuatro Vientos Boulevard also serves as an alternative route to US 83 and thus could alleviate traffic congestion on US 83. In addition, Loop 20 is one of the designated truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation.

Year: 2018
Total Cost: $20,102,089
Programmed Amount: $6,830,000
Other Amount: -
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

Table 12-8: Category 7 Roadway Projects

1	*Loop 20 at IH 35: **Construct overpass and approach roadways***

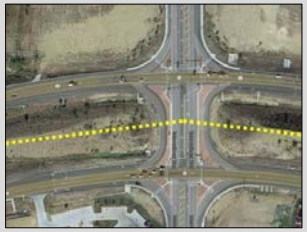
Description: The project will provide main lanes and a grade separation for through traffic on Loop 20 to pass IH 35 without encountering controlled delays at the intersection. The operational efficiency of the through traffic on Loop 20 will be improved. Loop 20 is one of the designated truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation. The project is same as Project 0086-14-065 in Category 12.

Year: 2017
Total Cost: $32,509,223
Programmed Amount: $6,822,967
Other Amount: -
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

2	*Loop 20 at International Blvd: **Construct overpass and approach roadways***

Description: The project will provide main lanes and a grade separation for through traffic on Loop 20 to pass International Boulevard without encountering an intersection; therefore the operational efficiency of the through traffic on Loop 20 will be improved. Loop 20 is one of the designated truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation.

Year: 2015
Total Cost: $15,127,165
Programmed Amount: $3,174,857
Other Amount: -
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.



3	*Loop 20 at I-35**: Construct ramps from I-35 southbound to Loop 20 eastbound, and from Loop 20 westbound to I-35 southbound***

Description: This project will provide direct connectors for traffic from I-35 southbound to Loop 20 eastbound and Loop 20 westbound to I-35 southbound. Traffic of these movements does not have to encounter control delays at the intersection; therefore the operational efficiency will be improved. Both IH 35 and Loop 20 are important truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation.

Year: 2018
Total Cost: $44,200,000
Programmed Amount: $9,276,603
Other Amount: -
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

4	*Loop 20 from International Blvd to US 59*: ***Upgrade to interstate standards, including overpasses at Shiloh Dr, Del Mar Blvd, University Blvd, Jacaman Rd, and Airport***

Description: In 2006, the TxDOT – Laredo District, together with Webb County, the City of Laredo, and the Laredo MPO, started early planning and conceptual engineering studies to upgrade Loop 20. Around 2011, petitioners began comprehensive studies to develop plans to upgrade Loop 20 to interstate standards. The first phase of the upgrade plan included three interchanges, including at IH 35 interchange (a.k.a. the Milo Interchange), at McPherson Road and at International Boulevard. The segment of Loop 20 is proposed to be co-designated as US 59 as well as Interstate 69 in the future.

The project will upgrade the existing roadway to meet Interstate standards, such as controlled access and sufficient median width. Several overpasses are proposed at the intersections of Shiloh Drive, Del Mar Boulevard, University Boulevard, Jacaman Road, and Airport. Loop 20 is one of the major truck routes in the Laredo MPO region. The project will provide more mobility to mitigate the high volume of traffic, especially commercial traffic.

The project is same as Project 0086-14-950 in Category 10.

Year: 2020
Total Cost: $391,400,000
Funding: Federally funded
Programmed Amount: $82,146,205
Other Amount: -
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, and it is close to Lake Casa Blanca, and detention ponds. It is also near Laredo International Airport, parks/recreational facilities, and schools, but it is not near low income areas.

X-06 *IH 35 at Loop 20:* ***Construct ramp from Loop 20 Westbound to IH 35 Northbound***

Description: This project will provide direct connectors for traffic from Loop 20 westbound to IH 35 northbound. Traffic of the movement does not have to encounter control delays at the intersection; therefore the operational efficiency will be improved. Both IH 35 and Loop 20 are important truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation.

Year: 2037
Total Cost: $35,520,000
Funding: Federally funded
Programmed Amount: $7,454,863
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

X-09 *IH 35 at Loop 20:* ***Construct ramp from Loop 20 Eastbound to IH 35 Southbound***

Description: This project will provide direct connectors for traffic from Loop 20 eastbound to IH 35 southbound. Traffic of the movement does not have to encounter control delays at the intersection; therefore the operational efficiency will be improved. Both IH 35 and Loop 20 are important truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation.

Year: 2039
Total Cost: $35,520,000
Funding: Federally funded
Programmed Amount: $7,454,863
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

Table 12-9: Category 8 Roadway Projects

0018-06-168	*IH 35 at US 59 intersection:* ***Improve traffic signal on frontage road***

Description: The project will improve the signal timing at the intersection of IH 35 frontage road and US 59 to make traffic flow more efficiently through this intersection. Often referred to as the NAFTA Superhighway, IH 35 travels northward from Laredo through several states to Minnesota, and it is one of the major freight routes in the U.S. and also one of the designated truck routes in Laredo.

Year: 2015
Total Cost: $99,992
Programmed Amount: $81,702
Other Amount: -
Funding: Federally funded

0038-01-076	*US 83 from Palo Blanco to SH 359:* ***Improve traffic signals - interconnect signals***

Description: The project will improve the signal timings at intersections on US 83 between Palo Blanco Street and SH 359 to make traffic flow more efficiently through these intersections. US 83 south of SH 359 is an important north-south corridor connecting to South Laredo. US 83 is also one of the designated truck routes in Laredo; therefore, improving the operational efficiency of the segment would also benefit freight transportation.

Year: 2015
Total Cost: $129,868
Programmed Amount: $109,625
Other Amount: -
Funding: Federally funded

0038-01-077 *US 83 from Cielito Lindo to Palo Blanco:* ***Improve traffic signals - interconnect signals***

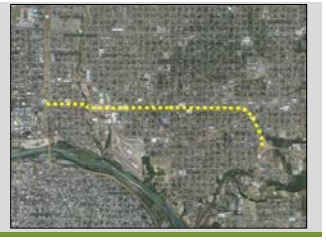
Description: The project will improve the signal timings at intersections on US 83 between Cielito Lindo Boulevard and Palo Blanco Street to make traffic flow more efficiently through these intersections. US 83 south of SH 359 is an important north-south corridor connecting to South Laredo. US 83 is also one of the designated truck routes in Laredo; therefore, improving the operational efficiency of the segment would also benefit freight transportation.

Year: 2015
Total Cost: $177,976
Programmed Amount: $131,375
Other Amount: -
Funding: Federally funded

0086-01-077 *US 83 from IH 35 to SH 359:* ***Improve traffic signals - interconnect signals***

Description: The project will improve the signal timings at intersections on US 83 between IH 35 and SH 359 to make traffic flow more efficiently through these intersections. The segment of US 83 is Guadalupe Street on the westbound side and Chihuahua on the eastbound side. US 83 is also one of the designated truck routes in Laredo; therefore, improving the operational efficiency of the segment would also benefit freight transportation.

Year: 2015
Total Cost: $181,919
Programmed Amount: $153,625
Other Amount: -
Funding: Federally funded



0542-01-079 *US 59 from IH 35 to Arkansas:* ***Improve traffic signals - interconnect signals***

Description: The project will improve the signal timings at intersections on US 59 between IH 35 and Arkansas Avenue to make traffic flow more efficiently through these intersections. The segment of US 59 (Saunders Street) is an important east-west corridor in the city. Based on the latest Laredo Travel Demand Model, some portions of the segment operate at LOS F (volume higher than capacity). US 59 is also one of the designated truck routes in Laredo; therefore, improving the operational efficiency of the segment would also benefit freight transportation.

Year: 2015
Total Cost: $146,602
Programmed Amount: $123,750
Other Amount: -
Funding: Federally funded

2150-04-057 *FM 1472 at Loop 20:* ***Improve traffic signal, interconnect signals, and install overhead guide signs***

Description: The project will improve the signal timings at the intersection of FM 1472 and Loop 20 to make traffic flow more efficiently through the intersection. FM 1472 and Loop 20 are both designated truck routes in Laredo; therefore, improving the operational efficiency of the intersection would also benefit freight transportation.

Year: 2015
Total Cost: $94,328
Programmed Amount: $77,074
Other Amount: -
Funding: Federally funded

2150-04-060 *FM 1472 from Killam Industrial Blvd to Pellegrino:* ***Install raised median***

Description: The project will install raised median to the segment on FM 1472 from Killam Industrial Boulevard to Pellegrino Court. Raised medians would minimize conflict points caused by turning vehicles into the driveways and improve operational safety. FM 1472 is also one of the designated truck routes in Laredo; therefore, improving the operational safety of the segment would also benefit freight transportation.

Year: 2015
Total Cost: $155,656
Programmed Amount: $128,438
Other Amount: -
Funding: Federally funded

0922-33-152 *McPherson at Calton Rd:* ***Install raised median***

Description: The project will install raised median to the intersection of McPherson Road at Calton Road. Currently the intersection is one of the Top 20 high crash intersections based on TxDOT's crash data from 2010 to 2012. It would improve operational safety of the intersection by making the trajectories of left turn vehicles more predictable and minimizing conflict points caused by turning vehicles into driveways.

Year: 2017
Total Cost: $260,251
Programmed Amount: $203,829
Other Amount: -
Funding: Federally funded

0922-33-153 *McPherson Rd at Del Mar Blvd:* ***Install raised median and add right turn lane***

Description: The project will install raised median to the intersection of McPherson Road at Del Mar Boulevard. Currently the intersection is the one with the highest crash number based on TxDOT's crash data from 2010 to 2012. It would improve operational safety of the intersection by making the trajectories of left turn vehicles more predictable and minimizing confilt points caused by turning vehicles into driveways.

Year: 2017
Total Cost: $645,358
Programmed Amount: $505,445
Other Amount: -
Funding: Federally funded

0922-33-154 *McPherson at International Blvd:* ***Install raised median***

Description: The project will install raised median to the intersection of McPherson Road at International Boulevard. It would improve operational safety of the intersection by making the trajectories of left turn vehicles more predictable and minimizing conflict points caused by turning vehicles into driveways.

Year: 2017
Total Cost: $390,830
Programmed Amount: $306,098
Other Amount: -
Funding: Federally funded

Table 12-10: Category 9 Roadway Projects

9	*Alexander Hike and Bike Trail:* ***Construct hike and bike trail from Zacate Dam to Del Mar Blvd***

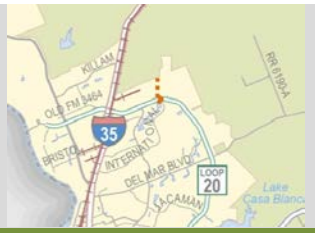
Description: The project will construct a hike and bike trail along a segment of Zacate Creek in the proposed Alexander subdivision. The project is included in the Alexander subdivision master plan which has residential and commercial areas development. Once completed, the trail would allow pedestrians and cyclists to travel along Zacate Creek from Bartlett Avenue near the intersection of Bartlett Avenue and Jacaman Road to Del Mar Boulevard.

Year: 2015
Total Cost: $986,078
Programmed Amount: $986,078
Other Amount: -
Funding: Federally Funded

E-01	*Manadas Creek Hike and Bike Trail, Phase III:* ***Construct hike and bike trail from United High School to Loop 20***

Description: The Manadas Hike and Bike Trail will provide pedestrians and bicyclists pathways along Manadas Creek. It promotes non-motorized travel and provides green space preservation, habitat conservation, and recreational space in north Laredo. When fully built, the entire 15 miles of the trail will connect Rio Grande River northwest of the water treatment plant along Zacate Creek to United High School. Currently, the completed segments are located at North Central Park and San Isidro Park. The Phase III project is from United High School to Loop 20.

Year: 2016
Total Cost: $886,846
Programmed Amount: $886,846
Other Amount: -
Funding: Federally funded



E-02	*Manadas Creek Hike and Bike Trail, Phase IV:* ***Construct hike and bike trail from McPherson Rd to North Central Park***

Description: The Manadas Hike and Bike Trail will provide pedestrians and bicyclists pathways along Manadas Creek. It promotes non-motorized travel and provides green space preservation, habitat conservation, and recreational space in north Laredo. When fully built, the entire 15 miles of the trail will connect Rio Grande River northwest of the water treatment plant along Zacate Creek to United High School. Currently, the completed segments are located at North Central Park and San Isidro Park. The Phase IV project is from McPherson Rd to North Central Park.

Year: 2017
Total Cost: $335,305
Programmed Amount: $335,305
Other Amount: -
Funding: Federally Funded

E-03	*Manadas Creek Hike and Bike Trail, Phase V:* ***Construct hike and bike trail from IH 35 to McPherson Rd***

Description: The Manadas Hike and Bike Trail will provide pedestrians and bicyclists pathways along Manadas Creek. It promotes non-motorized travel and provides green space preservation, habitat conservation, and recreational space in north Laredo. When fully built, the entire 15 miles of the trail will connect Rio Grande River northwest of the water treatment plant along Zacate Creek to United High School. Currently, the completed segments are located at North Central Park and San Isidro Park. The Phase V project is from IH 35 to McPherson Rd.

Year: 2018
Total Cost: $654,910
Programmed Amount: $654,910
Other Amount: -
Funding: Federally funded

E-04	*Manadas Creek Hike and Bike Trail, Phase VI:* ***Construct hike and bike trail from Rio Grande River NW of water treatment plant***

Description: The Manadas Hike and Bike Trail will provide pedestrians and bicyclists pathways along Manadas Creek. It promotes non-motorized travel and provides green space preservation, habitat conservation, and recreational space in north Laredo. When fully built, the entire 15 miles of the trail will connect Rio Grande River northwest of the water treatment plant along Zacate Creek to United High School. Currently, the completed segments are located at North Central Park and San Isidro Park. The Phase VI project is from Rio Grande River northwest of the water treatment plant.

Year: 2019
Total Cost: $746,471
Programmed Amount: $746,471
Other Amount: -
Funding: Federally funded

Table 12-11: Category 10 Roadway Projects

0086-14-051	*Loop 20 from 0.50 mi west of Milo interchange to 3000 feet east of Havana:* ***Schematic, environmental, ROW-survey/mapping & PSE***

Description: This is a preliminary schematic, environmental, ROW-survey/mapping & Plans Specifications & Estimates (PS&E) project of the roadway segment.

Year: 2015
Total Cost: $4,426,640
Programmed Amount: $4,000,845
Other Amount: -
Funding: Federally funded

0922-33-076	*At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr:* ***Re-align intersection***

Description: The project will realign the intersection of FM 1472 at two roadways Flecha Lane and Las Cruces Drive. Currently the distance between these two roadways is about 400 feet. The realignment will make traffic flow between Flecha Lane and Las Cruces Drive through FM 1472 more efficiently.

Year: 2015
Total Cost: $3,512,360
Programmed Amount: $1,440,411
Other Amount: $246,685
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

0922-33-093 *Calton Road at Santa Maria Avenue:* ***Construct overpass***

Description: The project will construct an overpass on Calton Road over Santa Maria Avenue. The operational efficiency of the through traffic on Calton Road will be improved for the overpass allows through traffic on Calton Road to pass Santa Maria Avenue without encountering control delays at the intersection.

Year: 2016
Total Cost: $25,211,738
Programmed Amount: $12,926,124
Other Amount: $10,088,018
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is not near 100-year flood plains, low income areas or cultural resources.

0086-14-058 *Loop 20 from east of International Blvd to US 59/Loop 20 interchange:* ***Schematic, environmental, ROW-survey/mapping & PSE***

Description: This is a preliminary schematic, environmental, ROW-survey/mapping & Plans Specifications & Estimates (PS&E) project of the roadway segment. It has the same limits as Project 1 in Category 7 and Project 0086-14-950 in Category 10.

Year: 2016
Total Cost: $4,196,850
Programmed Amount: $3,500,000
Other Amount: -
Funding: Federally funded

0086-14-950	*Loop 20 from east of International Blvd to US 59/Loop 20 interchange**: Upgrade existing highway to freeway standards***

Description: The project will upgrade the existing roadway to meet limited-access freeway standards. The project will include several interchanges along the corridor. The segment of Loop 20 is proposed to be co-designated as US 59 as well as Interstate 69 in the future. Loop 20 is one of the major truck routes in the Laredo MPO region. The project will provide more mobility to mitigate the high volume of traffic, especially commercial traffic. The project is same as Project 4 in Category 7.

Year: 2020
Total Cost: $391,400,000
Programmed Amount: $43,367,669
Other Amount: -
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, and it is close to Lake Casa Blanca, and detention ponds. It is also near Laredo International Airport, parks/recreational facilities, and schools.

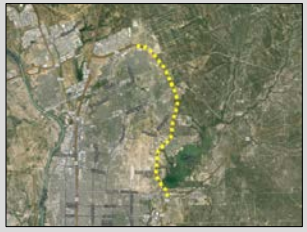


Table 12-12: Category 11 Roadway Projects

Year	ID	Roadway	Limits	Description	Total Cost	Programmed Amount	Other Amount
2015	0922-00-060	VA	Districtwide	Upgrade bridge rail and MBGF	$3,181,397	$2,500,000	-
2016	0922-00-056	VA	Districtwide	Upgrade bridge rail and MBGF	$3,341,254	$2,500,000	-
2019	0922-00-951	VA	Districtwide	Upgrade bridge rail and MBGF	$3,758,457	$2,500,000	-
2020	0922-00-953	VA	Districtwide	Upgrade bridge rail and MBGF	$3,908,795	$2,500,000	-
2021	0922-00-955	VA	Districtwide	Upgrade bridge rail and MBGF	$4,065,147	$2,500,000	-
2022	0922-00-960	VA	Districtwide	Upgrade bridge rail and MBGF	$4,227,753	$2,500,000	-
2023	0922-00-970	VA	Districtwide	Upgrade bridge rail and MBGF	$4,396,863	$2,500,000	-

0922-33-149 *Chacon Creek from Eastwoods Park to US 59:* ***Construction of a pedestrian trail at Chacon Creek in Laredo (Phase 3)***

Description: The project will construct the Phase 3 of the Chacon Creek Hike and Bike Trail from Eastwoods Park to US 59. The existing completed segment of Chacon Creek Hike and Bike Trail runs from Rio Grande River to SH 359, and the segment from Haynes Recreational Center to SH 359 (Phase 2) is currently under construction.

Year: 2017
Total Cost: $2,009,846
Programmed Amount: $1,410,000
Other Amount: -
Funding: Federally funded

Table 12-13: Category 12 Roadway Projects

0038-01-081	*US 83 from Cielito-Lindo Blvd (NB) to Espejo Molina Rd (NB)**: Resurface of existing highway***

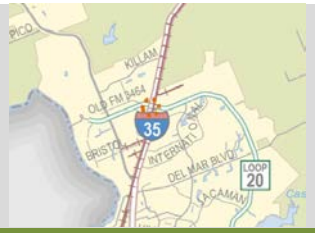
Description: The project will resurface the existing roadway on US 83 from Cielito Lindo Blvd (NB) to Espejo Molina Road (NB).

Year: 2015
Total Cost: $263,976
Programmed Amount: $6,593,622
Other Amount: -
Funding: Federally funded

0086-14-065	*Loop 20 from 0.330 miles west of IH 35 to 0.160 miles west of McPherson**: Construction of an interchange facility over IH 35***

Description: The project will provide main lanes and a grade separation for through traffic on Loop 20 to pass IH 35 without encountering controlled delays at the intersection. The operational efficiency of the through traffic on Loop 20 will be improved. Loop 20 is one of the designated truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation. The project is same as Project 1 in Category 7.

Year: 2017
Total Cost: $32,509,223
Programmed Amount: $9,000,000
Other Amount: $9,000,000
Funding: Federally funded



Transit Projects

The locations of Category 5339 transit projects are shown on **Figure 12-2**: Category 5339 Transit Projects. The total cost, programmed federal and state amount of funding, and other amount of funding of transit projects by different FTA category are summarized in **Table 12-14** through **Table 12-17**.

Figure 12-2: Category 5339 Transit Projects

Table 12-14: Category 5307 Transit Projects

Year	Project	Total Cost	FTA Federally Programmed Amount	TxDOT + Local Amount
2015	Operations and Maintenance	$13,710,614	$3,304,105	$10,406,509
2016	Operations and Maintenance	$13,710,614	$3,304,105	$10,406,509
2017	Operations and Maintenance	$13,710,614	$3,304,105	$10,406,509
2018	Operations and Maintenance	$13,710,614	$3,304,105	$10,406,509
2019	Operations and Maintenance	$13,710,614	$3,304,105	$10,406,509
2020	Operations and Maintenance	$13,916,273	$3,353,667	$10,562,607
2021	Operations and Maintenance	$13,916,273	$3,353,667	$10,562,607
2022	Operations and Maintenance	$13,916,273	$3,353,667	$10,562,607
2023	Operations and Maintenance	$13,916,273	$3,353,667	$10,562,607
2024	Operations and Maintenance	$13,916,273	$3,353,667	$10,562,607
2025	Operations and Maintenance	$14,125,017	$3,403,972	$10,721,046
2026	Operations and Maintenance	$14,125,017	$3,403,972	$10,721,046
2027	Operations and Maintenance	$14,125,017	$3,403,972	$10,721,046
2028	Operations and Maintenance	$14,125,017	$3,403,972	$10,721,046
2029	Operations and Maintenance	$14,125,017	$3,403,972	$10,721,046
2030	Operations and Maintenance	$14,336,893	$3,455,031	$10,881,861
2031	Operations and Maintenance	$14,336,893	$3,455,031	$10,881,861
2032	Operations and Maintenance	$14,336,893	$3,455,031	$10,881,861
2033	Operations and Maintenance	$14,336,893	$3,455,031	$10,881,861
2034	Operations and Maintenance	$14,336,893	$3,455,031	$10,881,861
2035	Operations and Maintenance	$14,551,946	$3,506,857	$11,045,089
2036	Operations and Maintenance	$14,551,946	$3,506,857	$11,045,089
2037	Operations and Maintenance	$14,551,946	$3,506,857	$11,045,089
2038	Operations and Maintenance	$14,551,946	$3,506,857	$11,045,089
2039	Operations and Maintenance	$14,551,946	$3,506,857	$11,045,089
2040	Operations and Maintenance	$14,551,946	$3,506,857	$11,045,089

Table 12-15: Category 5310 Transit Projects

Year	Project	Total Cost	FTA Federally Programmed Amount	TxDOT + Local Amount
2015	Funds for Transportation for Seniors and People with Disabilities	$119,657	$99,714	$19,943
2016	Funds for Transportation for Seniors and People with Disabilities	$119,657	$99,714	$19,943
2017	Funds for Transportation for Seniors and People with Disabilities	$119,657	$99,714	$19,943
2018	Funds for Transportation for Seniors and People with Disabilities	$119,657	$99,714	$19,943
2019	Funds for Transportation for Seniors and People with Disabilities	$119,657	$99,714	$19,943
2020	Funds for Transportation for Seniors and People with Disabilities	$121,452	$101,210	$20,242
2021	Funds for Transportation for Seniors and People with Disabilities	$121,452	$101,210	$20,242
2022	Funds for Transportation for Seniors and People with Disabilities	$121,452	$101,210	$20,242
2023	Funds for Transportation for Seniors and People with Disabilities	$121,452	$101,210	$20,242
2024	Funds for Transportation for Seniors and People with Disabilities	$121,452	$101,210	$20,242
2025	Funds for Transportation for Seniors and People with Disabilities	$123,273	$102,728	$20,546
2026	Funds for Transportation for Seniors and People with Disabilities	$123,273	$102,728	$20,546
2027	Funds for Transportation for Seniors and People with Disabilities	$123,273	$102,728	$20,546
2028	Funds for Transportation for Seniors and People with Disabilities	$123,273	$102,728	$20,546
2029	Funds for Transportation for Seniors and People with Disabilities	$123,273	$102,728	$20,546
2030	Funds for Transportation for Seniors and People with Disabilities	$125,123	$104,269	$20,854
2031	Funds for Transportation for Seniors and People with Disabilities	$125,123	$104,269	$20,854
2032	Funds for Transportation for Seniors and People with Disabilities	$125,123	$104,269	$20,854
2033	Funds for Transportation for Seniors and People with Disabilities	$125,123	$104,269	$20,854
2034	Funds for Transportation for Seniors and People with Disabilities	$125,123	$104,269	$20,854
2035	Funds for Transportation for Seniors and People with Disabilities	$126,999	$105,833	$21,167
2036	Funds for Transportation for Seniors and People with Disabilities	$126,999	$105,833	$21,167
2037	Funds for Transportation for Seniors and People with Disabilities	$126,999	$105,833	$21,167
2038	Funds for Transportation for Seniors and People with Disabilities	$126,999	$105,833	$21,167
2039	Funds for Transportation for Seniors and People with Disabilities	$126,999	$105,833	$21,167
2040	Funds for Transportation for Seniors and People with Disabilities	$126,999	$105,833	$21,167

Table 12-16: Category 5339 Transit Projects

Year	Project	Total Cost	FTA Federally Programmed Amount	TxDOT + Local Amount
2015	1 Heavy Duty (CNG) Bus	$453,436	$58,547	$14,637
2015	Security Equipment for Buses and Facilities	$275,000	$35,507	$8,877
2016	MA-3: Operations Facility	$34,375,000	$4,438,433	$1,109,605
2016	Support Vehicles	$175,000	$22,596	$5,649
2016	18 Paratransit Vans	$1,440,000	$185,930	$46,482
2017	8 Heavy Duty Buses	$3,400,000	$439,001	$109,750
2019	North and South Transit Hubs	$7,500,000	$968,385	$242,096
2021	10 Heavy Duty Buses	$4,250,000	$548,752	$137,188
2023	18 Paratransit Vans	$1,530,000	$197,551	$49,388
2026	12 Heavy Duty Buses	$5,100,000	$658,502	$164,625
2030	Support/Maintenance Vehicles	$300,000	$38,735	$9,684
2030	20 Paratransit Vans	$1,700,000	$219,501	$54,875
2031	12 Heavy Duty Buses	$5,400,000	$697,237	$174,309
2036	12 Heavy Duty Buses	$5,400,000	$697,237	$174,309
2037	20 Paratransit Vans	$1,700,000	$219,501	$54,875

Table 12-17: Locally Funded Transit Projects

Year	Project	Total Cost	FTA Federally Programmed Amount	TxDOT + Local Amount
2015	8 Heavy Duty (CNG) Buses	$3,627,488	-	$3,627,488
2015	Bus Shelters	$25,000	-	$25,000
2015	Support Vehicle Replacements	$75,000	-	$75,000
2016	Bus Shelters	$25,000	-	$25,000
2016	Support Vehicle Replacements	$100,000	-	$100,000
2017	Bus Shelters	$25,000	-	$25,000
2017	Support Vehicle Replacements	$75,000	-	$75,000
2018	Bus Shelters	$25,000	-	$25,000
2018	Support Vehicle Replacements	$75,000	-	$75,000

Other Unfunded Needs

The MPO has determined that the following projects are needed for congestion relief, economic development, and improved safety. However, current funding forecasts leave these projects without an identified funding source. Should additional funding be made available through either federal, state, local, or other sources, these projects will be developed and advanced accordingly. These projects are considered as "illustrative" and are outside the financial constraint of this plan. **Figure 12-3** shows the locations of these illustrative projects. **Table 12-18** describes the details of these projects.

Figure 12-3: Illustrative Projects

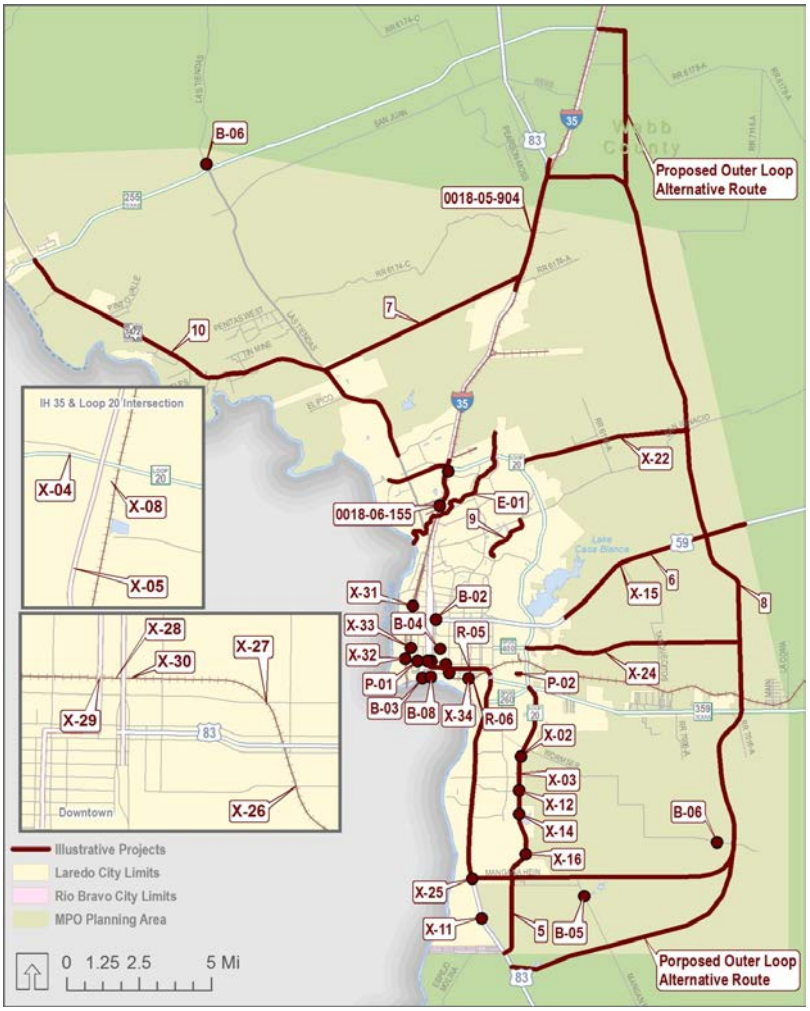


Table 12-18: Illustrative Projects

5	*Loop 20 (Cuatro Vientos Blvd) from Mangana-Hein Rd to US 83 near the City of Rio Bravo**: Extend existing 2-lane roadway***

Description: The project will extend the existing Loop 20 (Cuatro Vientos Blvd) with a two-lane roadway to connect to US 83. It will provide a more efficient route for people traveling between US 83 in South Laredo and the current Cuatro Vientos Boulevard.

Providing an efficient route between the predominantly residential areas in South Laredo and the commercial and trade/trucking/warehouse areas in north Laredo would shorten travel times for residents traveling to and from work as well as for commercial traffic wishing to use an alternative over the congested US 83 corridor in south Laredo (a.k.a. Zapata Highway) to reach points further south.

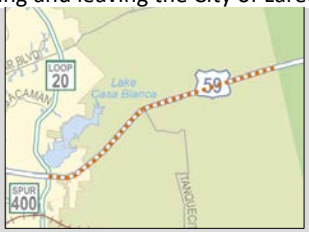
Total Cost: $12.21 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and low income areas, but it is not near cultural resources.

6	*US 59 from Laredo city limits to Laredo MPO limits**: Upgrade to I-69 design standards***

Description: The project will upgrade US 59 from the Laredo city limits to the Laredo MPO limits to meet Interstate design standards. The segment of US 59 is proposed to be co-designated as I-69 in the future. Efforts have been made to push the progress. In 2008, the I-69 Corridor Advisory Committees submitted the report on guiding principles and recommendations to consider for improvements. In 2012, the committee submitted the updated reports. In order to meet interstate standards, roads will need to be widened to be at least two lanes each direction and medians with sufficient width must be provided.

The project will provide more capacity to accommodate traffic entering and leaving the City of Laredo through US 59.

Total Cost: $156.14 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and it is close to low income areas, but it is not near cultural resources.



7 *Green Ranch Pkwy from FM 1472 to IH 35:* ***Construct new roadway with 2 lanes***

Description: The project will provide an addition east-west to connect FM 1472 (slightly south of the intersection of FM 1472 and FM 3338) to I-35 (approximately 1 mile north of the Uniroyal Drive/Beltway Parkway). It could divert traffic, especially commercial traffic from SH 255 and Killam Industrial Boulevard. Commercial truck traffic traveling between Laredo-Colombia Solidarity Bridge and the trade/trucking/warehouse areas along I-35 could utilize this route to shorten travel time.

Total Cost: $34.41 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, but it is not near low income areas or cultural resources.

8 *Laredo Outer Loop from IH 35 to US 83:* ***Construct new roadway with 4 lanes***

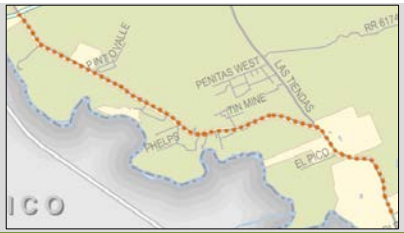
Description: The project will provide an approximately 37-mile arterial circling the east side of the Laredo MPO area connecting US 83 on the south to IH 35 on the north. The route serves as an alternative to Loop 20 and provides north-south connection for traffic that does not need to go through the urban areas.

Total Cost: $300.81 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and low income areas, but it is not near cultural resources.

10 *FM 1472 (Mines Rd) SH 255 to Killam Industrial Blvd:* ***Widen from 4 lanes to 6 lanes***

Description: The segment of FM 1472 (Mines Road) is adjacent to two international bridges - Laredo-Colombia Solidarity Bridge (Bridge #3) and World Trade Bridge (Bridge #4). There is currently a high volume of truck traffic utilizing this route to transport freight. The project will provide more capacity to the roadway and alleviate the already congested corridor.

Total Cost: $76.59 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, but it is not near cultural resources or low income areas.



X-01 *US 83 from SH 359 to Prop. Outer Loop:* ***Widen from 4 lanes to 7 lanes***

Description: US 83 is currently and major corridor providing connection from the downtown area to South Laredo. At the location just north of Spur 260, US 83 transports an average daily traffic volume of 41,000 vpd. The project will add capacity to US 83 to alleviate congestion and improve mobility.

Total Cost: $72.15 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and low income areas, but it is not near cultural resources.

X-02 *Loop 20 (Cuatro Vientos) At Lomas Del Sur Blvd:* ***Construct overpass and ramps***

Description: The project will improve the intersection operational efficiency for Loop 20 by making through traffic on Loop 20 pass the intersection without encountering control delays at the intersection. Loop 20 provides connection between South Laredo with predominantly residential areas to the industrial areas in North Laredo. Cuatro Vientos Boulevard also serves as an alternative route to US 83 and thus could alleviate traffic congestion on US 83.

Total Cost: $46.62 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is at a low income area, but it is not close to 100-year flood plains or cultural resources.

X-03 *Loop 20 (Cuatro Vientos) SH 359 to Prop. Outer Loop:* ***Widen 4 lanes to 6 lanes***

Description: The project will add capacity for Loop 20/Cuatro Vientos Boulevard. Loop 20 provides connection between South Laredo with predominantly residential areas to the industrial areas in North Laredo. Cuatro Vientos Boulevard also serves as an alternative route to US 83 and thus could alleviate traffic congestion on US 83.

Total Cost: $53.28 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and low income areas and is close to Link Lake Number 1, but it is not near cultural resources.

X-04 *Loop 20 from World Trade Bridge to IH 35:* ***Add 1 lane in each direction***

Description: The segment of Loop 20 is adjacent to World Trade Bridge, where a large number of freight trucks utilize to ship goods across the border. Adding one lane in each direction to the main lane roadway will add capacity and improve the mobility of the corridor.

Total Cost: $9.99 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, but it is not near cultural resources or low income areas.

X-05 *IH 35 from Shiloh Dr to Loop 20:* ***Widen 4 lanes to 6 lanes***

Description: The project will add capacity to the heavily traveled IH 35 and relieve congestion. The average daily traffic of the location on IH 35 between Shiloh Drive and International Boulevard is 65,000 vpd. The segment is also close to World Trade Bridge, which is a major international bridge for international freight truck movements. Therefore, improving the capacity for this segment of IH 35 also improves the freight transportation mobility.

Total Cost: $54.39 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and is close to a low income area but it is not near cultural resources.

X-08 *IH 35 at Loop 20:* ***Construct ramp from IH 35 Northbound to Loop 20 Eastbound***

Description: This project will provide direct connectors for traffic from IH 35 northbound to Loop 20 eastbound. Traffic of the movement does not have to encounter control delays at the intersection; therefore the operational efficiency will be improved. Both IH 35 and Loop 20 are important truck routes in the Laredo MPO region, and the improved operational efficiency will benefit freight transportation.

Total Cost: $35.52 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near low income areas or cultural resources.

X-11 *US 83 at San Rio Blvd:* ***Construct overpass and ramps***

Description: US 83 is currently and major corridor providing connection from the downtown area to South Laredo. This project will provide grade separation for through traffic on US 83 to pass San Rio Boulevard without encountering controlled delays at the intersection. The operational efficiency of the through traffic on US 83 will be improved.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is at a low income area, but it is not near 100-year flood plains or cultural resources.

X-12 Loop 20 (Cuatro Vientos) at Sierra Vista: Construct overpass and ramps

Description: The project will improve the intersection operational efficiency for Loop 20. Loop 20 provides connection between South Laredo with predominantly residential areas to the industrial areas in North Laredo. Cuatro Vientos Boulevard also serves as an alternative route to US 83 and thus could alleviate traffic congestion on US 83. The overpass and ramps are considered to be constructed at Cielito Lindo Boulevard and/or Sierra Vista Boulevard.

Total Cost: $56.61 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is close to a low income area, but it is not near flood plains or cultural resources.

*X-14 Loop 20 (Cuatro Vientos) at At Cielito Lindo: **Construct overpass and ramps***

Description: The project will improve the intersection operational efficiency for Loop 20. Loop 20 provides connection between South Laredo with predominantly residential areas to the industrial areas in North Laredo. Cuatro Vientos Boulevard also serves as an alternative route to US 83 and thus could alleviate traffic congestion on US 83.

Total Cost: $56.61 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is close to Link Lake Number and 100-year flood plains, but it is not near low income areas or cultural resources.

X-15	*US 59 2.0 miles east of Loop 20 to Prop. Outer Loop:* ***Widen 2 lanes to 7 lanes***

Description: US 59 starts at IH 35 in the downtown and travels easterly. The segment east of Loop 20 in the Laredo MPO region is a two-lane roadway. The project will provide more capacity to the segment of US 59 just east of the Laredo city limits to the proposed Outer Loop.

Total Cost: $81.03 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, but it is not near cultural resources or low income areas.

X-16	*Loop 20 (Cuatro Vientos) At future minor arterial (1 mile north of Mangana Hein Rd):* ***Construct overpass and ramps***

Description: The project will improve the intersection operational efficiency for Loop 20. Loop 20 provides connection between South Laredo with predominantly residential areas to the industrial areas in North Laredo. Cuatro Vientos Boulevard also serves as an alternative route to US 83 and thus could alleviate traffic congestion on US 83.

Total Cost: $56.61 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-22	*Prop. Outer Loop Spur from Loop 20 to Prop. Outer Loop:* ***Construct new roadway with 2 lanes***

Description: If the proposed Outer Loop is built, the Outer Loop spur will provide access from the northeastern side of Loop 20 to the proposed Outer Loop. It will be easier for travelers at the northeast part of the City of Laredo to reach the proposed Outer Loop.

Total Cost: $114.33 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, but it is not near cultural resources or low income areas.

X-24	*Clark Blvd (Spur 400) from Loop 20 to Prop. Outer Loop:* ***Construct new roadway with 2 lanes***

Description: If the proposed Outer Loop is built, the project will serve as an east-west connector between Spur 400 and the prosed Outer Loop. It would provide travelers in the City of Laredo with another option to reach the proposed Outer Loop.

Total Cost: $139.86 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains and low income areas, but it is not near cultural resources.

X-25	*US 83 at Prop. Outer Loop:* ***Construct ramps- Northbound US 83 to Eastbound Outer Loop and Westbound Outer Loop to Southbound US 83***

Description: This project will provide direct connectors for traffic from US 83 northbound to the proposed Outer Loop eastbound and the proposed Outer Loop westbound to US 83 southbound. Traffic of these movements does not have to encounter control delays at the intersection therefore the operational efficiency of the intersection would be improved.

Total Cost: $71.04 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-26	*Market St at KCS Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Market Street for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Market Street flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-27 *Corpus Christi St at KCS Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Corpus Christi Street for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Corpus Christi Street flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-28 *IH 35 SB Frontage Rd (Santa Ursula Ave) at KCS Railroad:* ***Construct overpass***

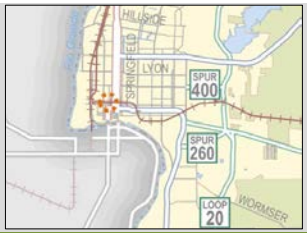
Description: The project will provide an overpass on IH 35 SB Frontage Road (Santa Ursula Avenue) for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Santa Ursula Avenue flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-29 *San Bernardo Ave (Bus. Interstate 35) at KCS Railroad:* ***Construct overpass***

Description: The project will provide an overpass on San Bernardo Avenue (Bus. Interstate 35) for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on San Bernardo Avenue flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area and close to Bruni Plaza, but it is not near 100-year flood plains.



X-30 *IH 35 NB Frontage Rd (San Dario Ave) at KCS Railroad:* ***Construct overpass***

Description: The project will provide an overpass on IH 35 NB Frontage Rd (Santa Ursula Ave) for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Santa Ursula Avenue flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-31	*Chicago Street at UP Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Chicago Street for traffic to cross the UP Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Chicago Street flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area and is close to Francisco Farias Elementary School, but it is not near 100-year flood plains.

X-32	*Scott Street at UP Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Scott Street for traffic to cross the UP Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Scott Street flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-33	*Sanchez Street at UP Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Sanchez Street for traffic to cross the UP Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Sanchez Street flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

X-34	*Seymour Ave at KCS Railroad:* ***Construct overpass***

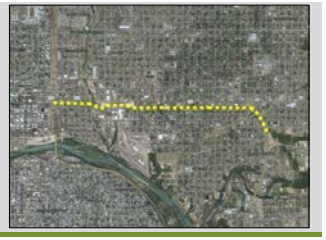
Description: The project will provide an overpass on Seymour Avenue for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Seymour Avenue flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area, but it is not near 100-year flood plains or cultural resources.

R-05	*US 83 (Chihuahua) from IH 35 to SH 359:* ***Widen from 2 lanes to 3 lanes***

Description: The project will add more capacity to and improve the mobility for Chihuahua. Chihuahua is the eastbound portion of the US 83/SH 359 co-designated segment and it connects IH 35 on the west side to US 83 and SH 359 on the east side.

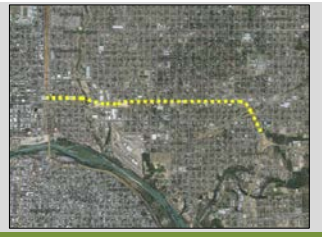
Total Cost: $26.64 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, Barrio Azteca Historic District, and low income areas.



R-06	*US 83 (Guadalupe St) from IH 35 to SH 359:* ***Widen from 2 lanes to 3 lanes***

Description: The project will add more capacity to and improve the mobility for Guadalupe Street. Guadalupe Street is the westbound portion of the US 83/SH 359 co-designated segment and it connects IH 35 on the west side to US 83 and SH 359 on the east side.

Total Cost: $26.64 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, Barrio Azteca Historic District, parks, Old Heights Fire Station (historic landmark), and low income areas.



B-02 *US 59 At Zacate Creek:* ***Replace bridge***

Description: The project will replace the bridge on US 59 at Zacate Creek. The current bridge was built in 1954 and the replacement would improve the safety of travelers passing through Zacate Creek on US 59.

Total Cost: $14.43 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains and Zacate Creek Linear Park, and a low income area.

B-03 *Convent Ave at Rio Grande River:* ***Rehabilitate bridge***

Description: The project will rehabilitate the Gateway to the Americas bridge (Bridge #1). The current bridge was built in 1956 and the rehabilitation would improve the safety of travelers crossing the border through Bridge #1.

Total Cost: $6.66 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains and a low income area. It is also close to Los Dos Laredos Park, Old Mercado Historic District, and San Augustin Historic District.

B-04	*Sanchez St at Zacate Creek:* ***Replace bridge***

Description: The project will replace the bridge on Sanchez Street at Zacate Creek. The current bridge was built in 1950 and the replacement would improve the safety of travelers passing through Zacate Creek on Sanchez Street.

Total Cost: $1.11 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains and a low income area, but it is not near cultural resources.

B-05	*Mangana-Hein Rd at Becerra Creek:* ***Replace bridge***

Description: The project will replace the bridge on Mangana-Hein Road at Becerra Creek. The current bridge was built in 1950 and the replacement would improve the safety of travelers passing through Becerra Creek on Mangana-Hein Road.

Total Cost: $1.11 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains and a low income area, but it is not near cultural resources.

B-06 *Wormser Rd at Dolores Creek:* ***Replace bridge***

Description: The project will replace the bridge on Wormser Road at Dolores Creek. The current bridge was built in 1998 and the replacement would improve the safety of travelers passing through Becerra Creek on Mangana-Hein Road.

Total Cost: $1.11 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains and a low income area, but it is not near cultural resources.

B-07 *Las Tiendas Rd at Tejones Creek to Isabel Creeks and Palito Blanco Arroyo:* ***Replace bridge***

Description: The project will replace the bridge on Las Tiendas Road at Tejones Creek to Isabel Creeks and Palito Blanco Arroyo. The current bridge was built in 1952 and the replacement would improve the safety of travelers passing through Tejones Creek on Las Tiendas Road.

Total Cost: $2.22 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains, but it is not near cultural resources or low income areas.

B-08 *At Juárez-Lincoln Bridge:* ***Construct new bus facility***

Description: The project will provide a new bus facility at Juárez-Lincoln Bridge. Currently there are many travelers riding buses at the bridge and the new bus facility would provide shelter and amenities for riders waiting for buses. The project is eligible to receive funding from the General Services Administration as part of the project to update two of Laredo's ports pf entry – Gateway to the Americas Bridge and Juarez-Lincoln Bridge.

Total Cost: $44.40 Million
Funding: Partially funded
Environmental Impacts and Environmental Justice:
The project is located at 100-year flood plains and a low income area, and it is close to Old Mercado Historic District, San Augustin Historic District, and Barrio Azteca Historic District.

0018-05-904 *IH 35 from 0.5 mi N of Uniroyal Dr to 0.5 mi north of US 83:* ***Widen from 4 lanes to 6 lanes***

Description: The project will add capacity to and improve mobility for the segment of IH 35. Often referred to as the NAFTA Superhighway, IH 35 travels northward from Laredo through several states to Minnesota, and it is the major freight route in the U.S. Additional capacity will relieve freight truck congestion. Segments south of 0.5 mile north of Uniroyal Drive already have six travel lanes.

Total Cost: $25.53 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project passes through 100-year flood plains, but it is not near cultural resources or low income areas.

0018-06-155 *Shiloh Dr at UP Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Shiloh Drive for traffic to cross the UP Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Shiloh Drive flow more efficiently.

Total Cost: $38.85 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is close to a low income area, but it is not near 100-year flood plains or cultural resources.

P-01 *Santa Maria Ave at KCS Railroad:* ***Construct overpass***

Description: The project will provide an overpass on Santa Maria Avenue for traffic to cross the KCS Railroad without having to stop for trains when the trains are passing through the intersection. Travel time delay due to waiting for trains at railroad intersections is one of the major complaints from local residents. The grade separation will make traffic on Santa Maria Avenue flow more efficiently.

Total Cost: $11.10 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is located at a low income area and is close to St. Peter's Historic District, but it is not near 100-year flood plains.

P-02	*Dorel Dr from west of Loop 20 to Cheyenne Dr:* ***Construct the remaining segment of Dorel Drive to make it into a continuous roadway from SH 359 to Loop 20***

Description: The project will connect Dorel Drive from SH 359 to Dorel Drive on the east side from Loop 20. It will provide the residents of the Cheyenne subdivision more travel choices.

Total Cost: $1.89 Million
Funding: Unfunded
Environmental Impacts and Environmental Justice:
The project is close to 100-year flood plains, but it is not near cultural resources or low income areas.

Other Funding Sources

In 2003, the Texas Legislature passed HB 3588. The bill provided local officials the necessary tools to develop and improve Texas' transportation infrastructure including Regional Mobility Authorities (RMAs), the Texas Mobility Fund, bonding authority, TxDOT's participation in rail operations, statewide coordination of public transportation, innovative toll financing, and transportation fund allocation. The legislation gave local authorities more power and provided them with innovative techniques to finance transportation improvements allowing projects to be planned and built at a much faster rate.

Texas Mobility Fund

The Texas State Legislature created the Texas Mobility Fund in order to accelerate completion of TxDOT projects and improvements. The Fund allows the state to issue bonds, which is backed by a dedicated revenue source. HB 3588 authorizes certain transportation related fees such as motor vehicle inspection fees and driver's license fees to be moved from the state's General Revenue Fund to the Texas Mobility Fund.

Bonds

~~"~~"Certificates of Obligation," commonly known as bonds, allow the state to borrow money to pay for roadway projects and other capital improvements over time. Issuing bonds to fund city improvements hugely depends on favorable bond rating and low interest rates. It could an attractive option for the Laredo MPO to fund transportation improvements by issuing bonds.

Toll Roads

A toll road is the fastest method to generate revenue, which means projects can start sooner and finish quicker, reducing construction delays. Toll equity allows state funds to be combined with other funds to build toll roads. Toll Conversion allows the commission to transfer segments of any non-tolled state highway to a county or regional toll authority for operation and maintenance providing local authorities another option that can accelerate maintenance and expansion improvements~~.~~.

Regional Mobility Authority

Regional Mobility Authorities (RMA) can construct, maintain, and operate transportation projects. RMAs can generate revenue through issuing bonds and collecting tolls. Additionally, RMAs can purchase right-of-way and lease portions for use by businesses including hotels, restaurants, and gas stations. Significant dialog has occurred to establish an RMA within the Laredo region; however, one has yet to be officially constituted.

HB 3588 allows TxDOT to establish an agreement with Regional Mobility Authorities (RMAs) to pay a per-vehicle fee as reimbursement for construction and maintenance of state highways or as compensation for the cost of maintaining facilities transferred to an RMA. Based on pre-determined levels of usage, ~~TxDOt~~ TxDOT could use this approach to effectively pay "tolls" on behalf of motorists using a new facility with revenues being derived from traditional funding sources such as gas tax revenues. The "shadow toll" or "pass through financing" payments received by the RMA from TxDOT can then be used to repay revenue bonds issued by the RMA to advance the project.

Comprehensive Development Agreements

A Comprehensive Development Agreement (CDA) is a tool TxDOT uses to combines all phases of a roadway project into one contract. This includes the design, construction, right of way acquisition, and maintenance phases of a typical project. By combining them all into one contract, it also helps reduce the cost of completing a project and accelerates its completion. This could be an innovative financing tool for the Laredo MPO.

State Infrastructure Bank

TxDOT has a state infrastructure bank (SIB) that offers various loans and credit enhancement products for highway projects. SIB loans are available that can help pay for various phases of a project.

Rural Rail Transportation District

Rural Rail Transportation Districts (RRTDs) are special government entities or subdivisions of the State of Texas that have the power to purchase, operate, and/or build new railroad and intermodal facilities. RRTDs are formed by action of one or more county's commissioners courts under rules outlined in Vernon's Texas Civil Statutes Title 112, Chapter 13, Article 6650c. RRTDs have the power of eminent domain and can be used to construct new rail lines or acquire and rehabilitate existing rail lines and can be used to develop rail served industrial parks, intermodal facilities and transload facilities. Funding for RRTD projects can be derived from a variety of sources including revenue bonds, grants, private rail funding, property sales and leases, rents for use of right-of-way, and public and private partnerships. RRTDS cannot levy or collect ad valorem taxes. A Rural Rail Transportation District has been established by Webb County.

Traffic Impact Fees on New Development

Traffic impact fee are charges evaluated and implemented by local governments on new development projects. They ensure that new developments pay its fair share of the cost to improve the transportation system so as not to worsen existing transportation problems.

Tax Increment Reinvestment Zones (TIRZ)

A tax increment reinvestment zones (TIRZ) are special zones initiated by local governments, such as municipalities or counties, or by petition of owners whose total holdings in the zone consist of a majority of the appraised property value, in Texas to attract new investment in areas. TIRZs help finance the cost of redevelopment and encourage development in an area that would lack the ability to attract sufficient market development without TIRZs. Taxes attributable to new improvements are put aside in a fund to finance public improvement within the boundaries of the zone. The criteria for creating a TIRZ include that the area would substantially impair the growth of the municipality or county creating the zone, retard the provision of housing accommodations, or constitute an economic or social liability.

Local Motor Fuel Taxes

In addition to the state motor fuel tax, local governments also have the option to authorize local option motor fuel taxes. The use of local motor fuel taxes is common in Alabama, Florida, Hawaii, Illinois, and Nevada.[1]

Local Option Sales Taxes for Transportation

Exercising local option sales tax is an increasingly popular revenue source for transportation funding. In general, the State of Texas Tax Code authorizes cities and counties to adopt local sales and use taxes for any purpose other than repaying bonds. Provided the sum of all local option taxes in a given area does not exceed 2%, and the local option tax is approved by referendum, each city and/or county in the southeast Texas region could adopt up to a 0.5% sales tax that could be earmarked to address transportation system needs.

It has a favorable public perception because everyone who spends pays, regardless of his or her income or wealth, Also, it is an attractive way to get revenue from non-resident users who use local transportation facilities.

Conclusion

Knowing the uncertainty related to future funding, the Laredo MPO has taken a "middle of the ground" approach in developing its financial plan. Yet the Laredo MPO will continue to seek out innovative funding options and partnerships with state and local governments, as well as private entities, such as local economic development interest groups. Furthermore, the MPO understands that future "windfalls" may come at any time, and when they do, the MPO can utilize its prioritized list of projects to quickly recommend which projects should be advanced next. In any case, if the federal and state funding issues aren't resolved soon, much-needed projects will either require significant local contribution or run the risk of not being implemented.

[1] http://www.transportation-finance.org/funding_financing/funding/local_funding/motor_fuel_taxes.aspx

CHAPTER 13

BENEFITS, IMPACTS & NEXT STEPS

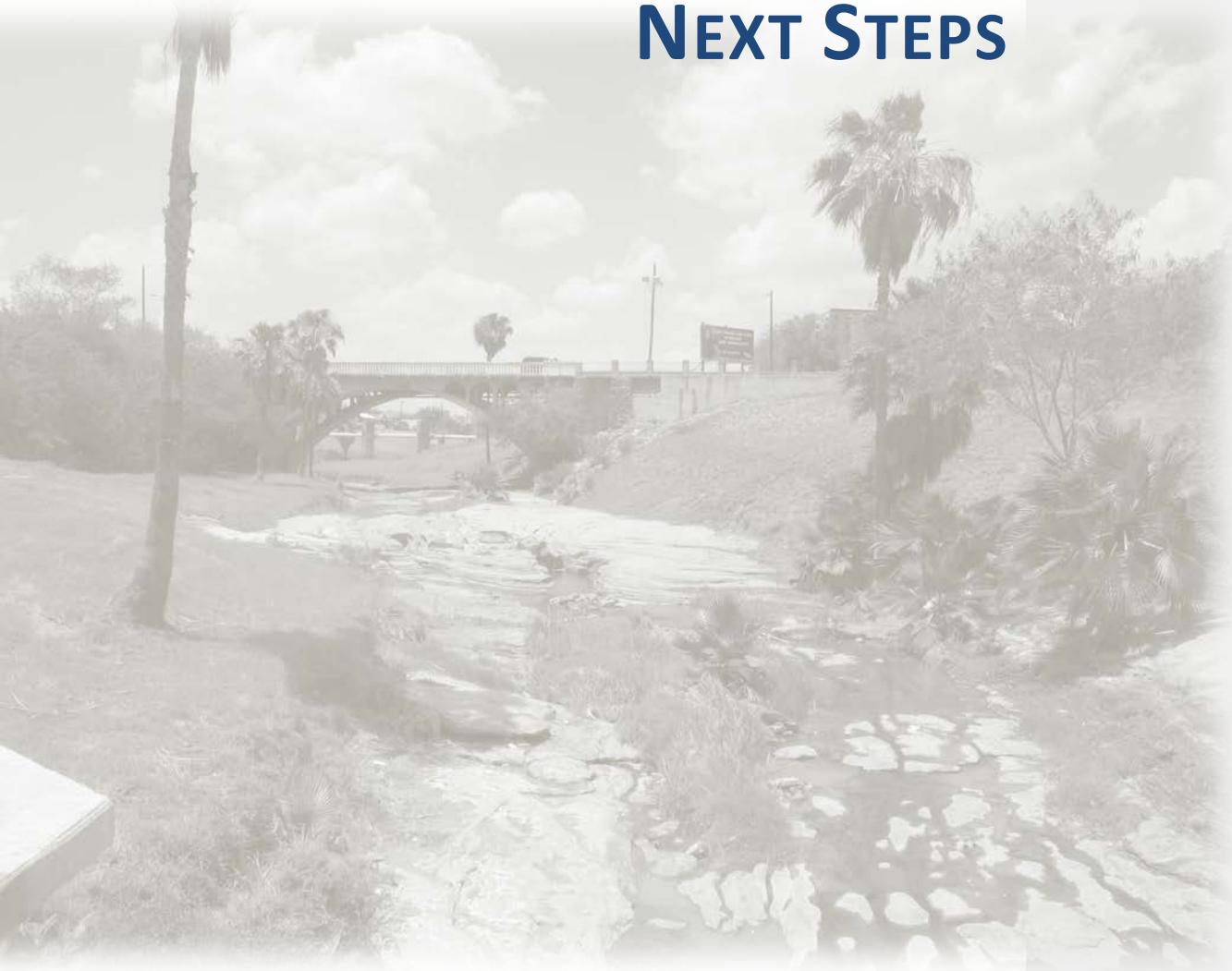


TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

The implementation of this long-range transportation plan will advance many goals of the MPO and the community at large. Improved roadways, safer interchanges, reconstructed bridges, and new bicycle facilities will all serve to improve the regional transportation system. However, the construction of these projects will not be without disruption to some members of the community, nor will they alone guarantee a better quality of life. To evaluate the performance of the transportation system and to keep abreast with local priorities, ongoing monitoring of the regional transportation system and the continuing, comprehensive, and coordinated long-range transportation planning efforts of the MPO and its regional partners are required to monitor regional travel trends and land development. Therefore, this final chapter attempts to quantify some of this plan's benefits and its impacts, as well as provide some key "next steps" for the MPO and its planning partners to pursue as they implement this plan.

Benefits and Impacts

A community's investment in transportation infrastructure and services can provide significant benefits in terms of mobility, travel choice, and quality of life. This plan identifies a variety of projects and programs that seek to establish a safe and efficient multimodal transportation system. These investments help to achieve a variety of goals, including:

- Improving economic activities
- Increasing the safety and security of all modes of transportation
- Improving accessibility and mobility of both people and freight
- Fostering sustainable growth
- Integrating different modes of transportation
- Improving air quality
- Promoting system management and more efficient operations
- Stepping up system preservation efforts
- Promoting social and geographic equity
- Improving system resilience and reliability
- Reducing or mitigating stormwater impacts
- Enhancing travel and tourism
- ~~Improving system resilience and reliability~~
- ~~Reducing or mitigating stormwater impacts~~

Oftentimes, however, these investments come at a societal cost, as negative impacts to the natural and physical environments can result. Irreversible damage to environmental features, such as floodplains and wetlands, can be made by poorly planned transportation improvements.

Commented [GRJ1]: Rearranged and updated order of goals to better reflect the planning factors identified in Chapter 1.

Added in a couple references to resilience and reliability to be consistent with the planning factors.

Investments that benefit parts of the community may also have a negative effect on minority or low-income citizens. Transportation facilities and roadway expansions should be implemented in a manner that promotes the beneficial aspects and minimizes unwanted effects. Negative impacts of transportation projects are typically minimized and mitigated through detailed project development and environmental assessment procedures. In addition, transportation facilities and roadway improvement should be planned and constructed to be resilient and reliable under disruptive circumstances.

Economic Benefits

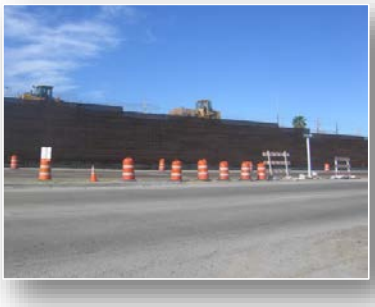
Commented [GRJ2]: Updated to add reference to the FAST Act planning factor 'enhance travel and tourism'

Indeed, the economic vitality of the Laredo region relies upon a strong transportation infrastructure. The expanded multimodal transportation will serve business, residential, and mixed-use centers. Transit, bicycle, and pedestrian facilities will be linked in a network to a growing inventory of residential developments, ~~as well as~~ employment and commercial centers, as well as tourist destinations. When transportation systems are efficient, they provide economic and social opportunities and benefits.

Economic impacts of transportation projects can also be measured through job creation. Measures at the national level show the substantial and growing impact of roadway investment on job creation. According to the American Road & Transportation Builders Association (ARTBA), in 2012, $122 billion worth of construction work was performed on transportation projects, and the investment supported almost 3.5 million jobs in the U.S., including 1.1 million construction jobs. A report from US DOT states that every $1 billion in Federal highway and transit investment supports 13,000 jobs for one year. In addition, based on a report from the Progressive Policy Institute estimated, studies show that for every $1 spent on transportation infrastructure, the increase in economic growth is between $1.5 and $2.

Transportation System Benefits

Providing mobility for people and goods is transportation's most essential function. The 2040 Laredo MTP recommends a set of fiscally constrained improvements to the region's roadway, transit, and bicycle/pedestrian systems to accommodate future travel demand. Roadway capacity improvements are a major component of the plan. These improvements increase capacity by either construction of new roads, widening existing facilities, or grade-separating intersections.



The 2040 MTP also commits substantial resources to improving transit, bicycle, and pedestrian facilities and demonstrates the MPO's commitment to provide a multimodal transportation system in the region. However, given that the MPO planning area is expected to increase by more than 50 percent in population over the life of this plan, the projects in this financially constrained plan will not be sufficient to relieve system-wide congestion. Unless further funding is identified to begin

addressing the long list of unfunded needs, the transportation system will be overwhelmed by automobile travel, causing degradation in air quality, safety, user costs, energy consumption, and travel time.

Environmental Assessment

Commented [GRJ3]: Updated reference from MAP-21 to FAST Act. Added in reference to resiliency and stormwater reduction.

~~MAP-21~~The FAST Act requires a discussion of environmental mitigation strategies within Metropolitan Transportation Plans, with an expanded focus on resiliency of the transportation system as well as activities to reduce stormwater runoff from transportation infrastructure. A qualitative screening analysis was performed to assess the potential environmental impacts of the roadway projects recommended for inclusion in the Laredo 2040 MTP. The purpose of this initial environmental assessment is to identify projects that may negatively impact the natural and built environment. The assessment is done early in the planning process with the intent of preventing negative impacts on the environment, as well as identifying potential issues early on in the planning process.

As the Laredo region continues to grow, it will be important to strike an acceptable balance between economic development and mobility with the desire for a high quality of life that includes clean air and water, environmental preservation, and recreational opportunities. Protecting natural features and minimizing impacts of transportation projects on the environment are an important consideration in transportation planning. It is inevitable that some projects presented in this plan will have an impact on the region's environmental and social features. Roadway capacity improvement-related projects tend to require land acquisition in order to construct a new facility or widen an existing facility, and they may have an impact on the environment. Therefore, the environmental assessment involves the capacity related roadway projects. In the Laredo MPO region, environmental features that may be impacted by transportation programs include wetlands, public parks, national grasslands and historic structures.

Natural Resources

The Laredo region's geography is discussed in more detail in Chapter 2: Regional Context. The significant features of this region include its relative flatness and landscape consisting primarily of brush, including grasslands, oak, and mesquite trees. The Rio Grande River and Lake Casa Blanca are significant water features, as well as the creeks that drain into the Rio Grande. In order to prevent future damage to property and transportation infrastructure it is important to avoid developing within the floodplains of these features.

Other natural features in the Laredo region include wetlands, which are saturated by surface or ground water and home to certain types of vegetation and wildlife that require

such conditions. The primary wetlands found in the Laredo region are riparian, which are commonly found in the semiarid west, and consist largely of two classes of wetlands: palustrine and riverine. In addition to natural drainage ways and wetland habitats, it is also important to consider the effects of transportation infrastructure and subsequent development on prime farmland soils. The majority of the prime farmland is located along the eastern perimeter extending toward the Rio Grande River in the northern and southern portions of the city.

Cultural Resources

Cultural resources are significant and meaningful assets in a community and encompass a variety of places that serve essential, enriching or humanizing functions. For the purposes of this analysis, cultural and community resources included of schools, libraries, museums, historic sites, medical facilities, parks, recreational facilities, airports, and cemeteries. These landmarks are worthy of preservation and protection because they provide popular destinations for citizens and visitors and serve as important community landmarks and critical service facilities. Careful consideration for these resources when planning for transportation investments should be undertaken so as not to adversely impact them.

In particular, it is important for the metropolitan transportation planning process to identify historical landmarks or sites. Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended in 1976, 1980, 1992, 2006) and Section 4(f) of the Department of Transportation Act of 1966 requires the Federal Highway Administration (FHWA) to identify, evaluate, and protect properties of historical significance. The National Register of Historic Places (NRHP), as administered by the National Park Service, is the official list of the nation's historic landmarks and sites considered historically important and worthy of preservation. Those sites in the Laredo region, which are on the NRHP, include San Jose de Palafox Historic/Archeological District, Barrio Azteca Historic District, Fort McIntosh, Hamilton Hotel, Los Ojuelos, San Augustin de Laredo Historic District, U.S. Post Office and Custom House, and the Webb County Courthouse.

Environmental Impacts

The fiscally constrained projects identified in Chapter 12 were evaluated to determine the impacts on the natural and cultural resources of the Laredo region. This analysis consisted of overlaying project alignments and locations onto a series of GIS layers representing sensitive natural and cultural resources, the results of which are shown in **Figure 13-1** and **Figure 13-2**. Buffers were assigned to federally funded projects that have potential

environmental impact. The environmental features described above that fell within the buffers were noted. The buffer size for each project varied depending on its type.

Figure 13-1: Natural Resources and Federally Funded Projects

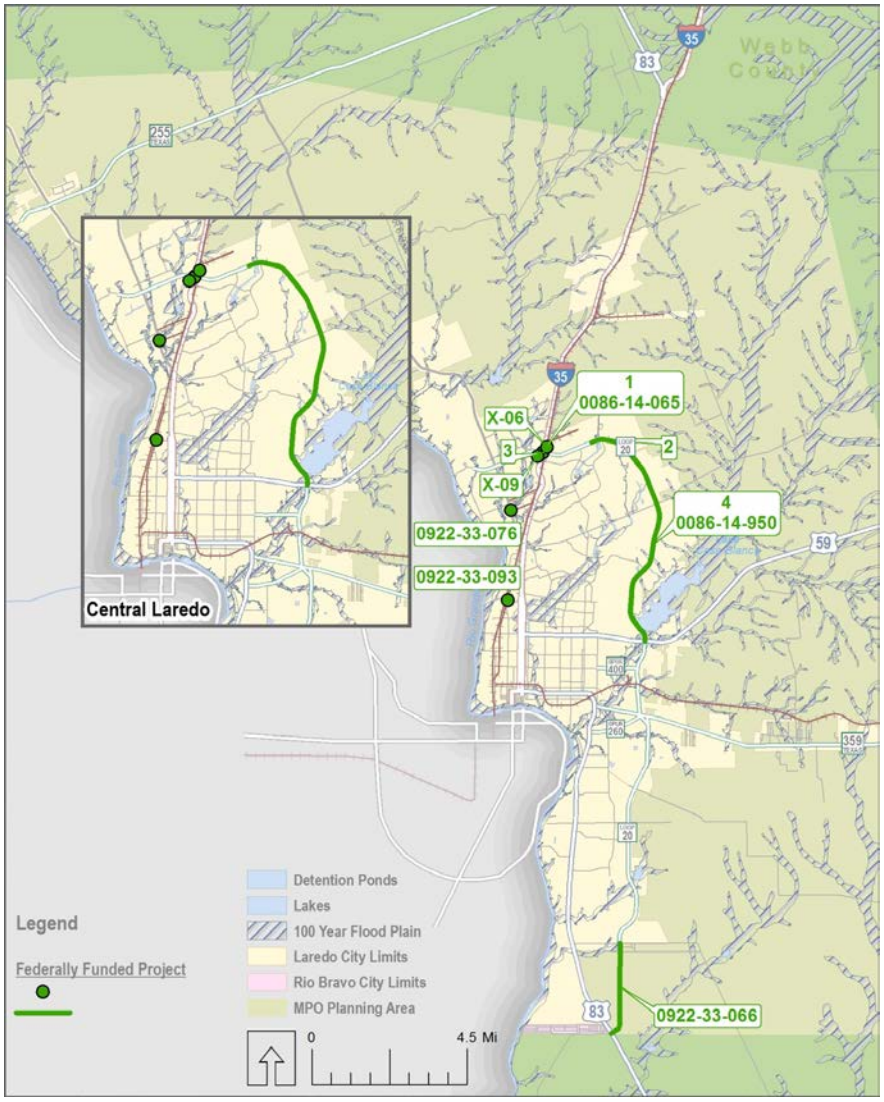
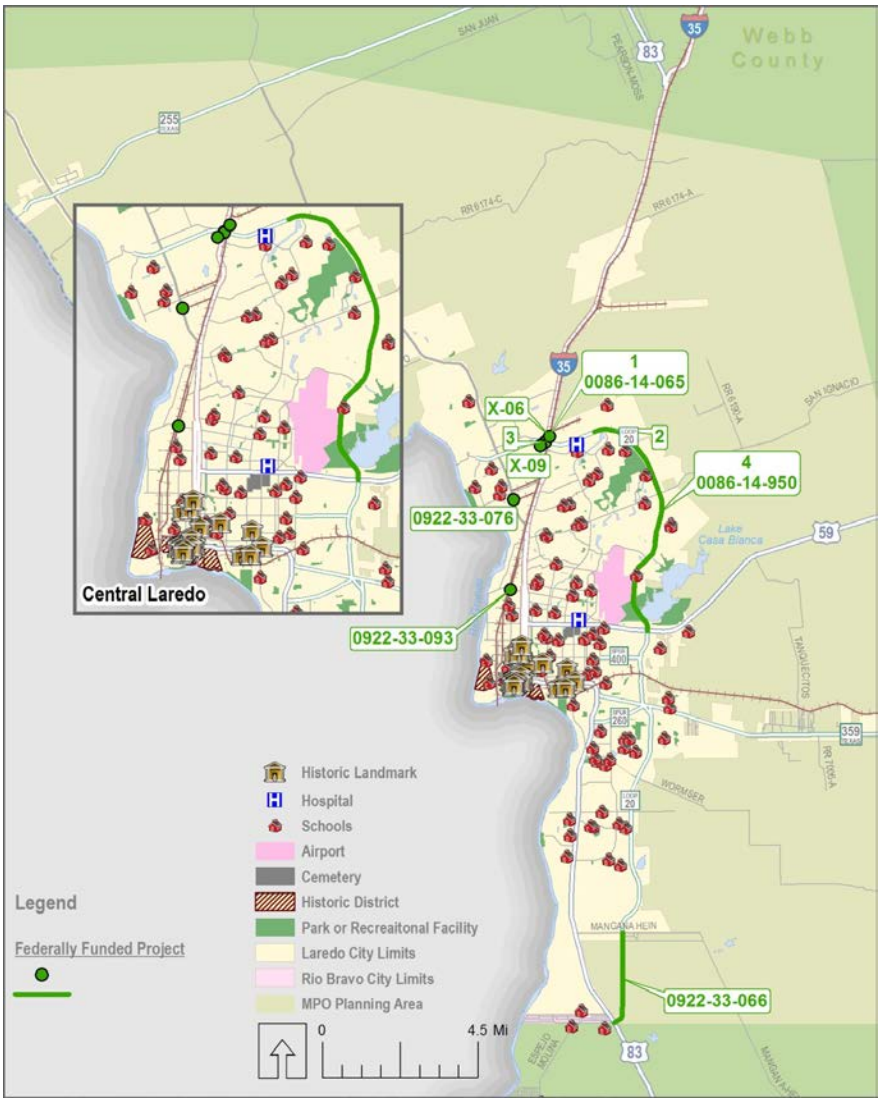


Figure 13-2: Cultural Resources and Federally Funded Projects



Projects that are presented as nodes, such as interchange and intersection projects, were given a buffer of 500 feet from the project location. Linear road projects were given a buffer of 200 feet on either side of the road, making a 400-foot buffer overall. **Table 13-1** summarizes the potential impact the projects may have on environmentally sensitive areas. This table does not identify the various levels of potential impacts, but simply denotes an environmental factor's proximity to a proposed transportation project. This inventory of environmental features in no way substitutes a project sponsor's need to complete a more in-depth environmental assessment.

Table 13-1: Federally Funded Projects Environmental Assessment Results

ID	Roadway	Buffer Distance (Ft)	100-YR Flood Plain	Water Bodies	Airport	Cemetery	Historic Site	Medical Facility	Park and Rec. Facility	School
0922-33-066	Loop 20	400	☑							
1	Loop 20	500	☑							
2	Loop 20	500	☑	☑						
3	Loop 20	500	☑							
4	Loop 20	400	☑	☑	☑				☑	☑
X-06	IH 35 at Loop 20	500	☑							
X-09	IH 35 at Loop 20	500	☑							
0922-33-076	City Street	500	☑							
0922-33-093	City Street	500								
0086-14-950	SL 20	400	☑	☑	☑				☑	☑
0086-14-065	SL 20	400	☑					☑		

Environmental Mitigation Activities

Commented [GRJ4]: Removed reference to MAP-21 and added reference to stormwater reduction/mitigation.

It is stated in the laws governing the federal transportation planning process that "long-range transportation plans should include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan". In addition, ~~MAP-21 requires that~~ potential environmental mitigation activities must be developed in consultation with federal, state, and tribal wildlife, land management, and regulatory (resource) agencies. The Laredo MPO is committed to minimizing and mitigating the negative effects of transportation projects on the natural and built environments. In doing so, the MPO recognizes that not every project will require the same type or level

of mitigation. Some projects, such as new roadways and new interchanges, involve major construction with considerable earth disturbance. Others, like intersection improvements, street lighting, and resurfacing projects, involve minor construction and minimal, if any, earth disturbance. The mitigation efforts used for a project should depend upon how severe the impact on environmentally sensitive areas is expected to be. To the extent possible, transportation projects should minimize off-site disturbance in sensitive areas and develop strategies to preserve air and water quality, limit tree removal, minimize grading and other earth disturbance, provide erosion and sediment control, ~~and~~ limit noise and vibration, and reduce or mitigate stormwater runoff. Where feasible, alternative designs or alignments are developed that would lessen the project's impact on environmentally sensitive areas. 40 CFR 1508.20 suggests that typical steps for mitigation include the following:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

Effective mitigation starts at the beginning of the environmental process, not at the end. Mitigation must be included as an integral part of the alternatives development and analysis process. An ordered approach to mitigation, known as "sequencing," involves understanding the affected environment and assessing transportation effects throughout project development. A variety of possible mitigation activities and measures that can be considered when dealing with environmental impacts, most of which are considered by the MPO during the project development process. The environmental mitigation strategies and activities are intended to be regional in scope, and may not necessarily address potential project-level impacts. As the location and magnitude of the proposed projects are determined, appropriate project level mitigation measures can be developed. **Table 13-2** lists the mitigation measures by resource.

Table 13-2: Potential Environmental Mitigation Activities

Resource	Mitigation Measures
Agricultural areas	Mitigation sequencing requirements involving avoidance, minimization, compensation (could include preservation, creation, restoration, in-lieu fees, riparian buffers); design exceptions and variances; environmental compliance monitoring.
Ambient air quality	Transportation control measures, transportation emission reduction measures, adoption of local air quality mitigation fee program, development of energy efficient incentive programs; adoption of air quality enhancing design guidelines.
Cultural Resources	Avoidance, minimization; landscaping for historic properties; preservation in place of excavation for archeological sites; Memoranda of Agreement with the Department of Historic Resources; design exceptions and variances; environmental compliance monitoring.
Endangered and threatened species	Avoidance, minimization; time of year restrictions; construction sequencing; design exceptions and variances; species research; species fact sheets; Memoranda of Agreements for species management; environmental compliance monitoring.
Forested and other natural areas	Avoidance, minimization; Replacement property for open space easements to be of equal fair market value and of equivalent usefulness; design exceptions and variances; environmental compliance monitoring.
Neighborhoods, communities, homes and businesses	Impact avoidance or minimization; context sensitive solutions for communities (appropriate functional and/or aesthetic design features).
Parks and recreation areas	Avoidance, minimization, mitigation; design exceptions and variances; environmental compliance monitoring.
Wetlands or water resources	Avoidance, minimization; design exceptions and variances; environmental compliance monitoring.

Air Quality

Air quality continues to play a major role in metropolitan planning. The National Ambient Air Quality Standards (NAAQS) are federal standards that set allowable concentrations and exposure limits for certain pollutants. Primary standards are intended to protect public health, while secondary standards protect public welfare. Air quality standards have been established for the following six criteria pollutants: ozone, carbon monoxide, particulate matter, nitrogen dioxide, lead, and sulfur dioxide. If monitored levels of any of these pollutants violate the NAAQS, then the Environmental Protection Agency (EPA), in cooperation with the State of Texas, will designate the contributing area as "nonattainment."

A significant portion of the federal air quality regulations applies only to areas that are in nonattainment under the air quality standards of the Clean Air Act. Since the Laredo MPO

area is not currently designated as a nonattainment area, meaning it meets applicable air quality standards, these portions of the regulations do not apply and have not been directly incorporated into the Laredo MPO's transportation planning process. However, Laredo MPO recognizes the importance of air quality standards and is cognizant of the importance in maintaining the region's attainment status.

Climate Change

Climate change is expected to have an impact on transportation planning and priorities. Although there is currently no official mandate concerning how climate change should be addressed in the planning process, MPOs are encouraged to consider both greenhouse gases (GHG) and climate change as part of their ongoing long-range transportation process.

While the debate regarding climate change continues, it nevertheless is emerging as a main environmental concern linked to transportation. According to the US Environmental Protection Agency (EPA) Transportation is the second largest contributor by sector to the nation's carbon footprint, after only the Electricity sector. In 2012, it was estimated that approximately 28 percent of GHG emissions in the United States come from transportation. In addition, GHG emissions from transportation have increased by approximately 18% since 1990. FHWA suggests the following four primary strategies to reduce GHG emissions from transportation:

Improve system and operational efficiencies: Traffic flow improvements can be achieved through intelligent transportation systems, route optimization, congestion pricing, and improved intermodal links and system connectivity. Other system efficiencies could be achieved by switching to more energy-efficient modes. Operational efficiencies can be achieved through improving vehicle maintenance, which can improve fuel efficiency and prevent breakdowns that tie up traffic, and reducing idling of freight vehicles.

Reduce growth of vehicle miles traveled (VMT): Implementing land use strategies that concentrate development can lessen the need to drive. Providing HOV lanes, transit options, pedestrian and bicycle facilities, and promoting travel demand management programs and telecommuting can also reduce the number of vehicle trips.

Transition to lower GHG fuels: By replacing gasoline and diesel with fuels such as biodiesel and natural gas, less GHGs are emitted over their lifecycle, from production and refining to distribution and final consumption. Alternative fuels, as defined by the Energy Policy Act of 1992 (EPAct), include ethanol, natural gas, propane, hydrogen, biodiesel, electricity, methanol, and p-series fuels. Using these alternative fuels in vehicles can generally reduce harmful pollutants and exhaust emissions. In addition, most of these fuels can be locally produced and derived from renewable sources.

Improve vehicle technologies: Promoting the development and usage of more fuel efficient vehicles, such as plug-in electric hybrids, will reduce the GHG emissions. Programs like "Drive Clean Across Texas" can help raise awareness and change attitudes about air

pollution. Providing tax credits through programs like “Cash for Clunkers” can also encourage the purchase of more fuel efficient vehicles.

Environmental Justice

The purpose of an environmental justice (EJ) review is to ascertain that federally-funded transportation projects do not adversely impact minority populations and low-income populations. FHWA states that “Disproportionately high and adverse effects, not size, are the bases for Environmental Justice. A very small minority or low-income population in the project, study, or planning area does not eliminate the possibility of a disproportionately high and adverse effect on these populations. What is needed is to show the comparative effects on these populations in relation to either non-minority or higher income populations, as appropriate.” The Environmental Justice review for this plan includes consideration of whether these two population groups bear disproportionate impacts resulting from governmental decisions. MPOs are responsible for assessing the benefits and burdens of transportation system investments for different socio-economic groups. This includes both performing data analysis and developing a process to engage minority, low-income, and disabled populations in public involvement activities.

The Environmental Justice analysis for the 2040 MTP focused on the potentially adverse impacts caused by regionally significant street and highway construction projects. The construction of new roadways along new rights-of-way received special attention due to their potential to split or isolate parts of the community. Widening of existing roadways was deemed not as critical, but was still scrutinized for potential impacts. Alternative mode investments in transit service and bicycle and pedestrian facilities were considered to provide positive impacts to the minority and low-income populations of the region. For those locations that do not currently have multimodal transportation facilities, alternative mode services and facilities would provide additional, lower-cost transportation options to increase the mobility of these populations and their access to the community.

As part of this transportation plan update, 2012 data by Census tract from the U.S. Census Bureau was used to identify the geographic distribution of low-income populations. Because the Laredo region is predominantly Hispanic, locally identified colonias were also used for the environmental justice assessment. Within Texas, colonias are defined as economically distressed residential areas located in unincorporated land along the US-Mexico border, often lacking basic public infrastructure, including potable water, sewer systems, electricity, paved roads, and safe and sanitary housing. Residents of colonias are mostly low-income individuals seeking access to affordable living accommodations.

In order to determine which Census tracts are considered low income in the Laredo region, the U.S. Census data that shows the number of households in poverty and total households in Census tracts in 2012 were used. A Census tract is considered to be a low income area if its percentage of households in poverty is higher than regional average.

Figure 13-3 and **Figure 13-4** present the locations of Environmental Justice populations and the priority projects within this MTP, while **Table 13-3** identifies which projects are located in Environmental Justice areas.

Figure 13-3: Low Income Areas and Federally Funded Projects

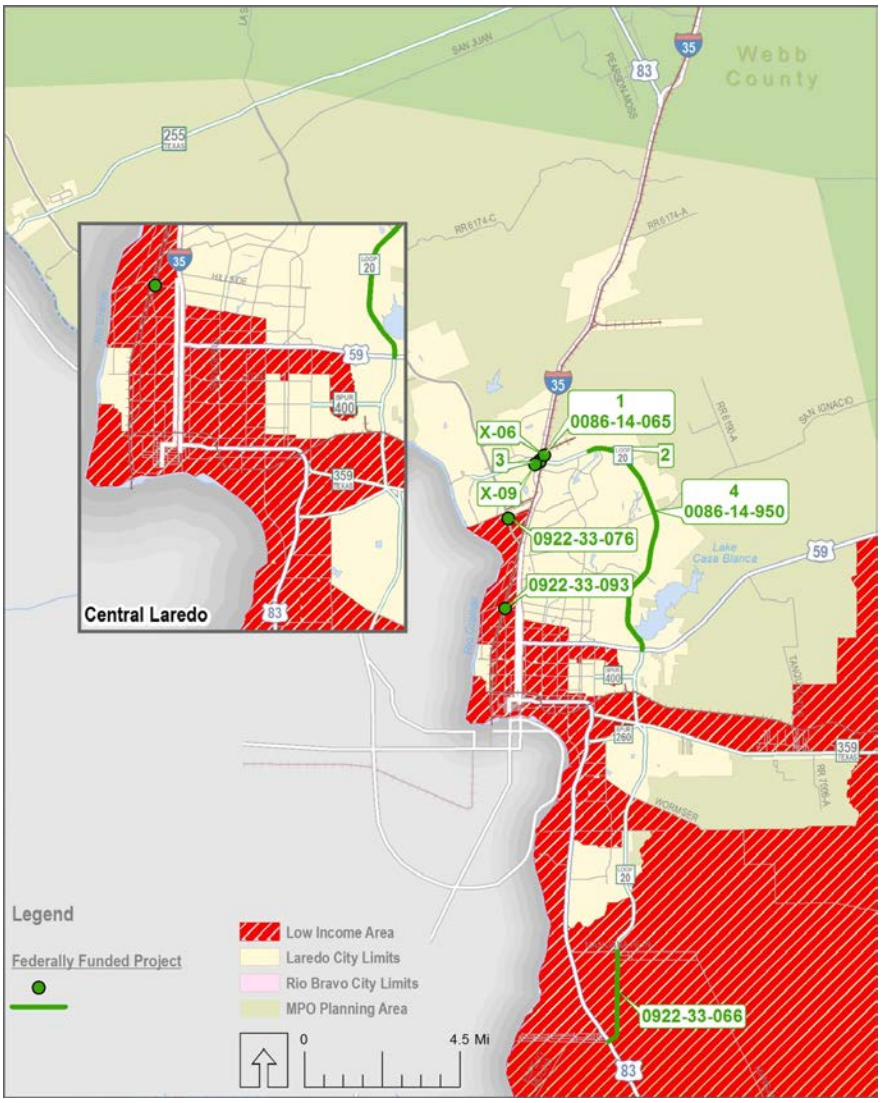


Figure 13-4: Colonias and Federally Funded Projects

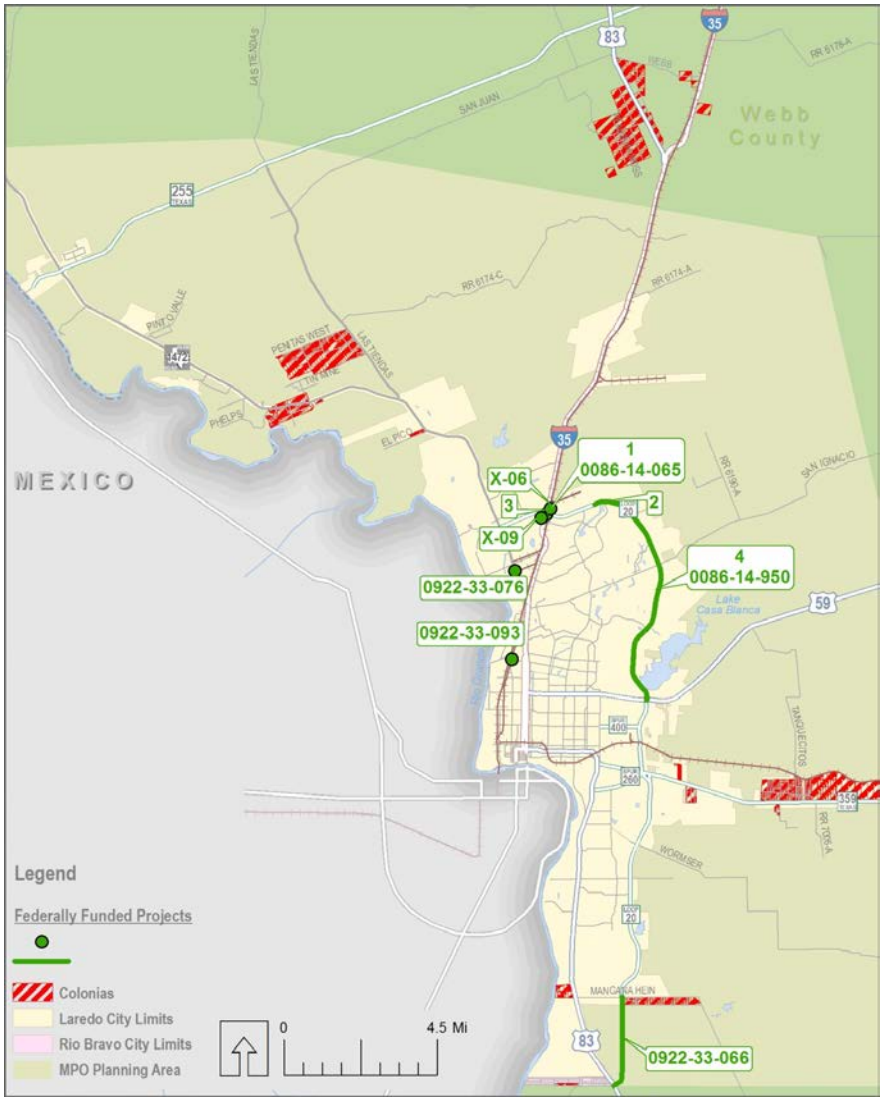


Table 13-3: Federally Funded Projects and Environmental Justice Population

ID	Roadway	Limits	Buffer Distance (Ft)	Low Income Census Tract	Colonia
0922-33-066	Loop 20	Mangana-Hein Rd to US 83 at Rio Bravo	400	☑	☑
1	Loop 20	At IH 35	500		
2	Loop 20	At International Blvd	500		
3	Loop 20	At IH 35	500		
4	Loop 20	International Blvd to US 59	400		
X-06	IH 35	At Loop 20	500		
X-09	IH 35	At Loop 20	500		
0922-33-076	City Street	At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr	500	☑	
0922-33-093	City Street	At the intersection of Calton Rd and Santa Maria Ave	500	☑	
0086-14-950	SL 20	E of International Blvd to US 59/Loop 20 interchange	400		
0086-14-065	SL 20	0.330 miles west of IH 35 to 0.160 miles west of McPherson	400		

Environmental Justice Effects

The environmental justice screening conducted for this plan is not intended to quantify specific impacts. The critical purpose of this screening is the identification of projects in the transportation plans that, due to proximity, have the potential to affect communities of special interest. When individual studies are begun as part of project development, more detailed analyses will be needed to identify and minimize specific community impacts on a project-by-project basis. Proactive efforts should be made to ensure meaningful opportunities for public participation including specific activities to increase outreach for low-income and minority participation during the project development process for each of the fiscally constrained projects identified in this plan. This participation will be important to the decision-making process and will help to ensure that transportation needs of the target populations are met to the greatest extent possible.

In summary, all population groups would benefit from the planned transportation improvements in the region. In fact, many of the improvements will have positive impacts on these populations in terms of increased access to the community and additional transportation options. Continued transit service will be provided and roadways will include improvements designed to make the roads safer for the traveling public. In terms of negative impacts, all segments of the population who live adjacent to roadway construction projects may endure some short-term construction related impacts relative to visual changes, noise, and alterations in access. In general, neither low income nor minority populations in the region would endure high and disproportionate impacts due to the projects proposed within this plan.

Next Steps

The process of developing the metropolitan transportation plan resulted from considerable coordination among a variety of stakeholders. The MPO is committed to continuing these planning efforts and expanding its role in regional planning. These future efforts include conducting performance monitoring activities, developing a congestion management process, supporting the cities of Laredo and Rio Bravo in their local planning efforts, and seeking alternative sources of funding for transportation projects.

Performance Management

Under ~~MAP-21~~the FAST Act, the primary objective of performance management is for States to invest in projects that collectively will make progress toward the achievement. The program requires the coordination of the federal government, states, MPOs, and their stakeholders to establish performance measures.

~~MAP-21~~The FAST Act states that within 180 days of States or providers public transportation setting performance targets, MPOs are required to set performance targets in relation to the performance measures. The Laredo MPO is well-prepared to set its performance measures once the TxDOT sets its performance targets. This program will be able to communicate measures related to mobility accessibility, and safety and to provide a deeper understanding of how the transportation system is performing at the system, facility, and project levels.

Funding Strategies

The most significant obstacle in realizing many of this plan's objectives is the overwhelming challenge of funding transportation-related needs. The MPO is very concerned about the status of future transportation funding at both the state and federal level and will therefore explore alternative funding sources. By working with various stakeholders and continuing dialog with Washington D.C., the Laredo MPO will seek innovative funding arrangements to advance the mobility of the region.

Regional Mobility Authority

A regional mobility authority (RMA) is a political subdivision formed by one or more counties to finance, acquire, design, construct, operate, maintain, expand, or extend transportation projects in Texas. An RMA is under local control but works in cooperation with the TxDOT, to develop roadway projects and provide support to other transportation improvements in the region which otherwise might depend solely on state or federal funding. Having more local control, an RMA could help a region to get projects moving faster. It also has the powers to issue revenue bonds, establish tolls, apply for federal highway and rail funds, and acquire property for transportation projects.

On February 27, 2014, the Texas Transportation Commission approved the formation of an RMA for Webb County and the City of Laredo. The Laredo MPO will continue to work in tandem with the Webb County-Laredo RMA and TxDOT to help high-priority transportation projects be delivered to the region more quickly.

Plan Amendment Process

This MTP was developed over a 16-month period between September 2013 and December 2014. It reflects the latest planning assumptions, current regional transportation priorities,

Commented [GRJ5]: Updated reference to the FAST Act.

and most recent funding projections. However, planning is an ever-changing and dynamic process. As time goes on, regional priorities, federal and state funding revenue assumptions, and federal and state transportation planning requirements are likely to change. If and when they do, the MPO will revise this plan accordingly by following its formal plan amendment process as defined in its Public Participation Plan. The plan is currently scheduled to be completely updated again in December 2019.

Laredo 2045 MTP Update & FAST Act Compliance Project

Outline for Updating the Laredo 2040 MTP for Compliance with the FAST Act

The Fixing America's Surface Transportation Act, or FAST Act, was signed into law by President Obama on December 4, 2015. The bill funds surface transportation programs at over $305 billion for fiscal years 2016 through 2002. The emergence of the FAST Act does not represent an abandonment of the programs and planning requirements established under MAP-21, the previous federal transportation bill. In fact, the FAST Act maintains the provisions from MAP-21 with minor revisions and additional requirements. The most significant changes include:

- MPO officials representing transit providers are granted equal authority to that of other MPO officials. A representative of a transit provider is permitted to also represent a local community.
- MPOs are encouraged to consult with officials responsible for tourism and natural disaster risk reduction when developing Metropolitan Transportation Plans (MTPs) and Transportation Improvement Programs (TIPs).
- The scope of the metropolitan planning process is expanded to include three new planning factors: improving transportation system resiliency and reliability, reducing or mitigating stormwater impacts of surface transportation, and enhancing travel and tourism.
- The MTP must include consideration of the role that intercity buses serve in reducing congestion, pollution, and energy consumption.
- Ports and private providers of transportation (including intercity bus operators and employer-based commuting programs) shall be offered the opportunity to comment on the MTP.
- The MTP must assess capital investment and other strategies that reduce vulnerability of the existing transportation infrastructure to natural disasters.
- The FAST Act continues MAP-21's overall performance management approach.
- The FAST Act includes provisions focused on ensuring the safe, efficient, and reliable movement of freight. The FAST Act establishes a National Multimodal Freight Network, and a National Highway Freight Network.

The existing Laredo 2040 MTP was updated to bring the document into compliance with the new FAST Act requirements. A summary of updates are organized by Chapter and Section below.

Chapter 1: Planning Context

This chapter provides an overview of the Laredo MPO and the 2040 MTP. References to MAP-21 were updated to reference the FAST Act. Legislative mandates were also updated, and the three new planning factors were introduced.

MPO Structure

This section provides an overview of membership and composition of the MPO Policy and Technical Advisory Committee. The section text has been slightly updated to reflect minor changes in the Technical Advisory Committee representation which occurred in 2015 since the previous MTP adoption.

Legislative Mandates

This section provides a brief background on the past and current federal transportation bills. The FAST Act has been added to the list of federal transportation bills, and acknowledged as the current bill. The section describing the regulations introduced by MAP-21 has been summarized and rewritten to show that the bill is historic and no longer current. A section giving a detailed but concise overview of the FAST Act including any changes, revisions, and additions relevant to the Laredo 2040 MTP was added.

Transportation Planning Factors

This section has been updated to reference to the Final Rule on Statewide and Metropolitan Transportation planning for May 27, 2016 and acknowledge the three additional planning factors that are now required for consideration in the metropolitan planning process. Each of the three new planning factors have been added in the numbered list and include definitions of the factor and importance for considering the factor for the Laredo MPO region. Following addition of these new required planning factors, numbering of the additional planning factors (not required by federal law but considered by the MPO) was also updated.

(NEW) 9. Resiliency and Reliability
(NEW) 10. Reduce or Mitigate Stormwater Impacts
(NEW) 11. Travel and Tourism
(NUMBERING UPDATE) 12. Stewardship of Financial Resources
(NUMBERING UPDATE)13. Consideration of All Groups of People

Development and Content of the Metropolitan Transportation Plan

The CFR citation number was updated to 23 CFR § 450.324 to reflect current FAST Act regulation reference. The content of the table was updated to reflect updates of the new regulation (including consideration of intercity buses, and reference to reducing vulnerability to natural disasters). A section to the table on performance measures was also added.

Consistency with State Plans

Relevant state plans, particularly TxDOT plans, are referenced in this section. The references were updated to reference the most recent version of each plan.

Strategic Plan (2013-2017)

Updated reference to the Strategic Plan for 2017-2021.

Texas Strategic Highway Plan (SHSP)

Updated reference and image to the Texas Strategic Highway Safety Plan for 2017-2022.

Report on Texas Bridges (as of September 2012)

Updated reference to Report on Texas Bridges (as of 2016).

Unified Transportation Program (UTP)

Updated reference and image to Unified Transportation Program for 2018.

(NEW) Texas Freight Mobility Plan

Reference to the 2017 Texas Freight Mobility Plan was added.

Other Related Plans

In addition to statewide plans, other related plans are identified in this section. Text has been added to include completion of the most recent Transit Development Plan in 2017 to demonstrate the additional coordination with FAST Act guidelines that further stress the role of public transportation in metropolitan planning considerations. In addition, the Limited English Proficiency that was adopted in 2016 has been added to the list of related plans to further demonstrate the MPOs' commitment to planning to involve all people and additional Public Participation Planning activities.

MTP Planning Process

Figure 1-1 shows the flow of inputs, analysis, and public participation involved in the development of the 2040 MTP. While the MTP was developed under the provisions of MAP-21 as noted in the flowchart, due to the signing of the FAST Act in 2015, this graphic was revised in 2018 for compliance with new provisions from the bill.

(NEW) Performance Measures

A section on Performance Measures was added to replace the subsection on performance measures in the MAP-21 portion of "Legislative Mandates". The Laredo MPO will adopt the federally required performance measures in coordination with TxDOT. The Laredo MPO will adopt the first target for safety performance measures using TxDOT's target of two percent reduction by 2033. The MPO will continue coordination with TxDOT on data collection, analysis, reporting, and target setting for the additional performance measures as they are released. Adoption of the remaining performance targets will occur in the 2045 MTP.

MTP Overview

This section provides a brief summary and outline of the rest of the document and chapters. Reference to Chapter 11, which was originally titled "Safety and Security", has been updated to better reflect FAST Act requirements and is now titled "Safety, Security, and Resiliency".

Chapter 2: Regional Context

This chapter describes the geography, history, land use, land use policies, historic districts, and major destinations/traffic generators within the Laredo MPO. This chapter is not affected by the new FAST Act requirements and does not need any updates for compliance.

Chapter 3: Socioeconomic Data

This chapter describes the socioeconomic data and analysis of that data involved in making the recommendations of the 2040 MTP. This chapter is not affected by the new FAST Act requirements and does not need any updates for compliance.

Chapter 4: Public Participation

This chapter describes the public outreach process that was used to gather input on the MTP development. While this chapter documents a public outreach process that has already been completed, a new section will be added to describe the new requirements from the FAST Act and how the process has been updated.

Planning Context

This section summarizes the public outreach efforts that were coordinated in the development of the Laredo 2040 MTP. Text has been added to indicate updates to the Public Participation Plan which were adopted in 2017 for compliance with the FAST Act. It indicates the inclusion of representatives for public ports and private providers of transportation in the stakeholder database to provide better coordination. It notes that while Employer-based transit incentives are not currently in place, there has been interest from private industry on the potential for advancing these types of initiatives in the future. This coordination is included in the most recent Transit Development Plan and Marketing Plan and referenced in this text addition.

Chapter 5: Roadways

This chapter provides a detailed overview of the roadways within the MPO region – the classifications, traffic volumes, level of service, crash data, bridges, border crossings, best practices, and more. This chapter has been updated to include sections on the National Freight Highway Network and the National Multimodal Freight Highway Network. References to MAP-21 were also appropriately updated to references to the FAST Act. Updated maps of these newly designated networks are included and numbering of maps has been updated throughout this chapter accordingly.

National Highway System

Section text was briefly updated to reference policy guidance provided by FHWA on principal arterials designated by the NHS under the FAST Act.

(NEW) National Freight Highway Network

This section provides a brief overview of the National Freight Highway Network and details the hierarchy of subsystem roadways within the NFHN. The section identifies and includes a new map of assets that are part of the NFHN within the Laredo MPO region.

(NEW) National Multimodal Freight Network

This section provides an overview of the National Multimodal Freight Network and identifies which assets are part of the NMFN within the Laredo MPO region. This section now includes a map identifying these local assets designated as part of the NMFN.

Best Practices and Strategies for Roadway Improvements

This section describes strategies for preserving, maintain, and improving the operational efficiency of the transportation system. A subsection on Resiliency and Reliability will be added to address strategies to reduce the vulnerability of the existing transportation infrastructure to natural disasters.

(NEW) Resiliency and Reliability

Under the FAST Act, the MTP must include an assessment of capital investment and other strategies to preserve the existing and future transportation system and reduce the vulnerability of the existing transportation infrastructure to natural disasters. This section will discuss the risks associated with natural disasters, and propose a GIS based strategy to assess the roadway infrastructure within the MPO region for vulnerabilities to natural disasters that will be applied in the 2045 MTP. This section will also address the reduction or mitigation of stormwater impacts on surface transportation.

Crash Data

Text has been updated in this section to note that additional information on safety performance measures has been added to Chapter 13 of the 2040 MTP to meet performance monitoring related requirements of the FAST Act.

Best Practices and Strategies for Roadway Improvements

This section identifies strategies employed by the MPO to preserve and maintain transportation infrastructure. The section text was updated to include references to new planning factors: resilience and reliability and reduce/mitigate stormwater impacts as required by the FAST Act. A new Stormwater Management Section was added for compliance with the FAST Act requirements and to detail relevant state and local design guidance for stormwater management.

Travel Demand Management

This section describes the means to influencing travel patterns and behavior to improve system performance by decreasing or shifting travel demand. This section was updated to add strategies for intercity buses and employer-based commuting programs such as carpool, vanpool, transit benefit, parking cash out, shuttle, and telework programs.

Land Use and Urban Design Considerations

This section describes the best practices that the Laredo MPO uses in regard to land use and urban design considerations for the region. The FAST Act requires consideration of the Urban Street Design Guide (NACTO) and the Highway Safety Manual (AASHTO). This section was updated to include that these two documents will be used as references when developing design criteria and standards.

(NEW) Travel and Tourism

One of the new planning factors required by the FAST Act is enhance travel and tourism. This section was updated to note how the Laredo MPO region has been working to incorporate tourism into the planning process, including representative organizations for the MPO technical committee and to note that representatives from travel and tourism are included in the updated Public Participation Plan and interested parties/stakeholder list.

Chapter 6: Public Transportation

This chapter reviews and analyzes the transit systems available within the Laredo MPO area. The FAST Act places an emphasis on how intercity buses can contribute to congestion relief. Minor text updates in this chapter were made for consistency with terms used in the new FAST Act requirements – specifically to "intercity bus" and "vanpools".

Service Performance Measures

This section provides information on operational performance measures used to identify levels of operating and cost efficiency and effectiveness for public transportation services. Text in this section was updated to clarify the difference between the federally required performance measures from the FAST Act and these more general service performance measures that are used to evaluate transit performance. Text was also updated to include information on the TAM Final Rule and reference to a Memorandum of Understanding (MOU) that has been adopted between the MPO, TxDOT, and El Metro.

Greyhound

This section describes Greyhound operations, which is the major private provider of transportation in the region. The section was retitled "Intercity" and slightly rewritten to give greater emphasis and recognition to the service as an intercity city bus. An introductory narrative was added, noting the significance of intercity buses in the region. International bus services crossing the border have also been added to this section.

System Preservation and Maintenance

This section identifies how public transportation system preservation and maintenance are conducted in the region. The title of this section has been updated to "System Resiliency and Maintenance" to more appropriately capture new language and direction of the FAST Act. Text has been added to indicate the recently completed Asset Management Plan that was developed in line with the most recent Transit Development Plan update and to meet FAST Act requirements for more prescribed public transportation asset management practices.

Land Use and Development Considerations

This section identifies the importance of land use and transportation interactions in developing effective public transportation in the region, including incorporating appropriate design guidance in land use planning. The FAST Act requires that the AASHTO Highway Safety Manual and the NACTO Urban Street Design Guide be considered in developing design criteria. Text in this section was updated to reference these documents in developing design criteria.

Chapter 7: Bicycle and Pedestrian

This chapter describes the needs and planned projects related to bicycle and pedestrian infrastructure in the region. This chapter is not significantly affected by the new FAST Act requirements.

Bicyclist and Pedestrian Safety Projects

Under MAP-21, funding for funding for bicycle and pedestrian projects was provided under the Transportation Alternatives Program (TAP). The FAST Act; however, eliminates the TAP and replaces it with Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA). These TA funds include all projects and activities that were previously eligible under TAP including pedestrian and bicycle facilities, recreational trails, and SRTS projects. Text has been updated in this section to indicate this change in funding mechanisms.

Chapter 8: Airport

This chapter discusses the existing conditions of the Laredo International Airport, including the physical characteristics and operational statistics, forecast of future traffic, and strategies to improve the operations of the airport.

Proposed Strategies

This section describes strategies to continue investment in LRD and enhance Laredo's ability to attract businesses and passengers. Text will be added to this section to describe strategies regarding enhancing travel and tourism as per FAST Act provisions.

Accessibility

This section describes how providing safe and secure facilities at airports is essential to attracting passengers. Text has been added to note that safe and secure facilities are essential to attracting passengers and "enhancing travel and tourism" as well since this subject is provided greater attention within the FAST Act provisions.

Chapter 9: Freight and Goods Movement

This chapter describes the freight activities in the Laredo MPO region and addresses infrastructure, projected freight flows, and issues and challenges faced by the freight industry. References to MAP-21 has been updated to reference the FAST Act.

Congressional High Priority Corridors

This section describes corridors designated as priority corridors. The National Highway Freight Network and the National Multimodal Freight Network were introduced in Chapter 5. A brief acknowledgement and summary on these systems has been added within this section as well.

Highway Network

Text was added to identify the roadways that are designated as part of the National Highway Freight Network and the National Multimodal Freight Network within the Laredo MPO region.

Railroad Network

Text was added to identify railroad assets that are designated as part of the National Multimodal Freight Network within the Laredo MPO region.

Exhibit A

Texas Freight Mobility Plan Listening Session

Text in this section was updated to note that the current Texas Freight Plan was adopted in 2017 and how it helps to meet FAST Act requirements to develop comprehensive short- and long-range freight planning and investments. The section title was updated to "Texas Fright Mobility Plan" now that this has been completed. References to MAP-21 were also updated to reference the FAST Act appropriately.

Chapter 10: Congestion Management Process

This chapter describes the congestion management process for the Laredo MPO region. The FAST Act provides examples of employer based travel demand reduction strategies – intercity bus, employer based programs (carpool, vanpool, transit benefits, parking cash-out, telework). The FAST Act also adds job access projects as a CMP strategy. This chapter was updated to reference these new provisions.

Identification of Strategies

This section text was updated to add reference to intercity bus and employer-based commuting programs to the examples of Transportation Demand Management strategies. Text was also updated to include reference to the Advanced Transportation and Congestion Management Technologies Deployment Program (ATCMTD) program that provides competitive grants for the development of advance technology and congestion management. This program was established under the FAST Act.

Chapter 11: Safety and Security

This chapter describes the responsibilities of MPOs to ensure the security and safety of the transportation system by coordinating with agencies that have direct influences on specific security, safety, or emergency planning. The chapter title has been updated to "Safety, Security, and Resilience" in recognition of new provisions for resiliency planning under the FAST Act. Much of the text in the original document already includes resiliency planning but this title change and text updates within the chapter to include the term "resiliency" better help to incorporate FAST Act provisions. References to MAP-21 were appropriately updated to reference the FAST Act throughout this chapter.

Introduction

This section provides high level definitions for safety and security. The section has been updated to include reference to the FAST Act planning factor for resilience. The added text distinguishes security and resilience concepts and describes how they are addressed in the chapter. Additional information specific to stormwater management has also been added to further clarify how stormwater management responsibilities are carried out in the region.

Federal Highway Administration

This section summarizes the safety efforts that the FHWA undertakes. The new safety performance measures as part of the FAST Act and MPO planning process are noted in a final bullet point on efforts.

State Agencies – Texas Department of Transportation

Section text was updated to include reference to the TxDOT *Hydraulic Design Manual,* which includes a section on Stormwater Management. This text was added per FHWA direction as a means to address stormwater mitigation activities.

Regional and Local Agencies – Webb County

This section was updated to reference to the functions of the Webb County Planning Department in relation to resiliency as per new FAST Act provisions and planning factors. The Webb County Planning and Physical Development Department is involved in supporting the resiliency of the transportation system through regulatory enforcement of land use and development activities including floodplain development permits and building permits in compliance with federal laws and local regulations. The department also provides technical assistance for issues related to water and wastewater facilities, transportation, road and drainage improvements, parks and recreational facilities, and public buildings. Through coordination with multiple representatives from both the private and public sectors, the department develops and maintains GIS data that is essential to planning for safety, security, and resilience. GIS data collected by the department can be used to identify transportation assets vulnerable to natural disasters and extreme weather events as well as utilization by emergency response providers.

City of Laredo Plan – Emergency Management Plan

A reference was added in this section to a web resource which acts as a hub for emergency operations as per guidance from FHWA's checklist regarding the FAST Act and demonstrating coordination of regional plans with emergency management planning activities.

Chapter 12: Financial Plan and Recommended Planned Improvements

This chapter discusses the long range financial constraints and opportunities for the Laredo MPO region over the 25-year horizon. This plan includes details on recommended projects for the region.

Funding Sources

Text describing that the future funding source is uncertain has been removed. This was written with the expected expiration of MAP-21 and when a future federal transportation bill had not been fully developed. The funding source is now certain with passage of the FAST Act. Text was updated accordingly.

Roadway and Bicycle/Pedestrian Funding Source

This section includes a table of various roadway and pedestrian/bicycle related funding sources from TxDOT and funding allocations. Text was updated slightly to clarify that the funding structures identified were ones available at the time of the MTP plan.

Chapter 13: Benefits, Impacts, and Next Steps

This chapter quantifies some of the benefits and impacts of the plan and discusses next steps for implementation of the plan. References to MAP-21 were appropriately updated to the FAST Act throughout the chapter.

Benefits and Impacts

This section identifies the goals considered in developing transportation improvements. Bullets in this section were rearranged to update the order of goals to be consistent the order and updated planning factors identified in Chapter 1. Additional references to resilience and reliability were added in text to be consistent with the FAST Act updated planning factors.

Economic Benefits

Minor text edits were included to add reference to the new FAST Act planning factor "enhance travel and tourism".

Environmental Assessment

The FAST Act introduced the reduction or mitigation of stormwater from surface transportation. This section text was edited to include reference and acknowledgement of this new planning factor.

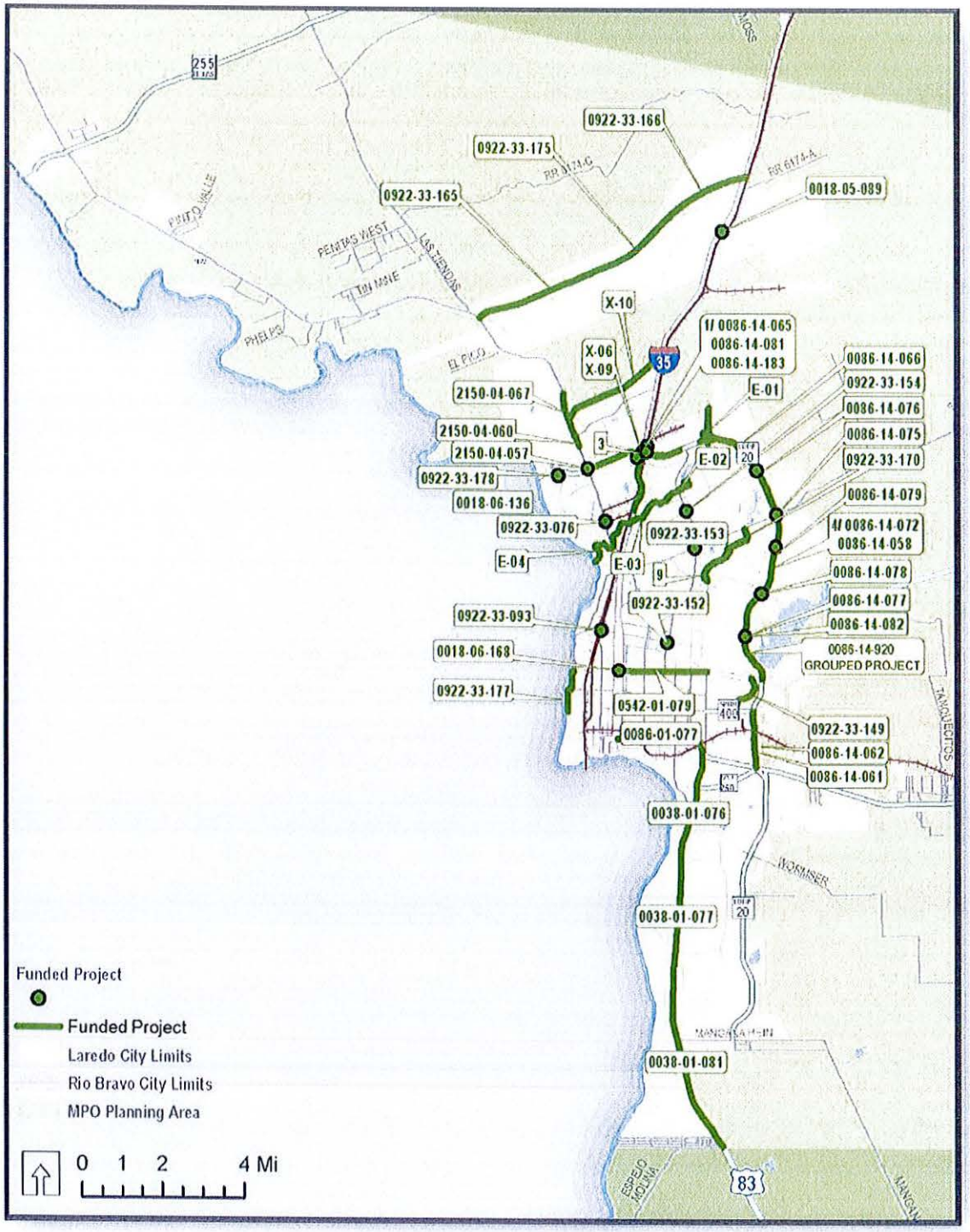
Environmental Mitigation Activities

References to MAP-21 were removed and reference to stormwater reduction/mitigation was added based on new FAST Act planning factors.

Exhibit B (the draft 2020-2045 MTP revisions) may be located in the attached CD or at the following link.

www.cityoflaredo.com/planning/mpo/external/MTP_2015_2045_ch1-13.pdf

Figure 12-1: Roadway and Bicycle and Pedestrian Projects



0092-33-178 WORLD TRADE BRIDGE

Description: the construction of inspection booths at world trade bridge.

Letting Year: 2021
Total Project Cost (2014 Dollars): $9,612,067
YOE Cost: $12,067,384
Programmed Amount:
Category 10: $12,067,384

Other Amount: $0
Funding: Federally funded
Environmental Impacts and Environmental Justice:
The project is not close to 100-year flood plains, low income areas, or cultural resources.

Table 12-10: Roadway and Bicycle/Pedestrian Projects Summary

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
7, 11	0086-14-061	Loop 20	SH 359 to Spur 400	Widen existing bridge	2015	$10,245,646	$10,655,472	$8,524,378	$2,131,094
1, 2, 4	0086-14-062	Loop 20	1.09 S. of Spur 400 to Spur	New Nonfreeway	2015	$16,936,138	$17,613,584	$1,506,867	$16,106,717
8	0018-06-168	IH 35	At US 59 intersection	Improve traffic signal on	2015	$96,146	$99,992	$81,702	$18,290
8	0038-01-076	US 83	Palo Blanco to SH 359	Improve traffic signals -	2015	$124,873	$129,868	$109,625	$20,243
8	0038-01-077	US 83	Cielito Lindo to Palo Blanco	Improve traffic signals – interconnect signals	2015	$171,131	$177,976	$131,375	$46,601
8	0086-01-077	US 83	IH 35 to SH 359	Improve traffic signals -	2015	$174,922	$181,919	$153,625	$28,294
8	0542-01-079	US 59	IH 35 to Arkansas	Improve traffic signals -	2015	$140,963	$146,602	$123,750	$22,852
8	2150-04-057	FM 1472	At Loop 20	Improve traffic signal, interconnect signals, and	2015	$90,700	$94,328	$77,074	$17,254
8	2150-04-060	FM 1472	Killam Industrial Blvd	Install raised median	2015	$149,669	$155,656	$128,438	$27,218
9	9	Alexander Hike and Bike Trail	Zacate Dam to Del Mar Blvd	Construct hike and bike trail	2015	$986,078	$1,025,521	$1,025,521	$0
10	0086-14-051	Loop 20	0.50 mi west of Milo interchange to 3000 feet east	Schematic, environmental, ROW-survey/mappin	2015	$4,256,385	$4,426,640	$4,000,845	$425,795
~~10~~	~~0922-33-076~~	~~At the Intersection of FM 1472 and Flecha Ln/Las Cruces Dr~~		~~Re-align intersection~~	~~2015~~	~~$3,377,269~~	~~$3,512,360~~	~~$1,440,411~~	~~$2,071,949~~
11	0922-00-060	VA	Districtwide	Upgrade bridge rail and MBGF	2015	$3,059,036	$3,181,397	$2,500,000	$681,397
12	0038-01-081	US 83	Cielito-Lindo Blvd (NB) to Espejo Molina Rd (NB)	Resurface of existing highway	2015	$253,823	$263,976	$6,593,622	$0
1,2M, 11	0086-14-066	Loop 20	0.45 m. east of Internation Blvd.to 0.25 m. west of Mcpherson	Construction of interchange	2016	$21,059,119	$22,777,543	$583,634	$22,193,909
9	E-01	Manadas Creek Hike and Bike Trail, Phase III	United High School to Loop 20	Construct hike and bike trail	2016	$886,846	$959,213	$959,213	$0
~~10~~	~~0922-33-093~~	~~Calton Rd~~	~~Santa Maria Ave~~	~~Construct overpass~~	~~2016~~	~~$23,309,669~~	~~$25,211,738~~	~~$12,926,124~~	~~$12,285,614~~
10	0086-14-058	Loop 20	East of International Blvd to US 59/Loop 20 interchange	Schematic, environmental, ROW-survey/mappin g & PSE	2016	$3,880,224	$4,196,850	$3,500,000	$696,850

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
11	0922-00-056	VA	Districtwide	Upgrade bridge rail and MBGF	2016	$3,089,177	$3,341,254	$2,500,000	$841,254
Local	0922-33-165	Hachar Parkway	FM 1472 to 0.1 m. E. of Beltway Parkway	Schematic, environmental for 5.07 miles of 5 lane rural roadway	2016	$1,016,063	$1,016,063	$0	$1,016,562
10 (CBI)	0922-33-166	Hachar Parkway	0.1 m. E. of Beltway Parkway to IH 35	Schematic, environmental, and preliminary engineering for a 5 lane rural roadway.	2016	$300,000	$300,000	$300,000	$60,000
Prop 1 (Cat 2) and 7	2150-04-067	FM 1472 (Mines Rd.)	Killam Industrial Blvd to 0.3 miles north of Mueller Blvd.	Construct one additional northbound travel lane, and the design and partial reconstruction of the existing outside lane.	2016	$5,782,000	$5,782,000	$1,300,000	$0
2, 7, 12	1/0086-14-065	Loop 20	At IH 35	Construct overpass and approach roadways	2017	$22,727,143	$25,564,945	$25,564,945	$0
8	0922-33-152	McPherson Rd	At Calton Rd	Install raised median	2017	$231,362	$260,251	$203,829	$56,422
8	0922-33-153	McPherson Rd	At Del Mar Blvd	Install raised median and add right turn lane	2017	$573,721	$645,358	$505,445	$139,913
8	0922-33-154	McPherson Rd	At International Blvd	Install raised median	2017	$347,446	$390,830	$306,098	$84,732
9	E-02	Manadas Creek Hike and Bike Trail, Phase IV	McPherson Rd to North Central Park	Construct hike and bike trail	2017	$335,305	$377,172	$377,172	$0
11	0922-33-149	Chacon Creek	Eastwoods Park to US 59	Construction of a pedestrian trail at Chacon Creek in Laredo (Phase 3)	2017	$1,786,746	$2,009,846	$1,410,000	$599,846
9, local	0922-33-170	Zacated Creek Hike and Bike Trail	Zacate Creek	Design and construction of hike and bike trail.	2017	1,250,000*	$1,416,278	$1,000,000	$250,000
7	0922-33-175	Hachar Parkway	FM 1472 to IH 35	PS&E and Row mapping for 5 lane rural road	2017	$1,452,866	$1,634,277	$1,307,421	$326,855

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
10-CBI	0922-14-081	IH 35	IH 35 and Loop 20	ITS for interchange facility over IH35	2017	$924,556	$1,040,000	$800,000	$240,000
2, 7	3	Loop 20	At IH 35	Construct ramps from IH 35 southbound to Loop 20 eastbound, and from Loop 20 westbound to IH 35 southbound	2018	$44,200,000	$51,707,748	$9,276,602	$42,431,146
9	E-03	Manadas Creek Hike and Bike Trail, Phase V	IH 35 to McPherson Rd	Construct hike and bike trail	2018	$654,910	$766,152	$766,152	$0
~~7~~	~~0922-33-165~~	~~Hachar Parkway~~	~~FM 1472 to 0.1 m. E. of Beltway Parkway~~	~~Construction of 5.07 miles of 5 lane rural roadway~~	~~2018~~	~~$33,060,222~~	~~$41,831,728~~	~~$21,437,521~~	~~$20,394,207~~
9	E-04	Manadas Creek Hike and Bike Trail, Phase VI	Rio Grande River NW of water treatment plant	Construct hike and bike trail	2019	$746,471	$908,196	$908,196	$0
11	0922-00-951	VA	Districtwide	Upgrade bridge rail and MBGF	2019	$3,089,178	$3,758,457	$2,500,000	$1,258,457
4	0018-06-183	IH 35	.5 miles S. of US59-SL20 to .5 miles east of IH35/US59-SL20	Construct direct connector interchange (DC#5)	2019	$30,412,668	$34,637,499	$31,173,749	$3,463,750
10	0922-33-093	Calton Rd	Santa Maria Ave	Construct overpass	2019	$18,464,190	$21,249,609	$11,499,829	$9,749,780
10	0922-33-076	At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr		Re-align intersection	2019	$2,761,130	$1,987,857	$1,098,378	$889,479
9	0922-33-177 (prev. 0922-33-900)	MSC	Anna Park to LCC campus	River Vega Hike and Bike Trail	2019	$797,766	$970,604	$652,638	$317,966
7, 10	4/0086-14-072	Loop 20	International Blvd to US 59	Upgrade to interstate standards	2020	$101,058,139	$175,000,000	$6,897,669	$168,102,331
11	0922-00-953	VA	Districtwide	Upgrade bridge rail and MBGF	2020	$3,089,177	$3,908,795	$2,500,000	$1,408,795
~~2,12~~	~~0086-14-078~~	~~US 59~~	~~.5 miles N of Jacaman to .5 miles S of Jacaman~~	~~Construct interchange~~	~~2020~~	~~$23,539,285~~	~~$30,976,093~~	~~$2,153,139~~	~~$28,822,954~~
2,12	0086-14-078	US 59	.5 miles N of Jacaman to .5 miles S of Jacaman	Construct interchange	2021	$19,962,291	$22,438,723	$17,950,979	$4,487,744

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
7	0922-33-165	Hachar Parkway	FM 1472 to 0.1 m. E. of Beltway Parkway	Prel. Eng./Construction of 5.07 miles of 5 lane rural roadway	2021	$26,077,429	$32,339,796	$25,871,837	$6,467,959
10	0922-33-178	World Trade Bridge (Insp. Booths)	World Trade Bridge		2021	$9,612,067	$12,067,384	$9,653,907	$2,413,477
~~2~~	~~0086-14-075~~		~~0.5 mi. S. of Del Mar to 0.5 mi. N. of Del Mar~~	~~Construct grade separation~~	~~2021~~	~~$21,336,934~~	~~$28,077,950~~	~~$16,397,181~~	~~$11,680,769~~
RMA (local)	X-10	Vallecillo Rd.	FM 1472 to IH 35	Schematic and environmental for contruction of 5 lane roadway	2021	$266,699	$300,000	$0	$300,000
11	0922-00-955	VA	Districtwide	Upgrade bridge rail and MBGF	2021	$3,089,178	$4,065,147	$2,500,000	$1,565,147
1, 2,4,12	0018-06-136	IH 35	Shiloh Dr. to.25 m N. of US 59/IH 69W	Widen mainlanes and construct overpass	2021	$54,742,802	$67,435,054	$53,948,043	$13,487,011
~~4~~	~~0018-05-089~~	~~IH 35~~	~~0.5 miles S. of Uniroyal Interchange to 1.0 N. of Uniroyal interchange~~	~~Replacement of existing bridge~~	~~2021~~	~~$79,348,894~~	~~$104,417,731~~	~~$58,500,000~~	~~$45,917,731~~
4	0018-05-089	IH 35	0.5 miles S. of Uniroyal Interchange to 1.0 N. of Uniroyal interchange	Replacement of existing bridge	2022	$62,293,851	$83,477,632	$75,129,869	$8,347,763
2	0086-14-075	US 59	0.5 mi. S. of Del Mar to 0.5 mi. N. of Del Mar	Construct interchange	2022	$23,957,067	$30,692,033	$24,553,627	$6,138,406
2	0086-14-079	US 59	0.5 mi. S. of University to 0.5 mi. N of University	construct grade separation	2022	$16,750,065	$21,458,953	$17,167,162	$4,291,791
11	0922-00-960	VA	Districtwide	Upgrade bridge rail and MBGF	2022	$3,089,178	$4,227,753	$2,500,000	$1,727,753
2	0086-14-076	US 59	0.5 mi. S. of Shiloh Rd to 0.5 mi. N. of Shiloh Rd.	Construct interchange	2022	$21,372,487	$27,380,859	$21,904,688	$5,476,172
~~2~~	~~0086-14-076~~	~~US 59~~	~~0.5 mi. S. of Shiloh Rd to 0.5 mi. N. of Shiloh Rd.~~	~~Construct grade seperation~~	~~2023~~	~~$24,000,574~~	~~$34,160,300~~	~~$14,831,770~~	~~$19,328,530~~
11	0922-00-970	VA	Districtwide	Upgrade bridge rail and MBGF	2023	$3,089,178	$4,396,863	$2,500,000	$1,896,863

Cat	CSJ No./ID	Roadway	Limits	Description	Letting Year	Project Cost		Projected Revenue	
						Total Project Cost (in 2014 dollars)	Year of Expenditure Cost	Federal Revenue	Other Revenue(RMA and Local Sources)
7	0922-33-166	Hachar Parkway	0.1 m. E. of Beltway Parkway to IH 35	Construction of 5 lane rural road	2023	$24,190,742	$34,430,969	$17,152,535	$17,278,434
2/Prop1	0086-14-077	US 59	International Airport	Construct interchange	2024	$14,947,015	$22,125,233	$12,306,676	$9,818,557
7	X-06	IH 35	At Loop 20	Construct ramp from Loop 20 Westbound to IH 35 Northbound	2037	$35,520,000	$87,546,696	$7,454,863	$80,091,833
7	X-09	IH 35	At Loop 20	Construct ramp from Loop 20 Eastbound to IH 35 Southbound	2039	$35,520,000	$94,690,506	$7,454,863	$87,235,643
			Total			$868,804,609	$1,222,021,229	$558,582,987	$665,180,109

Figure 13-1: Natural Resources and Federally Funded Projects

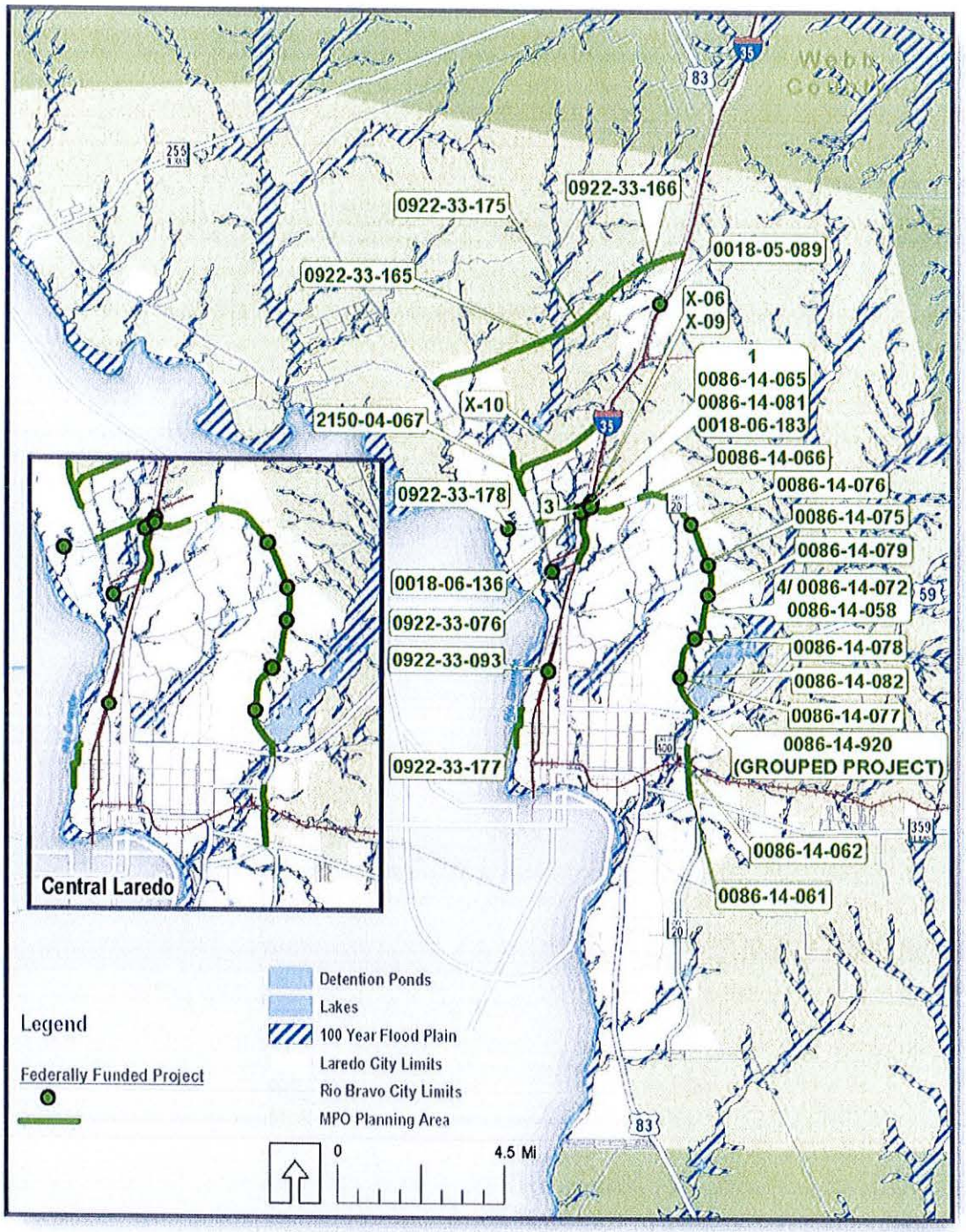


Figure 13-2: Cultural Resources and Federally Funded Projects

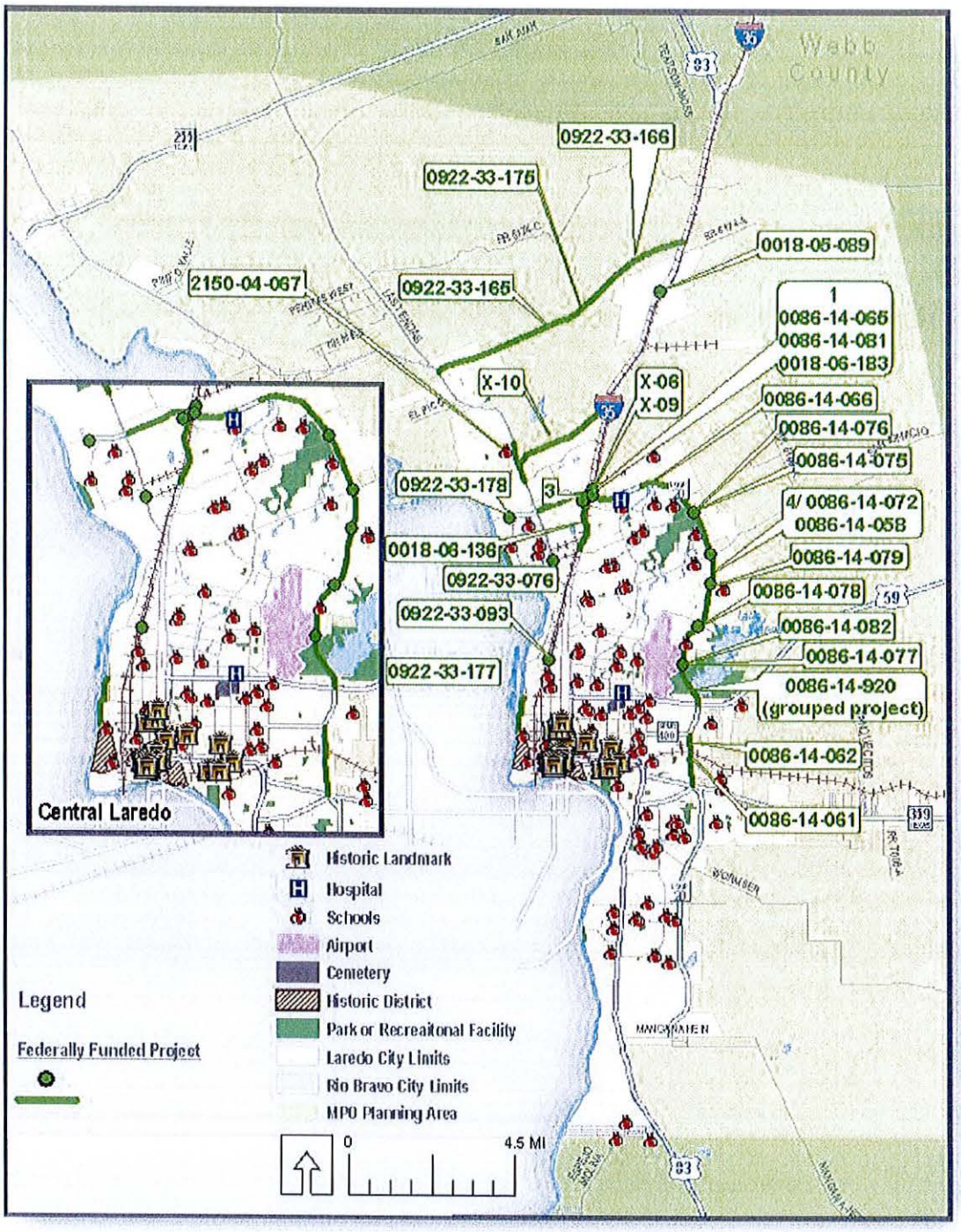


Table 13-1: Federally Funded Projects Environmental Assessment Results

ID	Roadway	Buffer Distance (Ft)	100-YR Flood Plain	Water Bodies	Airport	Cemetery	Historic Site	Medical Facility	Park and Rec. Facility	School
0086-14-061	Loop 20	400	☑							
1, 0086-14-065	Loop 20	500	☑							
0086-14-066	Loop 20	500	☑	☑						
3	Loop 20	500	☑							
4, 0086-14-072, 0086-14-058	Loop 20	400	☑	☑	☑				☑	☑
X-06	IH 35 at Loop 20	500	☑							
X-09	IH 35 at Loop 20	500	☑							
0922-33-076	City Street	500	☑							
0922-33-093	City Street	500								
0086-14-062	Loop 20	400	☑							
2150-04-067	FM 1472	400								
0922-33-165	Hachar Parkway	400	☑							
0922-33-166	Hachar Parkway	400	☑							
0922-33-175	Hachar Parkway	400	☑							
0086-14-077	Loop 20	500			☑					
0086-14-078	Loop 20	500								
0086-14-082	Loop 20	400	☑		☑					
0086-14-920 (Grouped Project)	Loop 20	400	☑	☑	☑					
0018-05-089	IH 35	400								
0018-06-136	IH 35	400	☑							
0018-06-183	IH 35 at Loop 20	400	☑							
0922-33-177	Anna St	500	☑							
0086-14-075	Loop 20	500								
0086-14-076	Loop 20	500								
0086-14-079	Loop 20	500								
0922-33-178	World Trade Bridge	400								

their potential to split or isolate parts of the community. Widening of existing roadways was deemed not as critical, but was still scrutinized for potential impacts. Alternative mode investments in transit service and bicycle and pedestrian facilities were considered to provide positive impacts to the minority and low-income populations of the region. For those locations that do not currently have multimodal transportation facilities, alternative mode services and facilities would provide additional, lower-cost transportation options to increase the mobility of these populations and their access to the community.

As part of this transportation plan update, 2012 data by Census tract from the U.S. Census Bureau was used to identify the geographic distribution of low-income populations. Because the Laredo region is predominantly Hispanic, locally identified colonias were also used for the environmental justice assessment. Within Texas, colonias are defined as economically distressed residential areas located in unincorporated land along the US-Mexico border, often lacking basic public infrastructure, including potable water, sewer systems, electricity, paved roads, and safe and sanitary housing. Residents of colonias are mostly low-income individuals seeking access to affordable living accommodations.

In order to determine which Census tracts are considered low income in the Laredo region, the U.S. Census data that shows the number of households in poverty and total households in Census tracts in 2012 were used. A Census tract is considered to be a low income area if its percentage of households in poverty is higher than regional average.

Table 13-3 identifies which projects are located in Environmental Justice areas, while **Figure 13-3** and **Figure 13-4** present the locations of Environmental Justice populations and the priority projects within this MTP.

Table 13-3: Federally Funded Projects and Environmental Justice Population

ID	Roadway	Limits	Buffer Distance (Ft)	Low Income Census Tract	Colonia
0086-14-061	Loop 20	Clark Blvd to SH 359	400	☑	
0086-14-062	Loop 20	Clark Blvd to SH 359	400	☑	
1, 0086-14-065, 0086-14-081	Loop 20	At IH 35	500		
0086-14-066	Loop 20	At International Blvd	500		
3	Loop 20	At IH 35	500		
4, 0086-14-950, 0086-14-058	Loop 20	International Blvd to US 59	400		
X-06	IH 35	At Loop 20	500		
X-09	IH 35	At Loop 20	500		
0922-33-076	City Street	At the intersection of FM 1472 and Flecha Ln/Las Cruces Dr	500	☑	
0922-33-093	City Street	At the intersection of Calton Rd and Santa Maria Ave	500	☑	

Table 13-4: Federally Funded Projects and Environmental Justice Population (Continued)

ID	Roadway	Limits	Buffer Distance (Ft)	Low Income Census Tract	Colonia
0086-14-062	Loop 20	1.06 mi south of Spur 400 to Spur 400	400	☑	
2150-04-067	FM 1472	Killam Industrial Blvd to .3 Mi North of Muller Memorial Blvd	400		
0922-33-175	Hachar Parkway	FM 1472 to IH35 West Frontage Road	400		
0922-33-165	Hachar Parkway	FM 1472 to .1 Mi East of Beltway Parkway	400		
0922-33-166	Hachar Parkway	.1 Mi East of Beltway Parkway to IH35 Frontage Rd	400		
0086-14-077	Loop 20	At Laredo International Airport	500		
0086-14-078	Loop 20	At Jacaman Rd	500		
Pending	Loop 20	Jacaman Rd to US 59 (Saunders St)	400		
0018-05-089	IH 35	Upgrade of Overpass over Uniroyal	400		
0018-06-136	IH 35	Shiloh Dr to .25 Mi N of US 59/ I69W	400		
0018-06-183	IH 35 to Loop 20	.5 Mi E of IH 35 to .5 Mi S of US 59-SL 20	400		
0086-14-075	Loop 20	At Del Mar Blvd	500		
0086-14-076	Loop 20	At Shiloh Rd	500		
0086-14-079	Loop 20	At University Blvd	500		
0922-33-177	Anna St		500		
0922-33-178	World Trade Bridge		400		

Figure 13-3: Low Income Areas and Federally Funded Projects

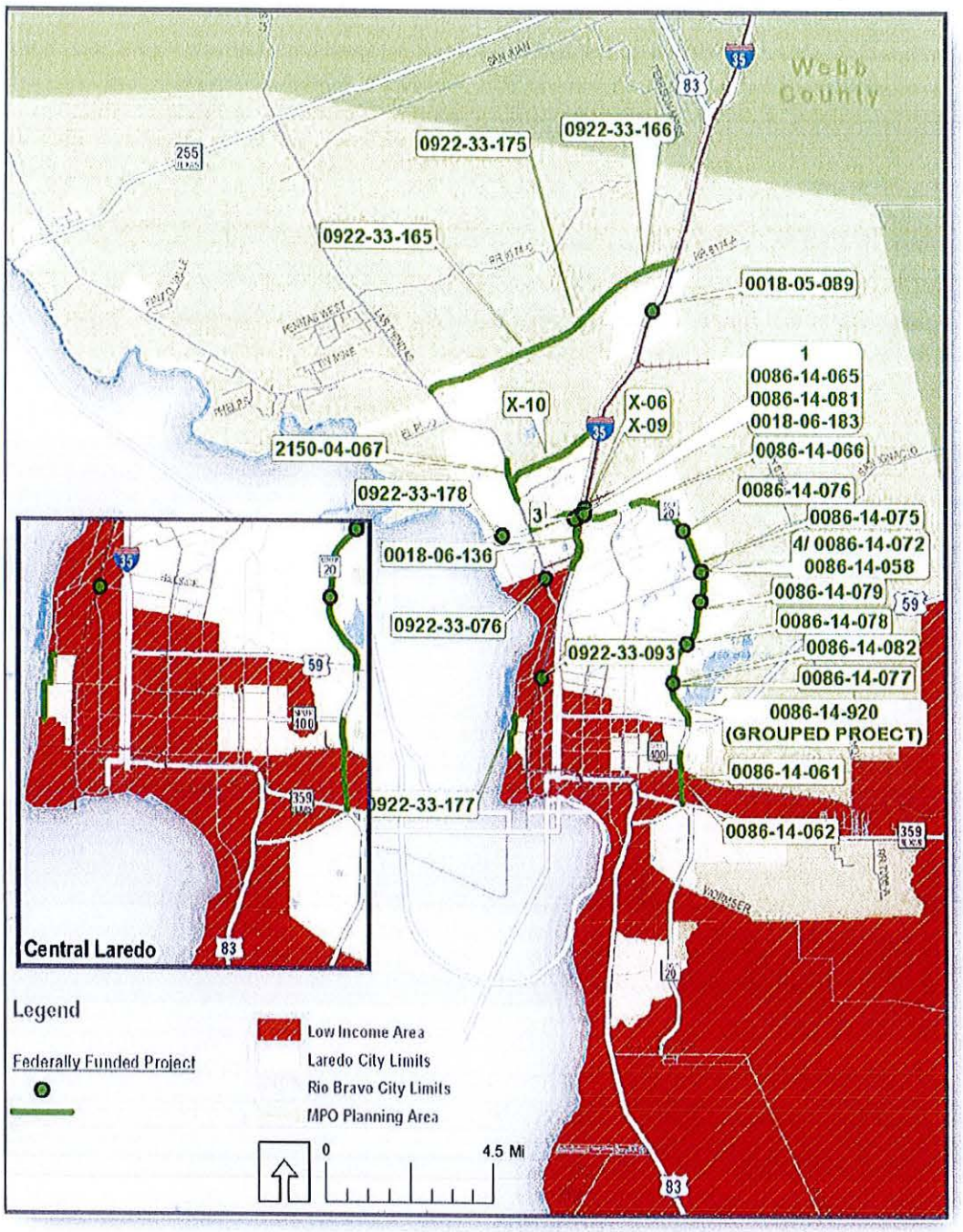
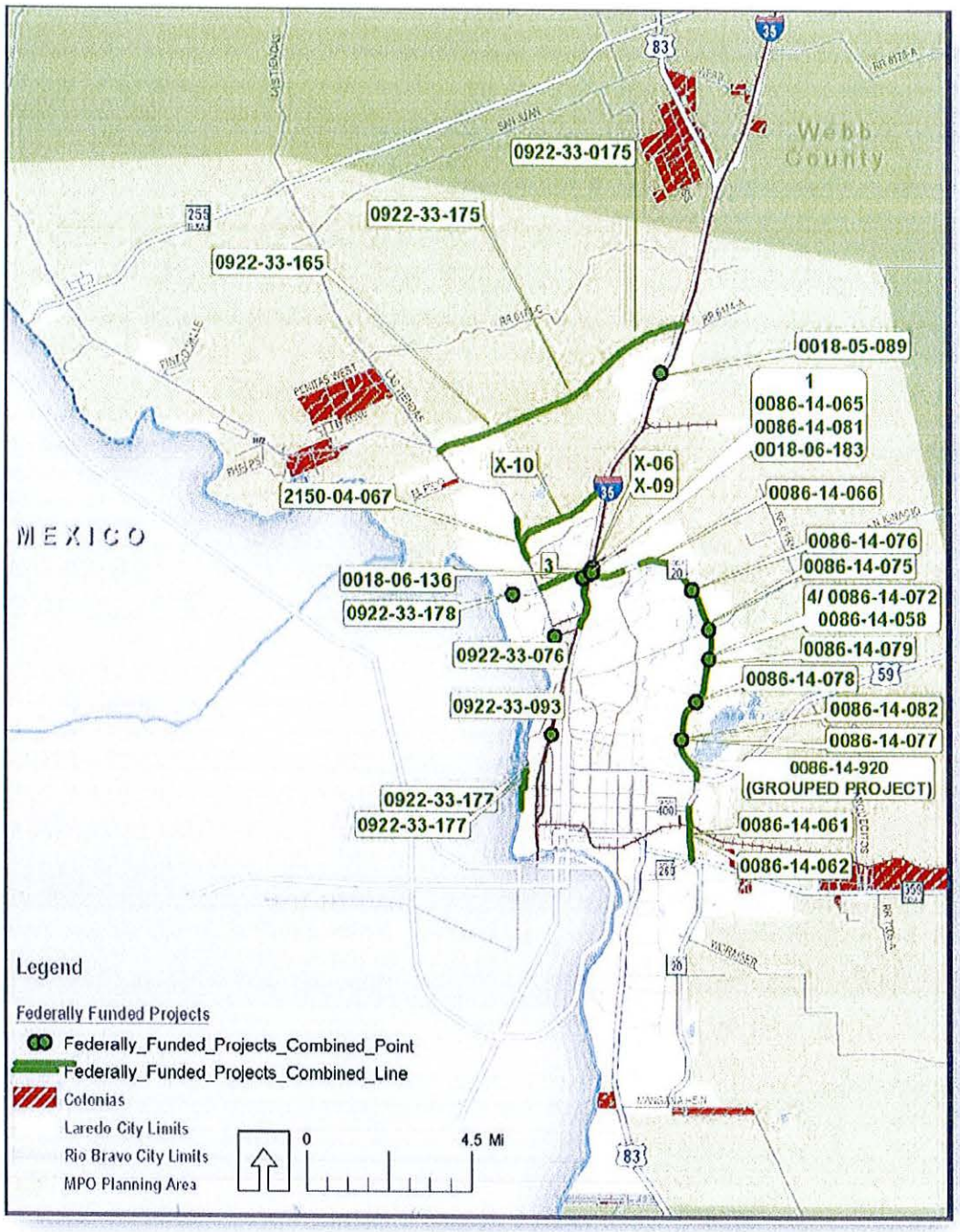


Figure 13-4: Colonias and Federally Funded Projects



Background materials

SUPPLEMENTAL FAST ACT COMPLIANCE DOCUMENTATION FOR METROPOLITAN & STATEWIDE TRANSPORTATION PLANNING PROCESS

(Due on or after 05-27-18)

The Laredo MPO has included details for each item on this checklist to demonstrate compliance of the 2040 MTP with FAST Act requirements. While the MPO has been proactive in addressing these new planning requirements even prior to the passage of the FAST Act, some additions and edits to the 2040 MTP have been made to best demonstrate compliance and provide the information requested in this checklist. A track changes version of chapter updates has been submitted as a summary of all changes made in the MTP chapters to aid in this review as well. In addition, the Laredo MPO is currently initiating its 2045 MTP, which will build upon initial and newly enhanced coordination efforts as well as performance based planning requirements.

1. Update Public Participation Plan (PPP) to include: a) public ports; b) private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefits program, parking cash-out program, shuttle program, or telework program). (Ref: 23 CFR 450.316(a))
    - *Please include documentation on how the PPP has been updated by the MPO to incorporate the new stakeholders identified under the FAST Act metropolitan and statewide planning regulations cited above. If, for example, your region does not currently include a parking cash-out program or transit benefits program for the area users, please simply state so here. Please include the current date of your most recently updated PPP adopted by the MPO policy board and a web-link to this documentation for future reference purposes.*

The Public Participation Plan (PPP) for the Laredo MPO was updated/adopted in May of 2017 to be compliant with 23 CFR 450.316. This update may be found online at: http://www.laredompo.org/files/Public_Participation_Plan.pdf

(a) While there are no maritime ports within the Laredo MPO limits, the Laredo Port of Entry contains five border crossings, including four vehicular bridges owned and operated by the City of Laredo, Texas and Nuevo Laredo, Tamaulipas and one rail bridge (Texas-Mexican Railway International Bridge) that is owned and operated by the Texas Mexican Railway (KCS) an Kansas City Southern de Mexico. The Laredo MPO's Interested Parties List includes representatives from Laredo Customs and Border Protection as well as the Border Patrol who have responsibilities over the Port of Entry to Laredo. All interested parties are invited to all MPO meetings and receive agendas for

meetings. In addition, the Laredo MPO maintains a stakeholder outreach list, which includes the Logistics and Manufacturing Association of Port Laredo. All members of the stakeholder list receive invitations and notifications for public meetings conducted for development and adoption of the MTP.

(b) The Laredo MPO's Stakeholder List has been updated to include Greyhound, the intercity bus operator within the region. The region does not currently include employer-based commuting programs; however, there has been interest and coordination with private companies in industrial parks along or near current public transportation routes on the potential to provide these types of employer-based commuting programs in the future. These potential transit incentive partnerships that have resulted from ongoing coordination with the MPO are detailed in the most recent El Metro Marketing Plan (2017) and Transit Development Plan (TDP). As part of the 2045 MTP Update, the MPO will continue to coordinate in furthering these strategic transit incentives types of programs.

2. Demonstrate consultation with agencies involved in: a) tourism; b) natural disaster risk reduction. (Ref: 23 CFR 450.316(b))

— *Identify which agencies within your metropolitan planning area that you have demonstrated consultation with as part of your MTP and TIP development that are involved in regional tourism activities (including consultation with local Chamber of Commerce, major public sporting and tourism sponsors and activities, festivals, etc. within your region. Perhaps include weblinks to major sporting events, festivals, and other tourism activities within your region. For natural disaster risk reduction perhaps include documentation of which emergency management or centers operate within the city or county (or perhaps FEMA/DHS coordination) that you have engaged within as part of your metropolitan transportation planning process. Perhaps include hurricane evacuation maps (if applicable) or links to these types of State or local emergency management activities, operations, and agencies onto the MPO's homepage.*

While this consultation was not specifically encouraged as part of previous federal transportation law and is more explicitly encouraged via the FAST Act, the Laredo MPO has long recognized the importance of consultation and coordination with these agencies and the 2040 MTP included such consultation.

In *Chapter 1: Planning Context*, the MPO structure involving the policy committee, technical committee, and planning staff is introduced. A representative from South Texas Economic Development is a member of the technical committee and is involved regional tourism activities in the MPO area. Both the technical and policy committee are comprised of members that are involved in natural disaster risk reduction and emergency

management including the mayor of Laredo, three councilpersons, two county commissioners, a county judge, and representatives from the city, county, FHWA, TxDOT, and the airport.

In *Chapter 11: Safety, Security, and Resilience*, the chapter extensively details federal, state, regional, and local agencies and programs that are involved in the planning process and active within the Laredo MPO area. The 2010 MTP was updated to include the MPO's adoption of the FHWA Vulnerability Assessment and Adaptation Framework to assess the region for vulnerabilities to natural disasters and has identified infrastructure that is vulnerable to flooding due to physical locations within the 100-year floodplain. The 2040 MTP was also updated to include reference that the City of Laredo maintains the Emergency Operations Center (EOC) for the region, and the Laredo MPO is coordinating with the Laredo EOC to include web links to state and local emergency management authorities and information on the MPO website.

3. MPO(s), State(s), and the providers of public transportation shall jointly agree upon and develop specific written provisions for cooperatively developing and sharing information related to: a) transportation performance data; b) the selection of performance targets; c) the reporting of performance targets; d) the reporting of performance to be used in tracking progress toward attainment of critical outcomes for the region of the MPO & the collection of data for the State asset management plan for the NHS. (Ref: 23 CFR 450.314(h))
   - *Document the form of written agreement whether existing MOU/MOA or other form used to meet compliance with this new FAST Act requirement under 23 CFR 450.314(h), identify which key stakeholders have signed this MOU/MOA (or other form) and a brief description of their roles and responsibilities related to the performance-based planning and programming process. These are due by May 27, 2018.*

The Laredo MPO has a Memorandum of Understanding (MOU) with TxDOT and Laredo's public transportation operator (El Metro), which was signed in February 2018 to meet requirements under 23 CFR 430.314(h). A copy of the MOU is attached with this checklist. It is signed by the Mayor of Laredo, who is the chairperson of the MPO, the General Manager for El Metro, and the TxDOT District Engineer. The MOU identifies cooperative mutual responsibilities for carrying out MPO planning activities and performance based planning and programming.

4. Incorporate two new planning factors: a) Improve the resiliency and reliability of the transportation system and reduce or mitigate storm-water impacts of surface transportation; b) Enhance travel and tourism. (Ref: 23 CFR 450.206(a)(9&10) and 306(b)(9&10))
   - *Document how the two new FAST Act metropolitan planning factors have been addressed within the transportation planning process, including what analysis framework was utilized to ensure the resiliency and reliability of the transportation system (example: GIS mapping for visualization purposes) or to identify and reduce storm-water impacts of surface transportation*

through policies and design standards (example: TxDOT Roadside Design Manual or local public agency geometric design criteria) used within the metropolitan area. For purposes of enhancing travel and tourism, perhaps include discussion of how the PPP and outreach efforts have been implemented to incorporate additional stakeholders related to travel and tourism within the metropolitan planning region.

The Laredo MPO has long incorporated resiliency, stormwater reduction, and travel and tourism into the planning process, just under different names. *Chapter 13: Benefits, Impacts & Next Steps* details the MPO's recommendations for environmental mitigation measures and environmental assessments.

(a) The 2040 MTP was updated to better incorporate the planning factor ***improve the resiliency and reliability of the transportation system***. To better incorporate resiliency and reliability within the planning process, *Chapter 11: Safety, Security, and Resiliency* describes the MPO's adoption of the FHWA Vulnerability Assessment and Adaptation Framework to assess the region for vulnerabilities to natural disasters. Following this framework, the MPO has identified infrastructure that is vulnerable to flooding due to physical locations within the 100-year floodplain using GIS visualizations. Previous to the updated version, the standing MTP applied a similar GIS approach to environmental assessments to identify cultural and environmental assets in relation to transportation projects.

Chapter 11: Safety, Security, and Resiliency of the 2040 MTP was updated to incorporate the planning factor ***reduce or mitigate stormwater impacts of surface transportation***. To incorporate stormwater reduction mitigation, the transportation planning process has been updated to reference and apply the *TxDOT Hydraulic Design Manual* which provides guidelines on both structure and non-structural stormwater management practices that serve to reduce or mitigate the impacts of stormwater from surface transportation. The planning process was also updated to include the Webb County Planning and Physical Development Department which facilitates the regulatory enforcement of land use and development activities including floodplain development permits and building permits in compliance with federal and local regulations.

(b) Regarding the planning factor ***enhance travel and tourism***, *Chapter 4* of the 2040 MTP was updated to describe that the Laredo MPO maintains a contact list of groups and individuals which have expressed interest in transportation planning activities. As required by 23 CFR 450.316 (b), the MPO has expanded the contact list as described in the updated PPP to seek consultation with agencies and officials responsible for tourism and natural disaster risk reduction. Interested parties related to tourism who are invited to all meeting and receive

all agendas include The Laredo Convention and Visitor's Bureau, the Laredo Development Foundation, and the Laredo Chamber of Commerce. Additional outreach and coordination with these agencies will build upon these coordination efforts in developing the 2045 Laredo MTP.

5. **Include consideration of intercity buses (in both MTPs and Statewide Long-Range Transportation Plans).** (Ref: 23 CFR 450.216(b) and 324(f)(2))
   - *Document how the long-range metropolitan transportation plan (MTP) has addressed intercity buses (e.g., Greyhound and other transit bus providers) within the region. Mapping of intercity bus terminals, intermodal facilities, and bus routes within the MTP is suggested as one option and how these facilities link to major highway networks and arterials within the metropolitan planning region.*

While consideration of intercity buses was not required by previous federal transportation law and required under the FAST Act, the Laredo MPO has long considered the role of intercity buses within the region. Prior to the update, the standing 2040 MTP included a section on the role Greyhound plays in the MPO area and a description of the location of the Greyhound station at the El Metro Transit Center. With the update, the section title was updated from "Greyhound" to "Intercity Transportation" and additional intercity bus operators providing service to international destinations from the El Metro Transit Center are given reference. Within this chapter, the MTP discusses the one major transit center, the Laredo Transit Center, located in downtown Laredo, and provides a map of bus routes within the system overlaid on the roadway network.

6. **MTP includes an assessment of capital investment and other strategies to preserve the existing and future transportation system and reduce the vulnerability of the existing transportation infrastructure to natural disasters.** (Ref: 23 CFR 450.324(f)(7))
   - *Document how the MPO included an assessment of the existing transportation system (both highway and transit routes) – for example: using GIS mapping or other framework analysis tools- to help reduce the vulnerability of the existing and future transportation infrastructure to natural disasters including extreme weather events like flooding, hurricane impacts, drought, etc. as applicable for the MPO geographic region.*

Previous to the 2040 MTP update, the standing 2040 MTP provides recommendations for environmental assessments and mitigation activities to be conducted for implementation of transportation projects that could potentially impact environmental and cultural assets in *Chapter 13: Benefits, Impacts & Next Steps (Environmental Assessment section)*. In addition, the standing 2040 MTP takes a GIS approach to identifying and

mapping environmental and cultural resources in relation to existing and planned transportation improvements as described in *Chapter 13*. *Chapter 13* also details potential environmental mitigation activities that can be taken for specific environmental and cultural resources.

With the update to the 2040 MTP, *Chapter 11: Safety, Security, and Resilience* is updated to include the MPO's adoption of the FHWA Vulnerability Assessment and Adaptation Framework to assess the region for vulnerabilities to natural disasters. With this update, the MPO has collected geospatial data on transportation infrastructure and natural features in the region to identify transportation infrastructure that is vulnerable to natural disasters and extreme weather events using a GIS analysis approach. The MPO has identified critical roadway and railway transportation assets in the MPO planning area that are vulnerable to flooding in *Chapter 11: Safety, Security, and Resiliency*.

7. MTP includes a description of the (Federally required) performance measures and performance targets used in assessing the performance of the transportation system. (Ref: 23 CFR 450.324(f)(3))
    - *Document how the MPO included safety and Transit Asset Management (TAM) performance targets are used in assessing the performance of the transportation system. As the 2-year phase-in deadlines approach for PM2 (pavement and bridge condition) and PM3 (NHS, Freight, and CMAQ) performance targets on or after May 20, 2019, and the MPO adopts these subject performance targets, include documentation of how these additional targets will be used in assessing the performance of the transportation system within the MPO planning region. For additional information on applicable dates for TPM and timelines for implementation, please see:* https://www.fhwa.dot.gov/tpm/rule/timeline.pdf

With the update of the 2040 MTP, a section on performance measures was added to *Chapter 1: Planning Context*. This section includes a description of the federally required performance areas and performance measures. TxDOT has adopted the performance targets of a two percent reduction of the five safety performance measures by 2022. The Laredo MPO adopts the federally required performance measures and the performance targets in coordination with TxDOT. The Laredo MPO has adopted TxDOT's performance targets of a two percent reduction of the safety performance measures by 2022. Adoption of the remaining performance targets will occur in the 2045 MTP update and as TxDOT adopts statewide performance targets for the remaining performance areas and performance measures.

8. MTP includes a system evaluation report evaluating the condition and performance of the transportation system with respect to the (Federally required) performance targets including progress achieved by the MPO toward the performance targets. (Ref: 23 CFR 450.324(f)(4))

— *Document how the MTP has supported the performance targets associated with safety, TAM, and PM2 (on or after May 20, 2019) and PM3 (on or after May 20, 2019) and how progress has been achieved by the MPO toward these adopted system performance targets. For additional information on applicable dates for TPM and timelines for implementation, please see: https://www.fhwa.dot.gov/tpm/rule/timeline.pdf*

Chapter 1: Planning Context was updated to include a section on performance measures. The Laredo MPO is coordinating with TxDOT to develop a system to report progress in achieving performance targets. At this time, TxDOT and the Laredo MPO have only adopted performance targets for the safety performance measures. The Laredo MPO is continuing coordination with TxDOT on the data collection, analysis, reporting, and target setting for the performance measures. The 2045 MTP update will include the development of a performance evaluation reporting system that will evaluate progress toward achieving performance targets and will demonstrate this compliance prior to the May 2019 deadline. Development of a comprehensive performance based evaluation approach to the 2045 MTP is still in development at this time and will consider best practices from FHWA, US EPA, and state based performance measures and targets to tailor those measures and targets of evaluation to the metropolitan planning process.

9. **STIP/TIPs include (to the maximum extent practicable) a description of the anticipated effect of the STIP and TIP toward achieving the performance targets identified by the State in the long-range statewide transportation plan and by MPO in the MTP.** (Ref: 23 CFR 450.218(q) and 326(d))

— *Document how the STIP/TIPs have an impact towards achieving the performance targets associated with safety, TAM, and PM2 (on or after May 20, 2019) and PM3 (on or after May 20, 2019) and how progress has been made by the MPO. Include discussion in both MTP and STIP/TIP on how performance targets have been impacted by the list of projects and programs shown in the documents.*

At this time, the Laredo MPO has adopted performance targets for safety and TAM, in coordination with TxDOT and in compliance with federal regulations. The 2019-2022 TIP supports the achievement of performance targets associated with safety and TAM through the selection of projects that support the achievement of these performance targets. The 2045 MTP update will include the development of an evaluation report that can be used to assess the progress of projects in achieving performance targets.

10. STIP/TIPs include a linkage from the investment priorities in the TIP/STIP to achievement of performance targets in the plans. (Ref: 23 CFR 450.218(q) and 326(d))

    — *Document how the project selection process used in the TIP/STIP has been improved to address safety, TAM and PM2 (on or after May 20, 2019) and PM3 (on or after May 20, 2019) and how performance targets will be achieved in the transportation planning process.*

The Laredo MPO project selection process includes a criterion for safety, for which technical points are awarded based on the crash rate. As TxDOT adopts performance targets for the outstanding performance areas, the Laredo MPO will continue to incorporate criteria in the project selection process that will support the selection of projects that will help achieve performance targets. The 2045 MTP update will provide recommendations on how the project selection process should be improved to support the selection of projects that will achieve performance targets. Laredo MPO will demonstrate this linkage prior to the May 2019 deadline.

11. Statewide plan shall include a description of the performance measures & targets and a systems performance report assessing the performance of the transportation system. (Ref: 23 CFR 450.216(f)(1&2))

    N/A (State DOT)

12. Statewide plan and STIP updates should apply asset management principles consistent with the State Asset Management Plan for the NHS and the Transit Asset Management Plan and the Public Transportation Safety Plan in the statewide planning process. (Ref: 23 CFR 450.208(e))

    N/A (State DOT)

LAREDO URBAN TRANSPORTATION STUDY
ACTION ITEM

DATE:	**SUBJECT:** MOTION
06-21-18	Receive public testimony and approve Resolution No. MPO 2018-04, adopting the proposed amendment(s) of the 2015-2040 Metropolitan Transportation Plan (MTP): 1. Amending Chapters 1-13, as indicated in attached Exhibits A and B to achieve compliance with the Fixing America's Surface Transportation Act (FAST Act). 2. Amending Table 12-10, entitled Roadway and Bicycle/Pedestrian Project Summary; and, Figure 12-1, entitled Roadway and Bicycle/Pedestrian Projects, Table 12-11, entitled Roadway Projects; and, Figure 13-1, entitled Natural Resources and Federally Funded Projects; and, Figure 13-2, entitled Cultural Resources and Federally Funded Projects; and, Figure 13-3, entitled Low Income Areas and Federally Funded Projects; and, Table 13-1, entitled Federally Funded Projects Environmental Assessment Results; and, Table 13-3, entitled Federally Funded Projects and Environmental Justice Populations; and, Figure 13-4 entitled Colonias and Federally Funded Projects, as necessary to incorporate the following revisions: a. ***Adding*** project CSJ 0922-33-178 for the construction of inspection booths at the World Trade Bridge, with an estimated construction cost is $12,067,384. Estimated letting date FY 2021. MTP 15-40/REV 09

INITIATED BY: TXDOT	**STAFF SOURCE:** Nathan Bratton, MPO Director
COMMITTEE RECOMMENDATION: Approval	**STAFF RECOMMENDATION:** Approval.

PREVIOUS ACTION:
On December 15, 2014 the Policy Committee adopted the 2015-2040 Metropolitan Transportation Plan (MTP). The Policy Committee approved revision #1of the MTP on April 20, 2015. On October 19, 2015 the Policy Committee approved revision #2. On March 21, 2016, the Policy Committee approved revision #3 and also approved a ten day public review and comment period for revision #4. On December 21, 2015, the Policy Committee approve the allocation of 4.482 million dollars in Proposition 1, Category 2 (MPO) funds to the project identified as CSJ 2150-04-067 for the widening of pavement to provide additional travel lanes on FM 1472 (Mines Road) from Killam Industrial Boulevard to 0.3 miles north of Mueller Boulevard with an estimated letting date of August 2016. On June 20th, 2016, the Policy Committee approved the initiation of a 10 day public review and comment period for the proposed MTP revisions. On July 18th, 2016, the Policy Committee approved revision #5 of the MTP. Revision #6 was approved on October 17, 2016. On March 20th, 2017, the Policy Committee initiated a 10 day public review and comment period, which was subsequently adopted on April 17th, 2017. On July 17, 2017, the Policy Committee approved a ten day public review and comment period for revision #8, which was also subsequently adopted on August 2, 2017. On May 21, 2018, the Policy Committee approved a ten day public review and comment period for revision #9.

BACKGROUND: The development of the MTP is federally required in to assure the continuation of federal transportation funds. The plan must address, at a minimum, a continuous twenty-year planning horizon.

The Fixing America's Surface Transportation Act, or FAST Act, was signed into law by President Obama on December 4, 2015. The bill funds surface transportation programs at over $305 billion for fiscal years 2016 through 2020. The emergence of the FAST Act does not represent an abandonment of the programs and planning requirements established under MAP-21, the previous federal transportation bill. In fact, the FAST Act maintains the provisions from MAP-21 with minor revisions and additional requirements.

The existing Laredo 2015-2040 MTP must be updated to bring the document into compliance with the new FAST Act requirements. The outline for the required updates is organized by Chapter and Section.

See attachments for full details of all proposed revisions.

COMMITTEE RECOMMENDATION: Approval	**STAFF RECOMMENDATION:** Approval.